SAMBALPUR UNIVERSITY

COURSES OF STUDIES
FOR THE
THREE YEAR DEGREE
ARTS

(PASS & HONOURS)
(UNDER 10+2+3 PATTERN)
(For the session start from 2013-14)

FIRST	UNIVERSITY EXAMINATION,	2014
SECOND	UNIVERSITY EXAMINATION,	2015
FINAL	UNIVERSITY EXAMINATION,	2016

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Published by :

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JYOTI VIHAR, SAMBALPUR-768019
(ORISSA)

CONTENTS

General Instructions

A. COMPULSORY COURSES :

1. English
2. Modern Indian Language

(i) Oriya
(ii) Hindi
(iii) Bengali
(iv) Telugu
(v) Urdu
(vi) Santali (Oriya)
(vii) Alternative English

3. Environmental Studies
4. (i) Indian Society and Culture
   (ii) Computer Applications
   (iii) Popular Studies

B. OPTIONAL COURSES :

1. Anthropology
2. Bengali
3. Economics
4. Education
5. English
6. Geography
7. General Principles of Law and Jurisprudence
8. Hindi
9. History
10. Home Science
11. Library & Information Science
12. Mathematics
13. Oriya
14. Philosophy
15. Political Science
16. Psychology
17. Public Administration

18. Sanskrit
19. Sociology
20. Statistics
21. Telugu
22. Urdu
23. Santali

Vocational Courses :

24. Archaeology & Museology
25. Functional English
26. Computer Application

C. ELECTIVE COURCES :

1. Indian Polity
2. Indian Economy
3. Indian Geography
4. Landmarks in Indian History
5. Science and Technology
6. Mathematics
7. Statistics
8. Home Science
9. Education ‘
10. Philosophy
11. Psychology
12. Oriya
13. English
14. Functional English
15. Archaeology & Museology
16. Computer Application
17. Sanskrit
18. Sociology
19. N.S.S. (Elective)
20. Physical Education

COURSES OF STUDIES
FOR THE THREE YEAR DEGREE
ARTS

GENERAL INSTRUCTION

A candidate for the Bachelor's degree in Arts shall be required to pass the following examinations.

i. First University Examination

ii. Second University Examination

iii. Final University Examination

The entire courses of Three Year Degree Arts can be classified as (A) Compulsory, (B) Optional and (C) Elective Course.

A. COMPULSORY COURSE:

1.	English	Paper I & II	200 marks
2.	M.I.L. (Any one out of Oriya, Hindi, Bengali, Santali, Urdu, Alternative English)	Paper I & II	200 marks
3.	Environmental Studies		100 marks
4.	Any one out of :		
	(i) Computer Application		100 marks
	(ii) Indian Society & Culture		
	(iii) Population Studies		

B. OPTIONAL COURSES :

B.A. (PASS)

B.A. (Pass) student shall have to offer any one of the following pass students carrying 400 marks each, subject to other conditions mentioned in the regulation.

1. History
2. Economics
3. Political Science
4. One of the Languages (Oriya, Sanskrit, Hindi, English, Bengali, Telugu & Urdu)
5. Philosophy
6. Mathematics
7. Statistics
8. Home Science
9. Anthropology
10. Sociology
11. Education
12. General Principles of Law and Jurisprudences
13. Psychology
14. Public Administration

15. Library and Information Science
16. Geography
17. Archaeology & Museology
18. Functional English
19. Computer Application

No student shall be allowed to take Statistics if he has not passed either in Statistics or in Mathematics in the Higher Secondary Examination/Intermediate. Examination or any other Examination equivalent there to.

A student shall be allowed to take Archaeology & Museulogy if he/she has completed 10+2 with Science stream or had one or more of the following subjects (S) paper (S.

Sanskrit, History, Archaeology & Museology, English and Regional Language, Geology, Geography, Computer Science, Political Science, Anthropology.

The Subject combination +3 level is limited to the subject mentioned above unless otherwise it is modified by the Academic Council.

B.A. (Hons)

An Honours student shall choose one of the following Honours subject carrying 800 marks.

1. History
2. Economics
3. Political Science
4. One of the Languages: English, Oriya, Sanskrit, Hindi
5. Philosophy
6. Mathematics
7. Statistics
8. Home Science
9. Anthropology
10. Sociology
11. Education
12. General Principles of Law & Jurisprudences
13. Geography
14. Psychology
15. Library & Information Science

Provided that no student shall be allowed to take Mathematics or any other subject in which there is a practical examinations, if he did not pass in that subject in the Intermediate/Higher Secondary Examination or any other examination equivalent there to. A student may, however take Anthropology, Education, Psychology or Geology and Mineralogy, Geography without having passed in that subject in the Intermediate / Higher Secondary Examination or any other examination equivalent there to.

Provided further that no student shall be allowed to take statistics, if he has not passed either in statistics or in Mathematics in the Intermediate Examination/ Higher Secondary Examination or any other examination equivalent there to.

C. ELECTIVE COURSE :

A candidate in B.A. (Pass & Honours) shall offer two ELECTIVE subject beside the Compulsory and Optional subjects, Each elective subject shall consist of two paper carrying 100 marks each.

The Elective Subjects are:

1. Indian Polity
2. Indian Economy
3. Geography of India
4. Landmarks of Indian History
5. Science & Technology
6. Mathematics
7. Statistics
8. Home Science
9. Education
10. Philosophy
11. Psychology
12. Oriya
13. English
14. Functional English
15. Archaeology & Museology
16. Computer Application
17. Sanskrit
18. Sociology

(Carrying 200 marks each without any practical component)

Provided that a student (Honours or Pass) offering Economics, Education, English, Geography, History, Home Science, Mathematics, Oriya, Philosophy, Political Science, Psychology, Sanskrit, Sociology, Statistics, Archaeology & Musiology, Functional English and Computer Applications as pass and honours subject shall not be allowed to take Indian Economy, Education, English, Geography of India, Landmarks of Indian History, Home Science, Mathematics, Oriya, Philosophy, Indian Polity, Psychology, Sanskrit, Sociology, Statistics, Archaeology & Museology, Functional English and Computer Application respectively as his/her Elective paper(s). Further no student shall be allowed to take Functional English as elective if he/she has offered English as pass and Honours.

THREE YEAR DEGREE COURSE EXAMINATION
SAMBALPUR UNIVERSITY
COURSE STRUTURE BACHELOR OF ARTS

Arts Pass (1400 Marks)

First Year		Second Year		Final Year	
English-I	100	English-II	100	MIL/AE-II	100
MIL/AE-I	100	Computer Application/ Indian Society & Culture/ Population Studies	100	Environmental	100
Pass-I	100	Pass-III	100	Elective B-I	100
Pass-II	100	Pass-IV	100	Elective- B-II	100
Elective A-I	100	Elective A-II	100		
Total Marks	**500**		**500**		**400**

Distribution of marks of pass subjects (200 + 200 marks):
Non-Practical Pass subject

First Year		Second Year	
P-1 (Theory)	100	P-3 (Theory)	100
P-2 (Theory	100	P-4 (Theory)	100

Practical Pass Subject:

First Year		Second Year	
P-1 (Theory)	075	P-4 (Theory)	100
P-2 (Theory	075	P-5 (Theory)	100
P-3 (Theory	050	P-6 (Theory)	050

Arts Honours (1800 Marks)

First Year		Second Year		Final Year	
English-I	100	English-II	100	Environmental Studies	100
MIL/AE-I	100	Computer Application/ Indian Society & Culture/ Population Studies	100	MIL/AE-II	100
Elective-A-I	100	Hons-P-III	100	Hons-P-VII	100
Elective-A-II	100	Hons-P-IV	100	Hons-P-VIII	100
Hons-P-I	100	Hons-P-V	100	Elective-B-I	100
Hons-P-II	100	Hons-P-VI	100	Elective-B-II	100
Total Marks	**600**		**600**		**600**

Distribution of Honours Subject: (200 + 200 + 400 Marks)

Non-Practical Honours Subject:

First Year		Second Year		Third Year	
P-1 (Theory)	100	P-3 (Theory)	100	P-7 (Theory)	100

P-2 (Theory)	100	P-4 (Theory)	100	P-8 (Theory)	100
		P-5 (Theory)	100		
		P-6 (Theory)	100		

Practical Honours Subject:

First Year		Second Year		Third Year	
P-1 (Theory)	075	P-4 (Theory)	075	P-9 (Theory)	075
P-2 (Theory)	075	P-5 (Theory)	075	P-10 (Theory)	075
P-3 (Practical)	050	P-6 (Theory)	075	P-11 (Theory)	050
		P-7 (Theory)	075		
		P-7 (Theory)	100		

Qualifying marks: In order to clear an examination, a candidate is required to secure a minimum of 30% marks in each subject and 40% marks in each practical paper, and a minimum of 36% marks in aggregate.

Duration of paper: The duration of each theory paper carrying 75 or 100 marks shall be three hours & Practical papers carrying 50 marks shall be Four hours and practical papers carrying 100 marks shall be six hours.

COMPULSORY COURSES

ENGLISH

There shall be 2 papers each carrying 100 marks and each one of three hours duration.

(a) +3 Arts First Univ. Exam. – Compulsory English – Paper-I :

Book prescribed to be replaced by

"Remappings – (Orient Blackswan, 2012)"

(i) All Six Stories (1 to 16) to be studied from "Remappings"

(ii) The entire section in Writing Skills from "Remappings" to be studies

(b) +3 Arts Second Univ. Exam. – Compulsory English – Paper-II :

Book prescribed to be replaced by

"Remappings – (Orient Blackswan, 2012)"

(i) The Drama "A Doll's House" from "Remappings" to be studied

(ii) All 10 poems (1-10) from poetry section from "Remappings" to be studied

(c) Novel Mulkraj Anand's Untouchable to be replaced by Arundhati Roy's A God of Small Things.

Appendix – 'A'

THREE YEAR DEGREE ARTS BENGALI (MIL)

FIRST UNIVERSITY EXAMINATION

Paper - I

A) The following pieces to be read from the Book "Madhukari" written by Kalidas Roy.

1. Ravana O Chintrangada – Michel Madhusudan Dutta
2. Baishakh – Debendra Nath Sen
3. Fanki – Rabindra Nath Tagore
4. Jiban Bandana – Kaznajrul Islam
5. Rupai – Jasimddin
6. Lohar Byatha – Jatindra Nath Sengupta

B) The book "Ela;er Cjptaga;[a Samcjauam" is replaced by "Galpaguchha" Part-III written by Rabindra Nath Tagore, published by Viswavarati Santiniketan and the following pieces to be studies.

1. Master Mashai
2. Haimanti
3. Shesher Ratri
4. Sanskar
5. Balai

MIL (TELGU)

FIRST UNIVERSITY EXAMINATION

Paper – I 100 Marks

There shall be one paper carrying 100 marks at the end of the First Year. The duration of the Examination will be three hours.

Distribution of Marks 100 marks / 3 hrs.

1. Poetry	-	25 marks
2. Prose	-	25 marks
3. History of Telegu Literature	-	20 marks
4. Grammar	-	15 marks
5. Translation	-	15 marks

DETAILED SYLLABUS :

UNIT-I

Poetry : Following pieces from the book Prescribed by Andhra University for B.A./B.Sc./B.Com.

1st year – 2002.

1. Sakuntalopakyanam
2. Bejjamahadei
3. Chirutondanambikatha
4. Desabhakri
5. Prabodhamu
6. Kinnera Nadakalu

UNIT – II

Prose : Following pieces from the process book prescribed by A.U. for B.A./B.Sc./B.Com., IInd year – 2003.

1. Swabhasha
2. Rayalanati Rasikata

UNIT – III

History of Telgu Literature : The following topics to be studied.

1. Naunaya 2. Tikkana 3. Potana 4. Srinadhudu 5. Peddana

UNIT – IV

Grammar : The following "SAMASAMS" to be studied.

1. Tatpurusha 2. Karmadharaya 3. Bahuvreehi
4. Dwanda 5. Dwigu

UNIT – V

Translation : From English to Telgu

UNITS WILL BE AS FOLLOWS.

UNIT – I

1.	(a)	Essay Question from Poetry - (One from old and one from modern and one is to be answered).	15 Marks
	(b)	Explanations from Poetry - (Four will be given and two are to be answered).	10 Marks

UNIT – II

2.	(a)	Essay Question from Prose - (Two Questions will be given and one is to be answered).	15 Marks
	(b)	Short answer type Questions from Prose - (Four will be given and two will be answered).	10 Marks

UNIT – III

3. Essay Question from History of Telugu Literature - 20 Marks

(Two will be given and one is to be answered).

UNIT – IV

4. Grammar

(Ten samasams will be given and five are to be answered).

UNIT – V

5. Translation :

(One English Passage will be given and will be translated into Telugu).

The above books are available at the following addresses :

Name of the book –

"Degree Telugu (Full Text with Introduction Old Poetry and Modern Poetry)

Ravindra Publishing House

Kothapel

Guntur-522001, Andhra Pradesh

Prose : Name of the Book

1. Vyasa Kadambamu

Distributors : University Publishing House

Old Club Road, Kothapet

Guntur-522001

Phone-2220566,2224032

FIRST UNIVERSITY EXAMINATION

Paper – II 100 Marks

There shall be one paper carrying 100 marks at the end of the Final Year. The duration of the Examination will be three hours.

Distribution of Marks

1.	Poetry	-	25 marks
2.	Prose	-	25 marks
3.	History of Telegu Literature	-	20 marks
4.	Grammar	-	15 marks
5.	Translation	-	15 marks

DETAILED SYLLABUS :

UNIT-I

Poetry : Following pieces from the book Prescribed by Andhra University for B.A./B.Sc./B.Com. 1st year – 2002.

1. Prahalada Charitra
2. Satyabhama Swantanamu
3. Nigama Sarma Akka
4. Pratigna
5. Artageetam
6. Lakuma Tyagam

UNIT – II

Prose : Following pieces from the process book prescribed by A.U. for B.A./B.Sc./B.Com., IInd year – 2003.

1. Bahukaladarsanamu
2. Manucharitramu

UNIT – III

History of Telgu Literature(Modern) :

The following topics to be studied.

1. Gurajadu 2. Kandukuri 3. Chitakamarti 4. Viswanadha 5. Karuna Shri

UNIT – IV

Prosedy : The following "SAMASAMS" to be studied.

1. Utpalamala 2. Champakamala 3. Sardulamu
4. Mathebhamu 5. Telagiti 6. Atzvladi 7. Kandamu

UNIT – V

General Essay

UNITS WILL BE AS FOLLOWS.

UNIT – I

1. (a) Essay Question from Poetry - 15 Marks
   (One from old and one from modern and one is to be answered).
   (b) Explanations from Poetry - 10 Marks
   (Four will be given and two are to be answered).

UNIT – II

2. (a) Essay Question from Prose - 15 Marks
(Two Questions will be given and one is to be answered).
(b) Short answer type Questions from Prose - 10 Marks
(Four will be given and two will be answered).

UNIT – III

3. Essay Question from History of Telugu Literature - 20 Marks
(Two will be given and one is to be answered).

UNIT – IV

4. Grammar : Prosedy 15 Marks

UNIT – V 15 Marks

5. General Essay
(Two essays will be given and one is to be answered).
The above books are available at the following addresses :
"Degree Telugu (Full Text with Introduction Old Poetry and Modern Poetry)
Maruthi Publishing House
Hyderabad-500029l
Andhra Pradesh
Prose : Name of the Book
Vyasa Kadambamu
Distributors : University Publishing House
Old Club Road, Kothapet
Guntur-522001
Phone-2220566,2224032

MIL (URDU)
FIRST UNIVERSITY EXAMINATION

Paper – I 100 Marks

Prose :

There shall be one paper carrying 100 marks : 20 Marks.

There shall be one long question with alternative carrying 10 marks, one short question with alternative carrying 5 marks and one explanation with alternative carrying 5 marks.

Books Prescribed : Showoore Adab : (Maktab Jamia, New Delhi)

Prose : Pieces to be studied

1. Ek Khoda parast shazadi
2. Khotoote Ghalib
3. Gulshan-e-umid ki Bahar
4. Sir Sauged Marhoom Aur Urdu Literature
5. Achchi Kitab
6. Diyaslai
7. Goutam Budh
8. Qatil ki Maa

Books Prescribed : Showoore Adab

Poetry – Portion to be studied 35 Marks

1. Admi Name
2. Subha Shahadat
3. Neshat-e-umid
4. Saqee Name
5. Badly ka Chand
6. Ae Madare Hindustan
7. Kuttee

There shall be one long question carrying 20 marks with an alternative one short questions carrying 10 marks with an alternative and one explanation carrying 5 marks with alternative.

Portion to be studied from Ghazal

1. Mir Taqee Mir 2. Mir Dard 3. Sauda
4. Ghalib 5. Hasrat 6. Shaad

Books Prescribed :

Urdu ke Tera Afsane by Athar Parwez

Published by Modern Publishing House

Cole Market Dariya Ganj, New Delhi 15 Marks

The following Afsane to be studied :

1. Kafan 2. Anandi 3. Chauthi Ka Joda
4. Gadana 5. Toba Tek Singh 6. Akhri Koshish

Novel : There shall be one long question with an alternative carrying 15 Marks

Books Recommended : Sharifzada-Mirza Hadi Ruswa

Essay & Grammar :

There shall be 3 alternative topics for essay carrying 10 marks and Grammar 10 marks.

Books Recommended for Grammar

Urdu Quwaid O Insha by Athar Parwez

Portion for Grammar to be followed :

1. Tazkir O Tanis 2. Izdad 3. Mohawarat

FIRST UNIVERSITY EXAMINATION

Paper – II 100 Marks

There shall be one paper carrying 100 marks : 20 Marks.

Prose : **35** Marks

(a) Tarikhe zobane Urdu by Ejaz Hossain

(b) Aina-e-Nasar Urdu Published by Adra-e-Faroque-e-Urdu Lucknow-7

The following pieces to be studied :

1. Meer Ka Mohasine Kalam
2. Iqbal ki Azmat
3. Urdu Nasar ka Inteqa
   (i) There shall one essay type question carrying 15 marks from Tarikhe-Zobane Urdu with alternative
   (ii) There shall be one essay type question from Aainai Nazar Urdu carrying 10 marks with alternative.
   (iii) There shall be two short question carrying 5 marks with alternative.

Drama for Detailed Study : 15 Marks

Books Recommended :

Naye Drame – by Md. Hasan

Piece to be studied :

1. Chhote Milan 2. Faltu Chizen
3. Jonk 4. Sarai ke Bahar

One long question carrying 15 marks with an alternative

Detailed Poetry : 20 Marks

Books Recommended :

Ashaare Momim by A. Manan Bedil one long question with alternative carrying 14 marks.

Two explanations carrying 6 marks with alternative.

Grammar : 20 Marks

Books : Urdu Qwaide-o-Insha by Athar Parwez

Essay : Unknown Topics 20 Marks

M.I.L. (Santali)

FIRST UNIVERSITY EXAMINATION

Paper – I 100 Marks

There shall be one paper carrying 100 marks of 3 hrs. duration carrying 100 marks. The course shall comprise.

1.	(a)	Detailed Prose	15 Marks
	(b)	Explanation/Short type	5 Marks
2.	(a)	Detailed Poetry	15 Marks
	(b)	Explanation/Short type	5 Marks
3.	Essay		20 Marks
4.	Translation		20 Marks
5.	Grammar		20 Marks

Detailed Course

Books prescribed :

1. Prose : Santali onolmala (Essay) by Balulal Murmu, 'Adivasi'
2. Poetry : Onorthon Mohok (Compilation of Poetry) Published by : All India Santali Writer's Assn.
3. Essay Composition
4. Translation
   (a) Translation from Oriya to Santali
   (b) Translation from Santali to Oriya
5. Grammar

FIRST UNIVERSITY EXAMINATION

Paper – I 100 Marks

There shall be one paper carrying 100 marks of 3 hrs. duration of 100 marks.

The Course shall comprise :

1. Short Story 25 Marks
2. Novel 25 Marks
3. Drama 25 Marks

4. Brief History of Santali Literature 25 Marks

Detailed Books Prescribed :

1. Short Story : Jiyon Gada (Short Story Complication)
   Published by AISNA
2. Novel – Atu Orak – By Doman Hansdah
3. Drama – 'Bidu Chandan' – By Pf. Raghunath Murmu
4. Brief History of Santali Literature

ALTERNATIVE ENGLISH

There shall be 2 papers each carrying 100 marks and each one of three hours duration.

FIRST UNIVERSITY EXAMINATION

Paper – I : Poetry and Novel 100 Marks

(a) The following poems shall be studied :

Shakespeare	: "Let me not to the marriage of true minds (Sonnet no. CXVI)
oleridge	: Kubla Khan
Tennyson	: Ulysses
Browning	: My Last Duchess
Eliot	: Journey of the Magi
Yeats	: A Prayer for My Daughter
Ted Huges	: Hawk Roosting
Nissim Ezekiel	: Night of the Scorpion

Division of marks : There shall be two essay type questions of 20 marks each, and five short answer type short answer type (50 words) questions of 4 marks each. The questions shall cover the maximum number of poems.

(b) One of the following novels shall be studied :

Achebe :	Things Fall Apart
Hesse :	Siddartha

Division of marks : There shall be one essay type question of 20 marks on each novel and short (100 words) answer type questions of 10 marks each from both the novels.

ENVIRONMENTAL STUDIES

FIRST UNIVERSITY EXAMINATION

100 Marks

Unit – I : Basic Concepts

Concept of Environment, Atmosphere, Hydrosphere, Lithosphere and Biosphere; Ecosystem : Biotic (Producer, Consumer and Decomposer) and Abiotic components of ecosystem, Functional aspects of ecosystem : Food chain, Food web, Nutrient Cycling, Energy Pathways, Homestatis.

Unit – II : Elementary Approach to Environmental Pollution

Type and Classification of air and water pollution, Layers and composition of the atmosphere, Global warming and Ozone layer depletion, Acid rain, Eutrophication, Ecological magnification, Preliminary idea on waste water treatment, Purification of water, Water management and re-use, Solid waste disposal and management, Effect of fertilizer and pesticide application in agriculture, Biological control of pest.

Unit – III : Population Growth and Effect of Urbanisation

Basic Concepts of Demography, Population Growth Curve, Human Population Growth in developing and developed countries. Ages Structure, Population Growth in India. Urbanisation and its Impact on Society, Population Control Methods; Communicable Diseases : Transmission of Communicable Diseases (Water-borne, air-borne, food borne and vector-borne diseases).

Unit – IV : Environment and Society

Growth Controversy, Concept of Sustainable Growth, Population Poverty and Environmental Nexus, Environmental Economics, Environmental Ethics, Sustainable Earth Society.

Environmental Degradation and Women, Environmental Movements : Role of NGOs and International Agencies in Environmental Protection, Some grass root Environmental Movements in Orissa and India.

Unit – V : Environmental Laws

Constitutional Provisions, Major Provisions of Environmental Laws and Pollution Control Laws in India with Particular reference to The Water Act 1974, The Air Act 1981, Environment (Protection) Act 1986, The Wildlife Protection Act 1972, Function and Responsibility of Central and State Pollution Control Board, Role of Judiciary in Environmental Protection, Preliminary Idea on Environmental Impact Assessment, Environmental Management Systems, Environmental Audit and Life Cycle Assessment.

Books Recommended :

1. Environment and Society :
   Authors – Mishra & Das, Macmillan, Rs. 70/-
2. Man and Environment :
   Authors – Das & Mishra; Macmillan, Price 100/-

3. Environmental Studies :

Authors – Panigrahi & Sahu, Pub. – Sadgrantha Mandir

FINAL UNIVERSITY EXAMINATION

Paper – Ii : Drama and Critical Terms 100 Marks

(a) The of two following Plays shall be studied :

Beckett	: Waiting for Godot
Shakespeare	: Macbeth
Kamad	: Hayabadana

Division of marks : There shall be one essay type questions of 20 marks and two short answer (75 words) type questions of 8 marks each from each of the plays.

(b) Critical Terms : about 10

Simile, metaphor, metonymy, synecdoche, image, symbol, irony, paradox, ode, satire.

Division of marks : Four short answer type (75 words)

Questions of 7 marks each on the terms.

POPULATION STUDIES

100 Marks

1. Demography and Population Studies
2. Population Census, Registration of Vital Events, Demographic Surveys
3. Population Change, Population, Distribution and Density.
4. Demographic Data, Population and Sample, Variable, Rates Ratios and Proportion, Collection of Data, Processing of Data
5. Use of Mortality Rates, Sources of Mortulity Data, Mortality Measures, Life Tab le
6. Sources of Data for Fertility Analysis, Some Important Fertility Measures, Gross Reproduction Rates, Net Reproduction Rate
7. Migration : Some Basic Terms and Concepts, Factors Affecting Migration, Importance of Study of Migration, Importance of Study of Migration, Types of Migration
8. Population Projection : Use of Projection, Techniques of Projection
9. Theories of Population Growth : The Malthusian Theory of Population, Karl Marx's Theory of Population
10. World Population Growth and Distribution : Introduction and Growth of World Population, History of Population Growth, Growth of Population in Different Continents

11. Demographic Profile of India : Structure of Indian Population, Causes of High Fertility in India
12. Demographic Profile of Orissa : Growth of Population, Structure of Population, Vital Rates
13. India's Population Policy India's Population Policy : A Survey, Family Planning and Welfare
14. National Population Policy, 2000 : Introduction, Objectives, Strategic Themes, Legislation, Public Support, New Structures
15. Population Education : Introduction, Need for Population Education, Emergence of Population Education, Population Education and Related Concepts

Books for Reference :

1. A Text Book of Population Studies
   By A.K.P.C. Swain, Kalyani Pubishers, 4779
   Ansari Road, 23-Dariayanganj, New Delhi-110002
   Ch. 1 (1.1), Ch. 2 (2.2, 2.3, 2.4), Ch. 3 (3.1, 3.2), Ch. 4 (4.1, 4.2, 4.3, 4.4, 4.5, 4.6), Ch. 5 (5.2, 5.3, 5.4, 5.5), Ch. 6 (6.2, 6.3, 6.4, 6.5), Ch. 7 (7.2, 7.3, 7.4, 7.5), Ch. 8 (8.2, 8.3), Ch. 9 (9.2, 9.3), Ch. 10 (10.1), Ch. 11 (11.2, 11.3), Ch. 12 (12.2, 12.3, 12.4), Ch. 13 (13.1, 13.2), Ch. 14, Ch. 16, (16.1, 16.2, 16.3, 16.4).
2. Applied Statistics by Gupta and Kapoor, S. Chand, Camp, New Delhi.
3. India's Population Problem by S.N. Agrawala, Tata McGraw Hill, Bombay (1985).
4. India Basic Demographic Statistics by A. Bose, B.R. Publishing Corporation, New Delhi (1996).
5. Principles of Demography by D.J. Bogne, Johu Willey, New York (1971).
6. Census of India, Govt. of India, Various Reports, New Delhi.

(B) OPTIONAL COURSES :

ANTHROPOLOGY (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Social Anthropology	75 marks 3 hrs.
Paper – II	Palaeo Anthropology	75 marks 3 hrs.
Paper – III	Practical	50 marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – IV	Biological Anthropology	75 marks 3 hrs.
Paper – V	Action and Applied Anthropology	75 marks 3 hrs.
Paper –VI	Practical	50 marks 3 hrs.

FIRST UNIVERSITY EXAMINATION

Paper – I : **Social Anthropology** 75 Marks

Unit – 1 : Nature and Scope of Social Anthropology and its Relationship with Other Social Sciences, Organisations and Functions of Human Groups, Association, Institution Community, Youth Dormitory.

Unit – 2 : Family, Lineage, Clan, Moiety and Phratry, Descent and Kinship and Marriage – Types and functions, religion and its social relevance, ways of acquiring mates in tribal society.

Unit – 3 : Political Organisation – Nature, types and functions, law and justice in primitive societies, property inheritance.

Unit – 4 : Caste and tribal societies, caste hierarchy, change of caste features, occupation of caste, purity and pollution concepts, mobility, difference between class and caste, tribal distribution in orissa, status of tribal woman.

Unit – 5 : Culture – Definition, material and non-material cultures, folkways and mores, values, culture trait, culture complex, culture assimitation, acculturation and adaptation, culture change.

Books Recommended :

1. An Introduction to Social Anthropology : by Majumdar, D.N. and Madan, T.N.
2. Introduction to Anthropology : by Beals and Hoijer
3. Social Anthropology : by Paul Bohanan
4. Readings in Anthropology : by Jennings and Hoebel, E.A.
5. Kin Groups and Social Structure : by Keesing, R.M.
6. Family and Marriage : by Robin Fox
7. Social Structure : by Murdock, G.P.

Paper – II : Palaeo Anthropology 75 Marks

Unit – 1 : Nature and Scope of Palaeo Anthropology or Pre-History and its relationship with other branches of Anthropology.

Unit – 2 : Pleistocene Climate – Glacials and Pluvials. Their causes and effects, Pleistocene chronology, Relative datings : Stratigraphy, Dendochronology; Absolute dating : Carbon dating

Unit – 3 : Pre-Historic tools – importance of its study, techniques of took making, block-on-anvil, stone hammer, step flaking, pressure flaking, cylinder hammer, clactonian.

Unit – 4 : Lithic Culture of Europe – Eolithic, Lower, Middle and Upper Palaeolithic.

Unit – 5 : Mesolithic and Neolithic Cultures of Europe.

Paper – III : **Practical** 50 Marks

1. Drawing to scale and describe twelve pre-historic tools of Palaeolithic, Mesolithic and Neolithic period. (15 Marks)
   (Students have to draw at least 12 tools or models in practical classes)
2. Identification of prehistoric tools. (10 Marks)
3. Literature Survey, Report Writing and Bibliography Preparation. (15 Marks)
   Method of Report Writing : The student shall have to write a report on the topic assigned by the department basing on journals, books, periodicals etc. Emphasis will be given on extensive reading of relevant books and journals etc.
4. Practical Note Book (5 Marks)
5. Viva Voce (5 Marks)

SECOND UNIVERSITY EXAMINATION

Paper – IV : Biological Anthropology 75 Marks

Unit – 1 : Nature and Scope of Biological Anthropology, evidences of organic evolution, Theories of evolution –Lamakism, Darwinism and the Synthetic theory.

Unit – 2 : Primates – Comparative study of important anatomical and morphological features of prosimians; old and new world monkeys, apes and man, classification of order primate.

Unit – 3 : Types of fossil and process of fossilization, discovery, distribution, anatomical features and phylogenetic position of Australopitecus, Africanus, Pithecanthropus erectus, Neanderthalensis (progressive and conservative) Grimaldi man and Cromagnon man.

Unit – 4 : Use of the term race in social and biological sciences. Biological basis of morphological racial criteria – skin, colour, hair, nose, eye, head, major races of mankind Caucasoid, Mongoloid, Negroid and Australoid.

Unit – 5 : Race formation : Mutation, Selection, Migration, Isolation, Drift.

Books Recommended :

1. Fundamental of Physical Anthropology : by R.M. Sarkar
2. Outlines of Physical Anthropology : by B.M. Das
3. Up from the Ape : by E.A. Hooton
4. Organic Evolution : by K.B. Lal
5. Anthropology : by A;.L. Kroebar

Paper – V : **Action and Applied Anthropology** **75 Marks**

Unit – 1 : Concepts : Tribe, Caste, Scheduled Tribes, Scheduled Castes, Backward Communities, Peasants.

Unit – 2 : Nature and Scope of Applied Anthropology and Action Anthropology. Brief History of Tribal Administration in Pre and Post Independent Period of India.

Unit – 3 : Approaches to Tribal Problems in India : Land Alienation, Education, Health, Economy, Forest.

Unit – 4 : Constitutional Safeguards for Scheduled Castes and Scheduled Tribes and Other Backward Classes.

Unit – 5 : Problem of Orissan Tribes. Role of Anthropology in Development.

Books Recommended :

1. Society and Culture in India : by N.K. Bose
2. Applied Anthropology in India : by L.P. Vidyarthi
3. Tribal Development in India : by Budhadev Choudhury
4. Tribal Development : by B.D. Sharma
5. Development Anthropology : by N.M. Mathur

Paper – V : **Practical** 75 Marks

A. Drawing and description of bones of human skull, man dible, pelvis and limbs, Definition – types of human teeth and their features. Identification of Bones.

B. Somatometry and Somatoscopy : Candidates shall be familiar with the landmarks on the human body, instruments needed for the measurement, procedure adopted and precautions to be taken while taking the following measurements on at least 10 individuals.

1. Height Vertex
2. Sitting height
3. Chest breadth
4. Chest depth
5. Chest girth
6. Maximum head length
7. Maximum head breadth
8. Maximum head height
9. Bizygomatic breadth
10. Bigonial breadth
11. Nasal height

12. Nasal breadth
13. Nasal depth
14. Morphological facial length
15. Superior facial length
16. Weight

C. Following indices shall be calculated and classified :

1. Cephalic index or length-breadth index
2. Length-height index
3. Breadth-height index
4. Morphological facial index
5. Morphological upper facial index
6. Nasal index

Following observations shall be made on at least 10 individuals :

1. Eye colour and eye fold
2. Hair form, texture and colour
3. Forehead
4. Supra-orbital ridge
5. Nose form
6. Facial prognatism
7. Lip form

D. Practical Record

E. Viva Voce

ANTHROPOLOGY (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Social Anthropology	75 marks 3 hrs.
Paper – II	Palaeo Anthropology	75 marks 3 hrs.
Paper – III	Practical	50 marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – IV	Biological Anthropology	75 marks 3 hrs.
Paper – V	Action and Applied Anthropology	75 marks 3 hrs.
Paper –VI	Fundamental of Human Genetics	75 marks 3 hrs.

Paper – VII	Home Sapiens : Development and Variation	75 marks 3 hrs.
	Practical	100 marks 6 hrs.

FINAL UNIVERSITY EXAMINATION

Paper – I X	Changing Indian Community	75 marks 3 hrs.
Paper – X	Field Methods	75 marks 3 hrs.
Paper – IX	Field Work, Report Writing	50 marks 4 hrs.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I : **Social Anthropology** 75 Marks

Same as Anthropology Pass Paper – I

(Social Anthropology)

Paper – II **Palaeo Anthropology** 75 Marks

Same as Anthropology Pass Paper – I

(Palaeo Anthropology)

Paper – III **Practical** 50 Marks

Same as Anthropology Pass Paper – III

SECOND UNIVERSITY EXAMINATION

Paper – IV : **Biological Anthropology** 75 Marks

Same as Anthropology Pass Paper – IV

(Biological Anthropology)

Paper – V : **Action and Applied Anthropology** 75 Marks

Same as Anthropology Pass Paper – V

(Action and Applied Anthropology)

Paper – VI **Fundamental of Human Genetics** 75 Marks

Unit – 1 Development: and Scope of Human Genetics, Structure of Chromosome, Human normal Karyotype, Structure and Function of DNA & RNA.

Unit – 2 : Mode of inheritance of autosomal dominant and recessive characters in man (ABO, MN and Rh-blood groups and alpinism).

Unit – 3 : Sex determination in man. Abnormal sex due to non-disjunction. Turner's syndrome and Klinefeter syndromes.

Unit – 4 : Mode of inheritance of sex linked in man. Colour blindness and Haemophilia. Sex influenced/limited trait baldness.

Unit – 5 : Application of human genetics for human welfare.

Books Recommended :

1. Principles of Human Genetics : by Curt Stem
2. Human Genetics : by Daniel Hardt
3. Human Genetics : by Max Iavitan
4. Human Genetics : by J. Shult and J.V. Neel
5. Human Genetics : by Niyogi and Srivastava

Paper – VII **Homo Sapiens : Development and Variation** **75 Marks**

Unit – 1 Meaning and mechanism of adaptation, Human adaptation : Physiological adaptation to attitude, cold, heat, Genetic adaptation, Cultural adaptation.

Unit – 2 : Ajnatomical modification with special reference to erect posture and bipedalism.

(a) Skull (b) Vertebral column (c) Pelvis

(d) Extremitis – upper and lower (e) Hand and foot

Unit – 3 : Human variation – causes of variation :

(a) Biological (b) Environmental (c) Social/Cultural

Unit – 4 : Constitutional Anthropology :
Sheldon system of Somato typing, The components of somato type, Ectomorphy, Mesomorphy and Endomorphy, The mechanism, of somato typing.

Unit – 5 : Morphology of human teeth, Evolution of the teeth, Eruption of teeth man and apes. Dental variation in fossil man, apes and modem man. Dental arch of apes and man, Dental formula

Books Recommended :

A. Craniometry and Mandibulometry :
(Candidates shall be required to take the following measurements on the least 5 human skulls and mandibles)

1.	Maximum cranial length	1.	Length of mandible
2.	Maximum cranial breadth	2.	Breadth of mandible
3.	Bizgomatic breadth	3.	Height of mandible
4.	Nasal height	4.	Angle of mandible

5. Nasal breadth
6. Superior facial length
7. Minimum frontal breadth
8. Bimastold breadth
9. Nasion-basiion breadth
10. Bi-maxillary breadth

5. Maximum breadth of ramus

Following incides shall be calculated and classified :

1. Cranial index
2. Upper facial index

B. Dematographics

(a) Fingers
(b) Palms
(c) Formulae

C. Drawing of Pedigree and establishing mode of inheritance

(a) Autosomal dominant traits
(b) Autosomal recessive traits
(c) Sex linked traits

D. Practical Records

E. Viva Voce

PRACTICAL – II

A. Drawing and description of bones of human skull, mandible, pelvis and limbs, definition – types of human teeth and their features, Identification of bones.

B. Somatometry and Somatoscopy : Candidates shall be familiar with the landmarks on the human body, instruments needed for the measurement, procedure adopted and precautions to be taken taking the following measurements on at least 10 individuals.

1. Height vertex
2. Sitting height
3. Chest breadth
4. Chest depth
5. Chest girth
6. Maximum head length
7. Maximum head breadth
8. Maximum head height
9. Bizgomatic breadth
10. Bigonial breadth
11. Nasal height
12. Nasal breadth

13. Nasal depth
14. Morphological facial length
15. Superior facial length
16. Weight

C. Following observations shall be made on at least 10 individuals.

1. Skin colour
2. Eye colour and eye fold
3. Hairform, texture and colour
4. Forehead
5. Supre-orbital ridge
6. Nose form
7. Facial prognatism
8. Lip form

D. Practical Record

E. Viva Voce

FINAL UNIVERSITY EXAMINATION

Paper – IX **Changing India Communities** **75 Marks**

Unit – 1 : Population of India – The Rural, Urban, Weaker Section and Backward Classes.

Unit – 2 : Unity in diversity : Race, Language and Culture, Indian Society Systems : Varna, Hindu Joint Family.

Unit – 3 : Nature and characteristic of India Villages (a) Jajemni system (b) Village types and (c) Changing village community life (d) Hindu way of life : Vamashrama and Purushartha (e) Socio-religious movements.

Unit – 4 : Life, community, features of peasant society and its transformation. Folk-urban continuum.

Unit – 5 : Great traditions and little traditions, Universalization and Parochialization, Sanskritization and Westernization, Urbanization and Industrialization in India.

Books Recommended :

1. Rural Sociology : by A.R. Desai
2. Social Mobility Movements among

i. SC and ST in India : by B.K. Roy Burman

3. Caste and Role in India : by G.S. Ghury
4. Tribe, Caste and Nation : by F.G. Bailey
5. India Ceylon – Unity and Diversity : by Mason, Philip (Ed.)
6. India-Social Anthropology of Civilization : by Cohn, B.S.

7.	Village India	: by Morriott, McKim (Ed.)
8.	Social Change in Modern India	: by M.N Srinivas
9.	Man, Nature, Spirit Complex	: by L.P. Vidyarthi
10.	The Kondhs	: by Barbara Boal
11.	The Caste and Economic Frontier :	: by F.G. Bailey
12.	The Kanda	: by N. Pattanayak
13.	The Kondha feud	: by P. Nayak
14.	Bonda Highlanders	: by V. Elwin
15.	The Bonda	: by N. Pattanayak

Books for Reference :

1.	Caste in Modern India and Other Essaays	: by M.N. Srinivas
2.	Tribal Heritage in India	: by S.C. Dube (Ed.)
3.	Modernization in Indian Tradition	: by Y. Singh
4.	Social Inequality	: by Andre Betelle
5.	Caste, Class and Occupation in India	: by G.S. Ghurya
6.	Traditional India – Structure and Change	: by Milton Singer (Ed.)
7.	Administration of Policy and Programme For Backward Class in India	: by S.N. Dube and Ratan Hurdit
8.	Caste, Class and Power	: by Andre Beteille
9.	Little Community	: by Robert Redfield

Paper – X **Field Methods** 75 Marks

Unit – 1 : Field work tradition in Anthropology

Unit – 2 : Research Design : Exploratory, Explanatory and Experimental

Unit – 3 : Methods of Data Collection : Observation Interview, Questionnaire, Case Study, Genealogy

Unit – 4 : Use of Sampling in Scientific Research

Unit – 5 : Technique of Report Writing

Books Recommended :

1.	Methods in Social Research	: by Wilcosin & Bhandarkar
2.	Anthropologists Anthropology	: by Adam Kuper
3.	Patterns of Culture	: by Ruch Benedict
4.	Scientific Study of Culture	: by R. Firth (Ed.)
5.	Methods in Social Research	: by Goode, J. and Hatt, P.K.
6.	The Crafts in Social Anthropology	: by A.L. Ebstein

Paper – XI **Field Work, Report Writing** 50 Marks

1. Field report on the basis of field work in a tribal/rural village for 15 days. (40 Marks)
   Candidates are required to conduct field work for a period of 15 days preferably in tribal/rural area to collect data relevant to the topic assigned to them and write a report. The report shall cover important aspects of the social or physical aspects of the people selected for the study by the department. The field work shall be supervised by a teacher nominated by the department.

B. Viva Voce (10 Marks)

APPENDIX – 'B'

THREE YEAR DEGREE ARTS BENGALI (PASS)

FIRST UNIVERSITY EXAMINATION

Paper – I

(A) The Book "Golpaguchha" (2nd Vol.) is replaced by "Golpaguchha" (First Vol.) written by Rabindra Nath Tagore.

The following pieces to be studies.

1. Kabuliwala
2. Khokababur Pratyabartan
3. Byeddhan
4. Ramkanayar Nirbudhita
5. Shuva

SECOND UNIVERSITY EXAMINATION

An additional book "History of Bengali Literature" written by Ajit Kumar Bandopadhaya be included in the existing syllabus.

Paper – IV

The book "Ramya Bikhya" is replaced by "Pathe O Prabase" written by Rabindra Nath Tagore.

The above changes will be effective from the academic session 2009-10.

FINAL UNIVERSITY EXAMINATION

Paper – II

(A) The Book "Madhukari" is replace of "Balaka" written by Rabindra Nath Tagore. The following pieces to be studies.

1. One nabin one amat Kaneha

2. Tomar Shankha Dhulai Para
3. Tumiki Kabali Chhabi
4. Ekatha Jonite Tumi
5. Sandhyarage Jhilimili
6. Dur hote ki Shunis Mrityur Garjan
7. Puratan Batsarer Jirna Klanta Ratri

(B) The Book "Kabi" is replaced by "Palli Samaj" written by Sarat Chandra Chatterjee.

The distribution of mam in Grammar will be "5 x 4" = 20 marks with alternatives questions in each unit.

The above questions will be effective from the academic session – 2009-10.

ECONOMICS (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Micro Economics	100 marks 3 hrs.
Paper – II	Indian Economy	100 marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – III	Money, Trade and Finance	100 marks 3 hrs.
Paper – IV	Development and Planning	100 marks 3 hrs.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I : **Micro Economic Theory** 100 Marks

1. Introduction : Nature and scope of economics : methodology in economics Choices as an economic problem; basic postulates; Role of price mechanism; demand and supply; basic frame work applications; Market equilibrium.
2. Consumer's behavioiur – Utility-cardinal and ordinal approaches; Indifference curve, Consumer's equilibrium (Hicks and Slutsky); Giffen goods; Compensated demand; Elasticity of demand price, Income and cross; Consumer's surplus; Engel curve.
3. Theory of production and costs – Production decisions, Production function, Isoquant; Factors substitution; Law of variable proportions; Returns to scale; Economics of scale, Different concepts of cost and their interrelation; Equilibrium of the firm expansion path : Empirical evidence on costs.

4. Market Structure – Market forms – perfect and imperfect markets, Equilibrium of a firm – perfect competition, monopoly and price discrimination; Measures of monopoly power, Monopolistic competition; Duopoly, Oligopoly; Taxation and Equilibrium of a firm, Notion of controlled and administered prices.
5. Factor Pricing-Marginal productivity theory of distribution; Theories of wage determination; Wages and collective bargaining; Wage differentials, Rent-Scarcity rent; Differential rent Quasi rent; Interest-Classical and Keynesian theories; Profits-Innovation, Risk and uncertainity theories.
6. Welfare Economics – Problems in measuring welfare; Classical welfare economics; Pareto's criteria; Value judgement; Concept of a social welfare functions; Compensation principle-Kaldor, Hicks.

Books Recommended :

1. Bach, G.L. (1977), Economics Prentice Hall of India.
2. Gauld J.P. and Edward P. (1996), Micro Economic Theory, Richard Irwin, Homewood.
3. Koutsoyiannis, A. (1990) Modern Microecnomics, Macmillan.
4. Lipsey, R.G. and K.A. Chrystal, Principles of Economics, Oxford University Press, Oxford.
5. Ray N.C. (1975), An Introduction to Microeconomics, Macmillan Company of India, Ltd.
6. Stonier, A.W. and D.C. Hague (1972), A Text Book of Economic Theory, ELBS and Longman Group, London.
7. Samuelson, P.A. and W.O. Nordhaus (1998), Economics Tata McGraw Hill, New Delhi.

Paper – II : Indian Economy 100 Marks

1. Structure of the Indian economy – Basic Features – Land, water and forest resources; Broad demographic features population size and growth rates, sex-composition, rural urban migration, occupational distribution, problem of over population; Population policy; Infrastructure development, National income.
2. Planning in India – Objective, Broad achievements and failures; Current five year plan-Objectives, allocation and targets; New Economic Reforms – Liberalization, Privatization and Globalization; Rationale behind economic reforms, Progress of privatization and globalization.
3. Agriculture – Nature and importance; Trends in agricultural production and productivity; Factors determining productivity; Land reforms, New agricultural strategy and green revolution; Rural credit, Agricultural marketing.

4. Industry – Industrial development during the planning period; Industrial policy of 1948, 1956, 1977 and 1991; Industrial licensing policy - MRTP Act, FEAR and FEMA; Growth and problems of small scale industries; Role of public sector enterprises in India's industrialization.
5. External Sector – Role of foreign trade : Trends in exports and imports, composition and direction of India's foreign trade; balance and payments crisis and the New Economic Reforms Export promotion measures and the new trade policies; Foreign Capital-FDI, Aid, Multinational Corporations (MNCs).
6. Important areas of concern – Poverty and inequality; Unemployment; Rising prices; Industrial relations.

Books Recommended :

1. Dhingra, I.C. (2001), The Indian Economy : Environment and Policy, Sultan Chand & Sons, New Delhi.
2. Mishra, S.K. and V.K. Puri (2001), Indian Economy – Its Development Experience – Himalaya Publishing House, Mumbai.
3. J.C. Sandersa, (Ed.), Indian Economy : Performance and Prospect.
4. Jalan, B. (1992), The Indian Economy-Problems and Prospects, Viking, New Delhi.
5. Ahluwalia I.J. and M.D. Little, (Eds.), India.

SECOND UNIVERSITY EXAMINATION

Paper – III : **Money, Trade and Finance** 100 Marks

1. Money-Meaning, functions and classification; Supply and demand for money, Classical and Keynesial demand for money, Supply of money, Narrow money, Broad money and high powered money.
2. Value of money, Quantity theory of money – cash transaction, cash balance approach and income approach. The Keynesian approach : inflation, deflation and reflation – definition, type, causes and effects on different sectors of the economy. demand pull and cost-push inflation, Measures to control inflation, trade-off between inflation and unemployment.
3. Commercial Banking – meaning and type; Functions of commercial banks. The process of credit creation – purpose and limitations. Liabilities and assets of banks.
4. Central Banking – Functions of central bank; Quantitative and qualitative methods of credit control – bank rate policy, open market operations, variable reserve ratio and selective methods.
5. International Trade – Theories, Comparative cost theory, Terms of trade concepts, Balance of payments; its components, notions of disequilibrium, adjustment of BOP disequilibrium – price,

income approaches, Foreign exchange-determination of rates of exchange. IMF – its objectives and role in international monetary management.

6. Public Finance – Meaning and scope; distinction between private and public finance; public goods vs. private goods, The principle of maximum social advantage, Public expenditure – meaning, classification and principle; canons and effects of public expenditure taxation – meaning, canons and classification of taxes, division of tax burden – the benefit and ability to pay approaches, impact and incidence of taxes, taxable capacity, effects of taxation.

Books Recommended :

1. Gupta, S.B., Monetary Economics - S. Chand & Company, New Delhi
2. Jha, R. (1998), Modern Publ. Economics, Routledge, London.
3. Mithani, D.M. (1998), Modern Public Finance, Himalaya Publishing House, Mumbai.
4. Soderstein, Bo (1991), International Economics, Macmillan Press, London.
5. Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
6. Musgrave & Musgrave (1976), Public Finance in Theory & Practice, McGraw Hill, Tokyo.
7. Day, A.C.L. (1960), Outline of Monetary Economics, Oxford University Press, Oxford.
8. De Kock, M.H. (1960), Central Banking, Staples Press, London.
9. Harris, C.L.

Paper – IV : Development and Planning 100 Marks

1. Theories of Economic Development - Theories of development – Classical theory, Karl Marx in the theory of development – theory of social change; Immutable laws of capitalist development – crisis in capitalism, Sohumpeter and capitalist development.
2. Approaches to Economic Development – Partial theories of growth and development – Vicious circle of poverty, circular causation, unlimited supply of labour, big push, balanced and unbalanced growth, critical minimum effort thesis, Low equilibrium trap – Dualism.
3. Choice and pattern of investment – Need for investment criteria in LDCs; prevent vs. future growth; Alternative investment criteria. The choice of technique and appropriate technology and employment.
4. International aspects of economic development – International trade as an engine of growth – static and dynamic gains from trade, Prebisch, Singer and Myrdal thesis vs. free trade, Exportied growth; Post-GATT intenraional economic order, WTO and developing countries.
5. Macroeconomic policy and economic development – Roles of monetary and fiscal policies in developing countries, External resources, FDI Aid vs. trade, technology inflow; IMF and World Bank policies in developing countries.

6. Planning and Development – Need for planning – democratic, decentralized and indicative planning, micro level planning.

Books Recommended :

1. Thiriwal, A.P. (1999), Growth and Development, Macmillan, London.
2. Ghatak S. (1986), An Introduction to Development Economics, Alien and Unwin, London.
3. Higgin, B. (1959), Economic Development, Norton, New York.
4. Kindleberger, C.P. (1977), Economic Development, McGraw Hill, New York.
5. Brahmananda, P.R. and arid C.N. Vakil (1956), Planning for and Expanding Economy, Vora and Co.; Bombay.
6. Chakravarty, S. (1987). Development Planning : The Indian Experience, Claredon Press, Oxford.
7. Todaro, M.P. (1971), Development Planning : Models and Methods, Oxford University Press, Oxford.

ECONOMICS (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Micro Economics	100 marks 3 hrs.
Paper – II	Indian Economy	100 marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – III	Money, Trade and Finance	100 marks 3 hrs.
Paper – IV	Development and Planning	100 marks 3 hrs.
Paper - V	Quantitative Techniques/Statistical Methods	100 marks 3 hrs.
Paper - VI	Macro Economics	100 marks 3 hrs.

FINAL UNIVERSITY EXAMINATION

Paper – VII

(Any one paper out of the following)

(A)	International Economics	100 marks
(B)	History of Economic Thought	100 marks

(C) Mathematical Economics 100 marks .

Paper – VIII

(Any one paper out of the following)

(A) Public Economics 100 marks

(B) Economics of Social Sectors and Env. Issues 100 marks

(C) Business Economics 100 marks .

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I : **Micro Economics** 100 Marks

Same as Economics Pass Paper-I (Micro Economics)

Paper – II : **Indian Economics** 100 Marks

Same as Economics Pass Paper-II (Indian Economics)

SECOND UNIVERSITY EXAMINATION

Paper – iiI : **Money, Trade & Finance** 100 Marks

Same as Economics Pass Paper-II (Money, Trade & Finance)

Paper – IV : **Development & Planning** 100 Marks

Same as Economics Pass Paper-IV (Development & Planning)

Paper – V : **Quantitative Techniques/Statistical Methods** 100 Marks

Quantitative Techniques :

1. Basic concepts – Variables, Sets, Functions, equations, Indentifies, Systems of Equations, Application of straight line system, Slope of the line, Homogeneous function.
2. Calculus – Differentiation of a function; Maxima and Minima, Elasticities; Equilibrium of a firm and consumer; International ship among total marginal and average cost and revenues; Costtrained optimization problem, Integration of a function, consumer's and producer's surplus.
3. Matrix and determinants – various types of matrices, determinants, Inverse of a matrix, Cramer's rule, Input-output analysis.
4. Introduction to Statistics – Basic concepts; Population, Sample, Parameter, Frequency of distribution, Cumulative frequency; Graphic and diagrammatic representation of data; Techniques of data collection; Sampling vs. Population; Primary and secondary data.

5. Central tendency and dispersion : Measures of central tendency, mean, median, mode, Geometric mean and harmonic mean, Measures of dispersion; Range, mean deviation, standard deviation, coefficient of variation, quartile deviation, Skewness and Kurtosis.
6. Correlation and Regression – Correlation; Simple, coefficient of correlation – Karl Pearson Rank correlation, Partial and multiple correlation analysis, regression analysis – estimation of regression line in a bivariate distribution – Least squares, method, interpretation of regression coefficients.
7. Probability and distribution – Probability : Concept, rules of probability (addition and multiplication); random variables, mathematical expectations, Theoretical distribution – Binomial, Poisson, Normal; their properties and uses.

Books Recommended :

1. Allen R.G.D., Mathematical Analysis for Economists, Macmillan Press, London.
2. Chiang A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New Delhi.
3. Gupta, S.C. and V.K. Kapoor (1993), Fundamental of Applied Statistics, S. Chand and Sons, New Delhi.
4. Black, J. and J.F. Bradley, (1973), Essential Mathematics for Economists, John Wiley and Sons.
5. Taro Yamane, Mathematics for Economists.

Statistical Methods :

1. Introduction to Statistics – Basic Concepts. Population, Sample, Parameter, Frequency distribution; Cumulative frequency, Graphic and diagrammatic representation of data; Techniques of data collection, Sampling vs. Population; Primary and secondary data.
2. Central tendency and dispersion : Measures of central tendency, mean, median, mode, Geometric mean and harmonic mean. Measures of dispersion; Range, mean deviation, standard deviation, coefficient of variation, quartile deviation, Skewness and Kurtosis.
3. Correlation and Regression – Correlation; Simple, coefficient of correlation – Karl Pearson and Rank correlation, Partial and multiple correlation analysis, regression analysis – estimation of regression line in a bivariate distribution – Least squares method, interpretation of regression coefficients.
4. Time series ad index numbers – Time series analysis concepts and components – determination of regular, trend and seasonal indices; Index numbers – concept, price relative, quantity relative, value relative; Laspeyre's, Passches and Fisher index; Problems in the construction and limitations of index numbers, tests for idea index number.

5. Probability and distribution – probability : Concept, rules of probability (addition and multiplication); random variables, mathematical expectations, Theoretical distribution – Binomial, Poisson, Normal; their properties and uses.
6. Sampling and sampling distributions; Sampling method and technique, Sampling distribution of an estimator, point estimation and interval estimation, tests of significance.

Books Recommended :

1. Nagar & Das, Basic Statistics, Oxford University Press.
2. Crotox, Crowden & Klein (1973), Applied General Statistics, Prentice Hall, New Delhi.
3. Taro Yamane, Basic Statistical Methods.
4. Chou, Y. 191975), Statistical Analysis, Holt, Reinhart and Winston, New York.
5. Goon, Gupta and Dasgupta, (1993) Fundamental of Statistics, The World Press Ltd., Calcutta.

Paper – VI : Macro Economics 100 Marks

1. National Income and Social Accounts – Concepts and measurement of national income; national income identities with government and international trade.
2. Output and employment – Say's law of markets and the classical theory of employment; Keynes objection to the classical theory; Aggregate demand and aggregate supply functions; The principle of effective demand; Consumption function – Average and marginal propensity to consume; Factors influencing consumption spending; The investment multiplier; Theory of investment-Autonomous and induced investment, marginal efficiency of capital; Savings and investment – ex post and ex ante, equality and equilibrium.
3. Trade Cycles – Nature and characteristics; Keynes view on trade cycle; the concept of accelerator; Samuelson and Hicks multiplier-accelerator interaction model, Control of trade cycles.
4. Economic Growth – Sources of growth; Growth models – Harrod and Doma; Instability of equilibrium; Neo-classical growth models – Solow, Economic growth and technical process.

Books Recommended :

1. Ackley, G. (1976), Macro Economics : Theory and Policy, Macmillan Publishing Company, New York.
2. Shapiro, E. (1996), Macro Economic Analysis, Galgotia Publication, New Delhi.
3. Heijdra, B.J. and F.V. Ploeg (2001), Foundation of Modern Macro Economics, Oxford University Press, Oxford.
4. Hanson, A.H. (1953), A Guide to Keynes, McGraw Hill, New York.

FINAL UNIVERSITY EXAMINATION

Paper – VII **(Any one from A, B, C)**

A. **International Economics** 100 Marks

1. Importance of trade and trade theories – Importance of study of international economics – inter-regional and international trade; Theories of absolute advantage; comparative advantage and opportunity cost; Hecksher-Ohlin theory of trade – its main features, assumptions and limitations.
2. Gains from trade – gains from trade – their measurement and distribution; Trade as an engine of economic growth, Concepts of terms of trade and their importance in the theory of trade; Doctrine of reciprocal demand – its importance and limitations in the theory of trade.
3. Tariffs and quotas – types of tariffs and quotas; their impact in partial equilibrium analysis, Free trade and policy of tariffs in relations to economic growth with special reference to India; Concept of optimum tariff.
4. Balance of trade and balance of payments – Concepts and components of balance of trade and balance of payments; Equilibrium and disequilibrium in balance of payments; concequences of disequilibrium; measures to correct deficit in balance of payments; Relative merits, demerits and limitations of devaluation; concept and implication of foreign trade multiplier; Functions of IMF, World Bank and GATT/WTO; reform of the international monetary system and India.

Books Recommended :

1. Soderstein, B.O. (1991), International Economics, Macmillan Press, London.
2. Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
3. D. Salvatore, (1977), International Economics, Prentice Hall, Upper Saddle River, N.J.
4. Kenan P.B. (1994), The International Economy, Cambridge University Press, London.
5. Krugman, P.R. and M. Obstgeld (1994), International Economics : Theory and Policy, Glenview, Forseman.

B. **History of Economic Thought** 100 Marks

1. Early period – Economic Thought of Plato and Aristotle – Doctrines of just cost and just price – Mercantilism; main characteristics; physiocracy; natural order, primary of agriculture, social classes, Tableau Economique, taxation, Economic ideas of Locke and Hume.
2. Classical period – Adam Smith – division of labour; theory of value, capital accumulation, distribution, views on trade, economic progress; David Ricrado-value, theory of rent, distribution, ideas on economic development and international trade; Malthustheory of population, Karl-Marx – dynamics of social change, theory of value, surplus value, profit and crisis of capitalism; Economics ideas of J.B. Say and J.S. Mill.

3. The Marginalist revolution; Jevons, Walras-and Fisher; the rate of interest-Marshall as a great synthesizer; role of time in price determination; economic methods, ideas on Consumer's surplus, elasticities, prime and supplementary costs, representative firm, external and internal economies, quasirent, organization as a factor of production, nature of profits, Pigou; Welfare economics; Schumpeter; role of entrepreneurs and innovation.
4. Keynesian ideas – The aggregate economy, Liquidity preference theory and liquidity trap; marginal efficiency of capital and marginal efficiency of investment, wage rigidities, underemployment equilibrium, role of fiscal policy; deficit spending and public works; multiplier principle, cyclical behaviour fo the ecnomy; encertainity and role of expectations; impetus to economic modeling.

Books Recommended :

1. Blackhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.
2. Gide C. and G. Rist, (1956), A History of Economic Doctrines, George Harrop and Co.; London.
3. Grey A. and A.E. Thomson, (1980), The Development of Economic Doctrine, Longman Group, Longman.
4. Roll, E. (1973), A History of Economic Thought, Faber, London.
5. Blaug M. (1997), Economic Theory in Retrospect : A History of Economic Thought from Adam Smith to J.M. Keynes, Cambridge University Press, Cambridge.
6. Sheshadri G.B. (1997), Economic Doctrines, B.R. Publishing Corporation, Delhi.

D. Mathematics Economics 100 Marks

1. Quantitative Methods – Variable, constants and parameters; Simple functional relationship and their graphs; Elementary ideas of differential and integral calculus; Matrix and determinants; Solution of simultaneous equations, Quadratic equations; Difference and differential equations.
2. Consumer theory – Utility function, budget line; Constrained optimization, Consumers equilibrium; Income effect, substitution effect and price effect; Slutsky equation; derivation of demand curve; Elasticity of demand; Consumer's surplus.
3. Theory of production – Properties of production function – Homogenous and nonhomogenous; Cobb-Douglas, CES, returns to scale; technology progress and production function, Choice of optimal combination of factors of production; Cost and revenue function; Derivation of cost curves; Relation between total, average and marginal cost and revenue. Production possibility curve; Adding up theorem.

4. Market structure and Pricing – Concept of equilibrium; Equilibrium of the firm under perfect competition, monopoly, price discrimination, monopolistic competition; Economic interpretation of time lag in function; Cobweb model.
5. Input-out analysis; Linear Programming-Input-Output analysis; The simple closed and open model; Dynamic input-output model, Linear programming basic concepts primal and dual; Basic theorem of Lilnear programming; Graphic and simplex method.
6. Game theory – Introduction and concepts – simple and mixed strategy; saddle point solution; Prisoner's dilemma; Pay-off matrix of a game-two person-two-commodity and zero-sum game.

Books Recommended :

1. Allen R.G.D. (1974), Mathematical Analysis for Economists, Macmillan Press, London.
2. Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New Delhi.
3. Colell, A. Mas et al. (1991), Microeconomic Theory, Harvard University Press, Cambridge Mass.
4. Hands, D.W. (1991), Introductory Mathematical Economics, D.C. Health.
5. Henderson and Quandt (1980), Microeconomic Theory : A Mathematical Approach, McGraw Hill, New Delhi.
6. Handy S.T. (1997), Operations Research, Prentice Hall of India, New Delhi.
7. Mukherji B. and V. Pandit (1982), Mathematical Method of Economic Analysis, Allied Publishers, New Delhi.
8. W.J. Baumol, "Economics Dynamics".

Paper – VIII **(Any one from A, B, C)**

A. **Public Economics** 100 Marks

1. Functions of the Govt. : Allocation, Distribution and stabilization – the need for governmental intervention. Provision of social goods, merit goods, nature and characteristics of public goods and merit goods; Government budget – budget accounts revenue and capital accounts.
2. Public expenditure – Theories of budget determination; Dalton Pigou approach, Musgrave's approach, causes of growth of public expenditure; Wagner's law, Peacock – Wiseman hypothesis; Tolerable burden and displacement effect.
3. Taxation – Canons of taxation; Concept of equity; Vertical and horizontal equity; The benefit and ability to pay approaches, Concept of equal sacrifice and alternative tax formulas, concept of shifting and incidence of a tax; alternative concepts of incidence – Dalton and Musgrave's concepts; effect of tax; Concept of taxable capacity.

4. Public debt – Sources and instruments of borrowing; Types of debt, repayment of burden of debt; Debt and burden controversy; Effects of public debt.
5. Deficit financing; meaning and effects.
6. Fiscal and policy and resource mobilization – its role in developing economies.

Books Recommended :

1. Jha, R. (1998), Modern Public Economics, Routledge, London.
2. Mithani D.M. (1998), Modern Public Finance, Himalaya Publishing House, Mumbai.
3. Musgrave R.A. (1959), The Theory of Public Finance, McGraw Hill, Kogakhusa, Tokyo.
4. Shoup, C.S. (1970), Public Finance, Aldine, Chicago.
5. Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.
6. Bhargava, R.N. (1969), Indian Public Finances, B.D. Bhargava and Sons, Chandausi.

B. Economics of Social Sector and Environmental Issues 100 Marks

1. Environmental issues – Elementary ecology, two-way environment-economy linkages; basic concepts, elements of capital theory, externality, public goods, uncertainity and irreversibility, renewable and non-renewable resources, common property resources, social cost-benefit analysis; Causes and effects of environmental degradation, degradation of land, forest and natural resources, valuation of environmental dam ages I benefits; Concepts and indicators of sustainable development.
2. Educational economics – Human capital vs. physical capital, components of human capital; Determinants of demand for education; Costs and benefits of education; educational planning and economic growth; Educational financing; Education and labour market.
3. Health Economics – Determinants of health; Economic dimensions of health care; Appraisal of health care financing; The concept of human value; benefit cost and cost effectiveness approaches; inequalities in health and class and gender perspectives; institutional issues in health care delivery.

Books Recommended :

1. Bhattacharya, R.N. (Ed.) (2001), Environmental Economics : An Indian Perspective, Oxford University Press, New Delhi.
2. Blaug M. (1970), An Introduction to Economics of Education, Cambridge University Press, Cambridge.
3. Klarman, H.E. (1965), The Economics of Hearth, Columbia University Press, New York.
4. Kolstad C.D. (2000), Environmental Economics, Oxford University Press, Oxford.

5. Sengupta R.P. (ed.) (2001), Ecology and Economics : An Approach to Sustainable Development, Oxford University Press, New Delhi.

C. Business Economic 100 Marks

1. Business Economics – An Introduction – Scope of Business Economics-Economic Theories Applied to Business Analysis.
2. Demand Analysis – Elasticities of Demand – Relevance of Elasticity Concept and Measurement – Forecasting Demand.
3. Theory of Production – Returns to Scale – Linearcy Homogenous production production – Isoquant – Expansion path.
4. Analysis of Cost – Shortrun, Long-run – Optimum plant size – Envelopcurve. Fread-Even Analysis.
5. Market Structure – Perfect Competition – Monopoly – Price Discrimination unser monopoly – Measuring the degree of Monopoly Power – Monopolistic competition – product Differentiation – Advertisement and selling cost.
6. Pricing policy in practices – Mark-up pricing – Transfer pricing – Competitive Pidding of Price, Sales Revenue Maximization Hypothesis.

References :

1. Managerial Economics : By D.N. Dwivedi, Vikas Publishing House Pvt Ltd.
2. Managerial Economics : By Stephens Hills Macmillan.
3. Economics Theory and Operations Analysis : By W.J. Baumol PH London.
4. Micro Economics for Management Students : By F.H. Dholkia and A.L. Oza, Oxford University Press, New Delhi.
5. Managerial Economics and Business Strategy : By P. Michael, Bays McGraw Hill, New York.
6. Managerial Economics : By Joel Dean PH, Delhi.
7. Business Economics : By M. Adnikary Excel Books, New Delhi.
8. Managerial Economics : By G.P. Chopra, Tata McGraw Hill, Delhi.

EDUCATON (PASS)

FIRST UNIVERSITY EXAMINATION

Paper – I	Philosophical and Sociological Foundation of Education and Pedagogy	75 Marks
Paper – II	Education Psychology and Elementary Statistics	75 Marks
Paper – III	Practical in Non-school Situation	50 Marks
		200 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Trends and Issues in Indian Education	75 Marks
Paper – V	Method of Teaching (Any one method)	75 Marks
Paper – VI	Practical in School Situation	50 Marks
		200 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Philosophical and Sociological Foundation of Education and Pedagogy** **75 Marks**

Unit – I : 1. Meaning, Nature and Scope of Education as a Science and Social Process

2. Aim of Education – Individual, Social, Vocational and Democratic

3. Agencies of Education – Formal, Informal, active and Passive

Unit – II : Meaning of Philosophy, Relationship between Philosophy and Education, Contributes of Major Philosophies of Education : Idealism, Naturalism, Pragmatism

Unit – III : Curriculum : meaning, types of curricula, principal of curriculum construction, co-curricular activities

Unit – IV : Education and social change, discipline – Method of discipline, value of education – transactional strategies, national integration, international understanding, education as human resource development.

Unit – V : Every student will optional one method of teaching among Odia, English, History, Geography, Math and Science and develop competencies in

(a) Preparation of lesson plan

(b) Framing knowledge and understanding based objective type test items

(c) Preparation of visual aids.

Paper – II **Educational Psychology and Elementary Statistics** **75 Marks**

Unit – I : Psychology – Meaning, Nature, Relationship between Education and Psychology.

Unit – II : **:** Human development and education : Needs, significance and problems of various stages of development and educational implication. Heredity and environment and their influence on human development.

Unit – III : Learning – Meaning and nature, essential aspects of theories of learning : Trail and error, conditioning and gestalt, motivation and learning, transfer of learning.

Unit – IV : Intelligence – Meaning, definition, theories of intelligence and measurement.

Unit – V : Elementary educational statistics :

1. Data – Nature and types, Frequency distribution
2. Measure of central tendency – Mean, median and mode and their uses
3. Measures of variability – Range, QD, SD and their uses.

Paper – III **Practical and Non-school Situation** **50 Marks**

The examination will be conducted in lab. Conditions by two examiners (Internal and External). Both the examiners will select the topic from the method opted under paper-I and distribute them among the candidates on the basis of lottery. The duration will be on 3 hours.

Distribution of Marks :

I) Preparation of lesson plan 20 Marks

II) Preparation of knowledge and understanding based

Objective type test items : 10 Marks

III) Preparation of lesson plan 10 Marks

IV) Viva 10 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV **Trends and Issues in Indian Education** **75 Marks**

Unit – I : Education during Vedic, Buddhist and Medieval periods

Unit – II : Macaulay's minutes 1835, Adam's Reports, hood's dispatch 1854

Unit – III : Indian Education Commissoin-1882, Sadler Commission-1917, Wardha Scheme of Education-1973, Radha Krishna Commission-1948

Unit – IV : Mida;oar Cp,,ossopm-1953, Kothari Commission1-9164, National Policy Education-1986

Unit – V : Constitutional provision is for education, education problems of SC, St and human

Paper – V **Method of Teaching** **75 Marks**

(Any one method from the followings)

ENGLISH

Unit – I : Importance of English in India, Place of English in School Curriculum

i) Aims and Objectives of Teaching English

Unit – II : Methods : Translation Method, Direct Method, Structural Approach, Bilingual Method

Unit – III : Aids : Need and importance of Audio-Visual Aids, Classification of Audio-Visual Aids, Effective use of audio visual aids in teaching of English

Unit – IV : Teaching of prose : Need and purpose of teaching prose (detailed study), Different steps of teaching prose and detailed study), planning the lesson for teaching prose (Detailed study)

i) Teaching of Poetry : Need and purpose of teaching poetry, Different steps of teaching poetry, Planning the lesson for teaching poetry

Unit – V : Evaluation : Essay type test – merits and demerits of objectives types tests – different kinds.

ORIYA

1. Importance of Oriya : Place of Oriya in School Curriculum; Aims and objectives of teaching Oriya
2. Teaching of Prose : Purpose and method; Planning lesson for teaching Oriya prose
   i) Teaching of Poetry : Purpose and Method Planning lesson for teaching Oriya poetry
3. Teaching of Composition – Purpose and Method
   i) Teaching of Grammar – Purpose and Method
4. Aids : Need and Importance of Audio-Visual Aids; Classification of Audio-Visual Aids; Effective Use of Audio-Visual Aids in Teaching Oriya
5. Evaluation : Essay type test – merits and demerits
   i) Objective test types – kinds
   ii) Framing of objective – based objective type test items

HISTORY

1. Place of history in school curriculum
   i) Importance of teaching history

ii) Aims and objective of teaching history

2. Correlation : Meaning; Correlation of History with other school subjects
3. Methods : Story telling, Narration-cum-Discussion; Source method; Field trip; Project method
4. Aids : Need and importance of Audio-Visual-Aids; Classification of Audio-visual Aids; Effective use of Audio-Visual Aids in teaching Oriya
5. Evaluation : Essay type test – merit and demerits
   i) Objective type tests – kind
   ii) Framing of objective – based objective type test items

GEOGRAPHY

1. Importance of teaching Geography
   i) Place of Geography in School Curriculum
   ii) Aims and objectives of teaching Geography
2. Correlation : Meaning. Correlation of Geography with other school subjects
3. Methods : Lecture method, Discussion method, Demonstration-cum-Discussion method, Observation, Problem solving, Field trip, Project
4. Aids : Need and Importance of Audio-Visual Aids; Classification of Audio-Visual Aids; Effective use of Audio-Visual Aids in teaching of Geography
5. Evaluation : Essay type tests – merits and demerits
   i) Objective type tests – kinds
   ii) Objective – based objective type test items

MATHEMATICS

1. Importance of teaching Mathematics
   i) Place of Mathematics in School Curriculum
   ii) Aims and objectives of teaching Mathematics
2. Correlation : Meaning. Correlation of Mathematics with other school subjects
3. Methods : Inductive-Deductive; Analytical-Synthetic; Field Study, Projects
4. Aids : Need and Importance of Audio-Visual Aids; Classification of Audio-Visual Aids; Effective use of Audio-Visual Aids in teaching of Mathematics
5. Evaluation : Essay type tests – merits and demerits
   i) Objective type tests – kinds
   ii) Objective – based objective type test items

SCIENCE

1. Importance of teaching Science
   i) Place of Science in School Curriculum
2. Aims and objectives of teaching Science
3. Correlation : Meaning. Correlation of Science with other school subjects
4. Methods : Inductive-Lecture; Discussion, Demonstration-cum-Discussion Problem solving, Project, Laboratory, Assignment, Observation, Field trip
5. Aids : Need and Importance of Audio-Visual Aids; Classification of Audio-Visual Aids; Effective use of Audio-Visual Aids in teaching of Science
6. Evaluation : Essay type tests – merits and demerits
   iii) Objective type tests – kinds
   iv) Objective – based objective type test items

Paper – VI **Practical in School Situation**

Practical in teaching will consist of 10 (Ten) practice-teaching lesions in the method subject opted under Paper-I, the record of which will be jointly evaluated by the internal and external examiners at the time of final teaching.

A candidate will deliver one final teaching lesson in the method subject opted under paper-I in the school which will be evaluated by one set of internal and external examiners. At the time of final teaching a candidate is required to submit 2 (Two) copies of lesson plan 2 (Two) copies of scheme of lessons for both the examiners. Following is the distribution of marks.

i)	Practice-teaching record	10 Marks
ii)	Final teaching lesson plan	20 Marks
iii)	Audio-visual Aids	10 Marks
iv)	Classroom teaching	10 Marks
	Total :	50 Marks

EDUCATON (HONS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Philosophical and Sociological Foundation of Education and Pedagogy	75 Marks
Paper – II	Education Psychology	75 Marks
Paper – III	Practical in Non-school Situation	50 Marks

200 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Trends and Issues in Indian Education	75 Marks
Paper – V	Pedagogy of Education	75 Marks
Paper – VI	Educational Evaluation and Statistics	75 Marks
Paper - VII	Method of Teaching	75 Marks
Paper – VIII	Practical in School Situation (1st Method & 2nd Method)	(50+50) Marks
		400 Marks

FINAL UNIVERSITY EXAMINATION

Paper – IX	Educational Technology and Curriculum Construction	75 Marks
Paper – X	Fundamental of Educational Project	75 Marks
Paper – XI	Project Work in Education	50 Marks
		200 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION - 2014

Paper – I **Philosophical and Sociological Foundation of Education** **75 Marks**

Unit – I :
1. Meaning of Education, Education as Science Social Process and Human Resource
2. Aim of Education
3. Functions of Education

Unit – II : Philosophy and Education : Meaning and Relationship; Major Philosophies – Idealism, Naturalism, Pragmatism, Realism. Their contribution to education

Unit – III : Educational Thoughts of

a) Rousseau b) Froebel c) Dwwey
d) Gandhi e) Tagore

Unit – IV : Education and Society : Relationship, Social Change – Meaning, Factors, Education as an instrument if social change

Unit – V : Current Socio Educational Problems; Equalization of educational opportunity, Educational problems of SC, ST, women and other backward classes, social education,

specific problems of urban and rural areas, community involvement in Education, Environmental Education

Paper – II **Educational Psychology** **75 Marks**

Unit – I : Meaning and scope of Educational Psychology, Application of Educational Psychology in teaching, Methods of Educational Psychology – Observation, Case study and experiment

Unit – II :

i) Development – Meaning and Principles

ii) Areas of development – Physical, social, emotional and intellectual

iii) Piagetian theory of development

iv) Needs and problems of adolescence

Unit – III : Learning : Meaning, Nature, Factors affecting learning, Learning and Maturation, Learning and Motivation, Learning Theories – Trial and Error, Classical and operant Conditioning, Insightful Learning

Unit – IV :

a) Intelligence : Meaning and nature of intelligence, Demerits of intelligence, Theories of intelligence, Measurement of intelligence

b) Creativity : Meaning and nature, characteristics of creative persons

c) Individual difference : Meaning, Factors affecting individual differences

Unit – V :

a) Personality : Meaning and nature. Theories of personality – Type and Trait theories

b) Educational of the Exceptional Child : Characteristics, Types and Need of Special Education

Paper – III **Practical in Non-School Situation** **50 Marks**

(In any one method of two methods selected by student)

i)	Preparation of lesson plan	20 Marks
ii)	Preparation of knowledge and understanding based Objective type test items (2.5*4)	10 Marks
iii)	Preparation of Visual aids	10 Marks
iv)	Viva	10 Marks
		50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – I **Philosophical and Sociological Foundation of Education** **75 Marks**

Unit – I : Education in India during

a) Vedic b) Buddhist c) Muslim period

Unit – II : Macaulay's Minutes, Adam's Report and Wood's Despatch - 1854

Unit – III : i) Indian Education Commission - 1882

ii) Sadler Commission – 1917

iii) Wardha Scheme of Education - 1937

Unit – IV : i) Indian Education Commission – 1882

ii) Mudaliar Commission – 1948-49

iv) Kothari Commission (1964-66)

v) National Policy on Education (1986)

Unit – V : i) Constitutional Provision of Education

ii) Education of the focused groups – SC, ST, Women and Minorities

Paper – V **Pedagogy of Education** **75 Marks**

Unit – I : Teaching, Meaning, Nature and Characteristics, Factors affecting teaching

Unit – II : Principles of Teaching and Maxims of Teaching

Unit – III : Teaching skills, Meaning, Various teaching skills and their uses

Unit – IV : Lesson Planning : Steps in Lesson Planning, Importance of Planning Preparation of Lesson Plan, Scheme of Lesson Plan

Unit – V : Evaluation of learning outcomes : Various methods used by the teacher in classroom evaluation. Preparation of objective based objective type test items on knowledge, understanding and application.

Paper – VI **Educational Evaluation and Statistics** **75 Marks**

Unit – I : Meaning, Nature and need of educational measurement, Evaluation, Meaning and types, Relation between measurement and evaluation

Unit – II : Measuring instruments : Types, Scales of measurement, Concept of error, Characteristics of good measuring instrument – Validity, reliability, objectivity, their methods of determination

Unit – III : General Principles of Test Construction, Standardisation of Achievement Test

Unit – IV : Educational Statistics

i) Meaning, nature and scope of educational statistics

ii) Data – Type of data, Tabulation of data

iii) Measures of Central Tendency – Its uses and limitations

iv) Measures of Variability – Its use and limitations

v) Concept of Normal Distribution – Properties, Divergence from normality-skewness and kurtosis

Unit – V : i) Concept of Variable, Graphical presentation of data-histogram, Polygon, Pie-diagram – their uses

ii) Correlation – Meaning and Computation of co-efficient of correlation by rank difference method, Product moment method, Interpretation of correlations

Paper – VII **Methods of Teaching** **75 Marks**

A) General Pedagogy 15 Marks

B) Any two methods of teaching (30+30) 60 Marks

(A) i) Concept of Teaching, Relation between teaching and learning, Principles of teaching, Maxims of teaching, Factors affecting teaching – process, input and output variable

ii) Teaching methods – Lecture, Demonstration, Problem Solving, Story telling, Programmed instruction

(B) **Methods of Teaching (Any Two)** **30+30=60 Marks**

ORIYA

Unit – I : i) Place of Oriya in School Curriculum

ii) Importance of teaching Oriya

iii) Relation of Oriya with other school subjects

Unit – II : i) Aims and objectives of teaching Oriya

Unit – III : i) Teaching Methods : Phonetic Method : Look and say method : Sentence method : Direct method : Teaching of Oriya Prose and Poetry

ENGLISH

Unit – I : i) Place of English in School Curriculum

ii) Importance of English

iii) Relation of English with other school subjects

Unit – II : i) Aims and objectives of teaching English

Unit – III : i) Teaching Methods : Translation Method, Direct Method, Structural Approach, Bilingual Method

HISTORY

Unit – I : i) Place of History in School Curriculum

ii) Importance of teaching History

iii) Relation of History with other school subjects

Unit – II : i) Aims and objectives of teaching History

Unit – III : i) Teaching Methods : Story telling : Narration-cum-Discussion : Source Method : Project Method : Dramatisation : Field Trip

MATHEMATICS

Unit – I : i) Place of Mathematics in School Curriculum

ii) Importance of teaching Mathematics

iii) Relation of Mathematics with other school subjects

Unit – II : Aims and objectives of teaching Mathematics

Unit – III : Teaching Methods

Unit – IV : Lesson Planning – Planning of Lesson on any topic of Mathematics

Unit Planning, Preparation of Scheme of Lesson

SCIENCE

Unit – I : i) Place of Science in School Curriculum

ii) Importance of teaching Science

iii) Relation of Mathematics with other school subjects

Unit – II : Aims and objectives of teaching Science

Unit – III : Teaching Methods : Lecture, Demonstration-cum-Discussion, Laboratory, Problem Solving, Project Assignment, Observation, Field Trip

Unit – IV : Lesson Planning – Planning of Lesson on any topic of Mathematics

Unit Planning, Preparation of Scheme of Lesson

Paper – VIII **Practical in School Situation (Two Methods)** **50+50=100 Marks**

Practical in teaching will consist of 20 (Twenty) practice teaching lesson (10 in each method). A candidate will deliver two final teaching lessons (one in each method) in school situation. Evaluation

will be done by one set of internal and external examiners. The candidate is required to submit 2 copies of lessons plans to the examiners. The marks in each method will be distributed as under :

		Method- I	Method-II
i)	Practice-Teaching Records	10	10
ii)	Final Teaching Lesson Plan	20	20
iii)	Audio-visual Aids	10	10
iv)	Classroom teaching	10	10
	Total :	50	10

FINAL UNIVERSITY EXAMINATION

Paper – IX Educational Technology and Curriculum Construction 75 Marks

Unit – I :
i) Meaning, Nature and Scope of Educational Teaching
ii) Components of Educational Technology
iii) Communication – Theory, Concept, Components, Types of communication, mass media approach in educational technology

Unit – II :
i) System approach to instruction : Instructional System, System analysis, Designing physical and human resources
ii) Innovations in Educational Technology : Programmed Learning, Micro-teaching, Team teaching
iii) CAI, Distance teaching – Their merits and drawbacks

Unit – III :
i) Curriculum – Meaning, Aims and Objectives, Determinants of Curriculum, Core-Curriculum, and Co-curriculum activities
ii) Types of Curriculum – Their merits and drawbacks, Concepts of balanced curriculum

Unit – IV :
i) Curriculum at different levels – Primary, Secondary
ii) Principles of Curriculum construction
iii) Evaluation of Curriculum

Paper – X Fundamentals of Education Project 75 Marks

Unit – I : Concept of Educational Project, Meaning, Nature and Characteristics of Educational Project, Scientific Enquiry - steps

Unit – II : Selection of Problems for Educational Project, Sources of Problems, Basic Ideas of Sampling and Hypothesis

Unit – III : Tools and Techniques of Data Collection, Sources of Data, Tools – Checklist, Questionnaire, Rating Scale and Interview.

Unit – IV : Analysis and Interpretation of Data – Importance, Steps of analysis and interpretation

Unit – V : Writing of Project Report

- Title Page
- Supervisor's Certificate
- Acknowledgment
- Table of Contents
- List of Tables

Main Body :

Chapter – I	Introduction
Chapter – II	Methodology
Chapter – III	Analysis and Interpretation
Chapter – IV	Summary and Conclusion
Reference Section	Bibliography
	Appendices

Paper – XI **Project Work in Education** **50 Marks**

Each candidate is required to complete one educational project which will be evaluated by the internal and external examiners jointly through a Viva-voce test. The project will have to be completed according to the following steps :

a) Identification of the problem/topics

b) Formulating the objectives

c) Actual conduct of the work

i) Field of work

ii) Nature and sources of data required

iii) Collection and organization of data

iv) Analysis and interpretation '

v) Drawing of conclusions

The project may either be a theoretical study or an empirical study but must be related to the field of education.

ENGLISH (PASS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	History of English Literature, Language and Critical Terms	100 Marks 3 hrs
Paper – II	Poetry	100 Marks 3 hrs

SECOND UNIVERSITY EXAMINATION

Paper – III	Drama	100 Marks 3 hrs
Paper – IV	Novel	100 Marks 3 hrs

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I History of English Literature, Language and Critical Terms 100 Marks

History of English Literature and Language shall be taught in outlines. And the following critical terms shall be taught to enable the students to have a basic idea of the terms.

1) Tragedy 2) Comedy 3) Epic 4) Novel 5) Image
6) Metaphor 7) Symbol 8) Myth

DIVISION OF MARKS :

There shall be 2 essay type questions of 20 marks from the history of English literature, beginning from Chaucer to the Modern Age, and one of the English language, beginning from Old English to Modern English. On critical terms there shall be 5 short answer questions of 8 marks.

(150 words)

Books Recommended :

Harry blamires : A Short History of English Literature. London : Methuen

C.L. Wren : The English, Language. London, Methuen

M.H. Abrams : A Glossary of Literary Terms, Prism Books

Paper – II Poetry 100 Marks

The following poems shall be studied in detail :

Frost	Mending Wall
Milton	On His Blindness
Shelly	Ode to the West Wind
Yeats	The Second Coming

Tennyson	Ulysses
Eliot	Journey of the Magi
Kamala Das	Introduction

Division of Marks :

There shall be 3 essay type questions of 20 marks each and 5 short answer type questions (150 words) of 8 marks each, covering the maximum number of poems.

SECOND UNIVERSITY EXAMINATION

Paper – III Drama 100 Marks

The following plays shall be studied in detail :

Shakespeare : As You Like It

Arthur Miller : Death of a Salesman

Girish Karnad : Hayavadana (Oxford translation)

Division of Marks :

There shall be 3 essay type questions of 20 marks each and 5 short answer type questions (150 words) of 8 marks each, covering all the plays.

Paper – IV Novel 100 Marks

The following plays shall be studied in detail :

Camus : The Outsider (Penguin translation)

Hardy : Return of the Native

Naipaul : A House for Mr. Biswas

Division of Marks :

There shall be 3 essay type questions of 20 marks each and 5 short answer type questions (150 words) of 8 marks each, covering all the novels.

ENGLISH (HONS.)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	History of English Literature	100 Marks 3 hrs
Paper – II	History of English Language	100 Marks 3 hrs

SECOND UNIVERSITY EXAMINATION

Paper – III	Poetry	100 Marks 3 hrs
Paper – IV	Novel	100 Marks 3 hrs

Paper – V	Drama	100 Marks 3 hrs
Paper – VI	English Literary Criticism : 19th & 20th Century	100 Marks 3 hrs

FINAL UNIVERSITY EXAMINATION

Paper – VII	Genres, Terms and Concepts	100 Marks 3 hrs
Paper – VIII	Translations from European Literature	100 Marks 3 hrs

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I History of English Literature 100 Marks

A general understanding of the following literary periods in England is the objective.

1. Medieval Literature 1066-1510
2. Renaissance and Reformation 1510-1620
3. Revolution and Restoration 1620-1690
4. Eighteenth – Century Literature
5. Romantic Period
6. Victorian Literature
7. Modern Literature
8. Post-Modern Literature

DIVISION OF MARKS :

There shall be one essay type question of 20 marks each from each of the listed periods out of which four shall be answered. In addition, an objective question comprising 20 bits of one mark each covering the whole course as far as practicable be set.

Books Recommended :

1. Andrew Sanders : The Short Oxford University of English Literature (Oxford; Revised Edn).
2. Alistair Fowler : A History of English Literature (Blackwall).

Paper – II History of English Language 100 Marks

The following items be studied :

1. The Origin of Language
2. Language Change
3. Language Families

4. Old English
5. Middle English
6. Modern English
7. Standard English
8. Global English

DIVISION OF MARKS :

There shall be one essay type question of 20 marks each from each of the listed periods out of which four shall be answered. In addition, an objective question comprising 20 bits of one mark each covering the whole course as far as practicable be set.

Books Recommended :

1. C.L. Wren : The English Language (Methren)
2. Lalitha Ramamurthi : A History of English Language and Elements of Phonetics (Mac Millan)

SECOND UNIVERSITY EXAMINATION

Paper – III Poetry 100 Marks

The following poems shall be studied :

Donne	:	Batter my heart, three person'd God (Holy Sonnet) Gray : Lilnes Written on Country Church-yard
Keats	:	Ode to a Nightingale
Wordsworth	:	Tintern Abbey
T.S. Eliot	:	The Second Coming
W.H. Auden	:	Miss Gee
Robert Frost	:	Mending Wall
Yayanta Mahapatra	:	Grandfather
Tukaram	:	Born a Sudra I have been a trader (trans. Dilip Chitre, Tukaram, Penguin Classics)

Paper – IV Novel 100 Marks

The following three novels be studied :

Hardy	:	The Mayer of Casterbridge
Virginia Woolf	:	Mrs. Doolway
Amitav Ghose	:	The Shadow Lines (Oxford)

DIVISION OF MARKS :

There shall be one essay type question of 24 marks each on each of the texts. In addition, there shall be six short answer (75 words) type questions of 75 marks, each, two from each text out of which four shall be answered.

Paper – V Drama 100 Marks

The following poems shall be studied :

Shakespeare	:	The Merchant of Venice
Harold Pinter	:	The Caretaker
Vijay Tendulkar	:	Silence ! The Court is in Session (Oxford Translation)

DIVISION OF MARKS :

There shall be one essay type question of 24 marks each on each of the texts. In addition, there shall be six short answer (75 words) type questions of 7 marks, each, two from each text out of which four shall be answered.

Paper – VI English Literary Criticism : 19th and 20th Century 100 Marks

The following extracts and essays be studied :

Wordsworth	:	From the Preface to Lyrical Ballads
Arnold	:	Function of Criticism at the Present Time
Eliot	:	The Function of Criticism' I.A. Richards : Metaphor
F.R. Leavis	:	Literary Criticism and Philosophy

DIVISION OF MARKS :

There shall be five essay type questions with alternative, one from each of the essay, carrying 20 marks each.

Books Prescribed :

B. Das and J.M. Mohanty : Literary Criticism : A Reading (Oxford)

FINAL UNIVERSITY EXAMINATION

Paper – VII Genres, Terms and Concepts 100 Marks

a) Epic, tragedy, comedy, lyric

b) Simile, metaphor, image, symbol

c) Irony, paradox, satire, allegory

DIVISION OF MARKS :

There shall be 3 essay type questions of 20 marks each on item (a), and five short answer (100 words) type questions of 8 marks each covering items (b) and (c)

BOOKS PRESCRIBED :

R.A. Scott – James : The Making of Literature

M.H. Abrams : A Glossary of Literary Terms Critical Idiom Series on Item (a)

Paper – VIII Translations from European Literature 100 Marks

The following texts shall be studies :

Chekov : The Cherry Orchar

Camus : The Outsider

Rilke : Duino Elegies

DIVISION OF MARKS :

There shall be 3 essay type questions of 20 marks each, one, from each text. And eight short answer (75 words) type questions, two from each text, out of which four shall be answered.

SANSKRIT (PASS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I & II

SECOND UNIVERSITY EXAMINATION

Paper – III & IV

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **100 Marks**

1.	Kiratarjuniyam Canto I of Bharavi	40 Marks
2.	Srimad Bhagavad Gita-II	40 Marks
3.	Chhandas from Chhandamanjari Arya, Anustub from Srutabodha, Indravajra, Upendravajra, Upajati, Bhujanagaprayata, Dhrtavilambita, Vamsasatha, Praharsini Vasantatilaka, Malini, Mandakranta, Sikharini, Sardulavikriditam, Sragdhara	20 Marks

Paper – II **100 Marks**

1. Dasakumarcharitam of Dandin Ucchvasa II 30 Marks
2. Meghadutam (Purva Megha) 40 Marks
3. History of Vedic Literature from Samhitas to Vedangas 30 Marks

GEOGRAPHY (PASS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Theory : Geomorphology, Climatology and Oceanography	75 Marks
Paper – II	Theory : Human and Economic Geography	75 Marks
Paper – III	Practical	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – I V	Theory : General Geography of India with special reference to Orissa	75 Marks
Paper – V	Theory : Regional-Geowaphy of S.E. Asia	75 Marks
Paper –VII	Practical	50 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I (Theory) **75 Marks**

Unit – 1 Germorphology

1. Structure of the earth-core, mentle, crust
2. Temperature of Earth's interior
3. Rocks – Classification, Origin and Characteristics of different types of rocks
4. Earth movements – Endogenetio force, Exogenetic force, Epeirogenic force, Orogenetic force
5. Folding and faulting – Types of folding and faulting, Land form resulting from faulting
6. Volcanism, volcanic features, ang volcanic belts of the world
7. Earth quake and earth quake belts of the world
8. Weathering – Physical and Chemical
9. Evolution of Land forms

(1) Fluvial topography
(2) Indian topography
(3) Karst's topography
(4) Coastal topography
(5) Glacial topography

Unit – 2 Climatology

1. Insolation and heat budget, Horizontal distribution of insolation, Heat budget
2. Temperature – Horizontal distribution of temperature Vertical distribution of temperature, Inversion of temperature
3. Pressure and winds – Causes of pressure changes and differences, Distribution of atmospheric pressure vertical, horizontal, pressure belts of the world. Planetory winds – Trades, Westerties, Local winds, Foehn orchook, Mistrial, Land and sea winds Katabatic winds

Unit – 3 Oceanography

1. Oceanic relief features – Continental shelf, slope, continental deep, continental sea plain
2. Ocean currents – Causes of origin of ocean currents types of ocean currents
3. Ocean currents of Indian, and Atlantic ocean, Pacific ocean
4. Salinity – Causes of salinity, distribution of salinity

Books refereed :

1. Mukherji, A.B. : Physical basis of Geography, NCERT, New Delhi
2. Singh, S. : Physical Geography, Basundhara Prakashan, Gorakhpur, UP.
3. Goh-Cheng-Leong : Certificate physical and Human Geography
4. Dayal, P. : Text Book of Geomorphology, Shukla Book Depot, Patna, India
5. Mukkerjee, PK : A Text Book of Geology World Press Private Ltd., Calcutta, 1997

Paper – II **100 Marks**

1.	Dasakumarcharitam of Dandin Ucchvasa II	30 Marks
2.	Meghadutam (Purva Megha)	40 Marks
3.	History of Vedic Literature from Samhitas to Vedangas	30 Marks

Paper – II (Theory) **Human and Economic Geography** **75 Marks**

Unit – 1

(i) Meaning, scope and nature of human geography

(ii) Human diversity – Races mankind, cultural evolution and man, cultural regions of the world

Unit – 2 Population

I) Factors affecting distribution of population of the world

II) World's distribution of population

III) Rapid growth of population

IV) Population, resources and environment

Unit – 3 Settlement Geography

i) Concept of Settlement – Rural and Urban

ii) Types of Pattern of Settlement – Rural and Urban

iii) Evolution of Rural Settlement

iv) Function of Rural Settlement

Unit – 4 Economic Geography

1. Resources – Concept and types of resources
2. Agriculture and fishing :
   - i) Factors affecting the development of agriculture
   - ii) Agricultural
   - iii) Major fishing ground of the world – Distribution in the world, factors that have shaped their location

Unit – 5 Mineral and Power Resources of the World

1. Distribution, Mode of occurrence, Exploitation and use of the following minerals – Iron ore, Tin, Bauxite, Manganese, Copper
2. Power Resources :
   - i) Type and classification of power resources
   - ii) Major oil producing regions of the world
   - iii) Major coal fields of the world
   - iv) Role of coal in localizing the manufacturing industries

Unit – 6

1. Factors affecting the location of industry
2. World's distribution of major industries – Iron, Steel and Cotton Textile

Books Prescribed :

1.	Roy, Prithwish	:	Economic Geography, A Study of Resources, New Central Book, Agency (P) Ltd., Calcutta
2.	Joes, G.F. & G.C. Darken Wald	:	Economic Geography, Subject Publication, New Delhi
3.	Alexander, J.W.	:	Economic Geography, Prentice Hall of India Private Ltd., 1988
4.	Negi, B.S.	:	Economic and Commercial Geography, S. Chand & Co. (P) Ltd. Ram Nagar, New Delhi
5.	Joshi, K.K.	:	Geography of India Resources and Regional Development, NCERT, New Delhi
6.	Morgan, C. Coth Cheng	:	Human and Economic Geography, Oxford University Press, Calcutta

Paper – III Practical 50 Marks

Student's are required to maintain their practical records neatly and regularly for which 20% of the marks of this paper are allotted.

Part – A Statistical Methods 20 Marks

1. Processing of data – Editing, coding, statistical methods to be used to Summerize the data – Grouping, Technique
2. Special Data
   a) Positional data b) Linear data
   c) Aereal data d) Volumetric data
3. Frequency distribution : Drawing of
   a) Histogram b) Polygone
   c) cumulative frequency curve showing mean, median and mode
4. Measures of Central Tendency : Mean, Median and mode for group and ungrouped data
5. Variability of spatial data :
   a) Mean deviation
   b) Standard deviation
   c) Co-efficient deviation

Exercises on mean and standard deviation one for group data and other for ungrouped data.

Paper – III Practical 50 Marks

Student's are required to maintain their practical records neatly and regularly for which 20% of the marks of this paper are allotted.

Part – B Cartograms 20 Marks

1. Quantitative point symbols, Exercises on :
   a) Conventional dot map
   b) Proportional symbols - Propertionate
2. Quantitative Area Symbols :
   i) Drawing of choropleth map for socio-Economic data
3. Quantitative line symbols :
   i) Drawing of maps to represent weather elements with the help of isopleth

Books Prescribed :

1. Elements of Practical Geography : R.L. Singh, Kalyani Publishers, New Delhi
2. Text book of Practical Geography : Md. Zulfequar Ahmed Khan, Concept Publishing Company, New Delhi
3. Maps and diagrams : Monk House F.J. and H.R. Wilkinson, Methuner, 1976
4. Practical Geography : Asish and Sarker
5. Statistical Methods in Geography : Mehmood A. Rajesh Pubilcation, 1980
6. Quantitative Geography : Cole, J.P. and Cam King, John Wiley, 1976
7. Statistical Techniques – A Basic Approach to Geography : Pal, S.K., Tata McGraw Hill, New Delhi, 1982.

SECOND UNIVERSITY EXAMINATION

Paper – I (Theory) **75 Marks**

General Geography of India with special reference to Orissa

Part – A : India

Unit – 1 1. Physical Environment to India :

   a) Physiography diversion – Himalayan region, Indo-Gangetic plain, Peninsular Plateau, Coastal plains and Islands
   b) Drainage – Himalayan Drainage System – Peninsular Plateau's Drain Age System
   c) Soil – Soil types, Soil erosion and their conservation
   d) Vegetation – Distribution of vegetation types in India, Methods of Conservation of Forest in India

Unit – II Population :

1. Growth, density and distribution of population
2. Population problems
3. Racial diversity in India

Unit – III Agriculture – Agricultural types, Distribution and production of major crops – Rice, Cotton, Wheat, Sugarcane, Tea, Jute

Unit – IV Mineral and Power Resources :

1. Production, distribution and occurrences of the following minerals-iron-ore, Bauxite, Mica, Manganese, Copper
2. Power Resources
   a) Fossil Fuel – Coal, Petroleum
   b) Hydel Power : Station Hirakud
   c) Other Sources of Energy – Nuclear, Solar Energy and Bio-gas

Unit – V Manufacturing Industries : Location and distribution of following industries – Iron and Steel, Alluminium, Engineering, Cotton Textile, Sugar Industries, Industrial regions of India

Unit – VI Road and Rail Transport of India – Distribution of Road and Rail Transport in India

Part – B Orissa

Geography of Orissa to be studied under the following head – Relief and drainage, Soil, Natural vegetation, Climate, Agriculture and Irrigation, Mineral Resources, Population and Industries

Books Prescribed :

1. Sinha, B.N. : Geography of Orissa, N.B.T., New Delhi
2. Sharma and Cautinho : Economic and Commercial Geography of India, Bikash Publishing House, New Delhi
3. NCERT Publication : Geography of India – Resource and Regional Development, N. Delhi
4. NCERT Publication : India on the Move, New Delhi
5. Moonish Raza – NCERT : General Geography of India, New Delhi
6. Saroj J.K. Pal : Physical Geography of India – A Study of Regional Earth Science, Orient Longman Ltd., New Delhi, 1998
7. C.B. Mamoria : Economic and Commercial Geography of India

Paper – V (Theory) **75 Marks**

Regional Geography of S.E. Asia

Unit – I

1. Introduction
2. Physical features, climate, natural vegetation, soil

3. Agriculture
4. Mineral and Power Resources, Industries

Unit – II Countries of S.E. Asia : Burma, Malaysia, Indonesia, Phillipines, Thailand, Vietnam, Laos Campuchea

Unit – III
1. Plantation agriculture of S.E. Asia
2. Human diversity in South East Asia and its Effect
3. Tin Mining in Malaysia
4. Petroleum Resources of S.E. Asia

Books Prescribed :

1. Dobby : Monsoon Asia
2. Prasad M. : Indian and Adjacent Countries
3. Robinson R. : Monsoon Asia
4. Singh G. : Geography of India
5. Stamp L.D. : Asia

Paper – V (Theory) **75 Marks**

Map projection, surveying and map interpretation. The students are required to maintain neat practical records and submit regularly for which 20% marks are allotted.

Part – A Map Projection (only graphical construction) 15 Marks

a) Conical projection :
   i) Conical projection with one standard parallel
   ii) Conical projection with two standard parallel

b) Cylindrical projections :
   i) Simple cylindrical projection
   iii) Cylindrical Equal Area projection

c) Zenithal projections :
   i) Gromonic Polar Zenithal projection
   ii) Stereographic projection
   iii) Zenithal Equal Area projection

Part – B Surveying 15 Marks

a) Plane table survey :
   i) Radiation method
   ii) Intersection method

b) Cylindrical projections :

i) Open traverse

ii) Close traverse

Part – C Map Interpretation 10 Marks

a) Interpretation of Indian toposheet

b) Interpretation of India daily weather maps

Books Prescribed :

1.	Monkhouse, F.D. & H.R. Wilkinson	:	Maps and Diagrams
2.	Singh R.L.	:	Elements of Practical Geography
3.	Robinson A.H.	:	Elements of Cartography
4.	Md. Z.A. Khan	:	Text Book of Practical Geography Concept Publishing Company, New Delhi
5.	Steers J.A.	:	Map Projection

GEOGRAPHY (HONS.)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Theory : Human Geography	75 Marks
Paper – II	Theory : Economic Geography	75 Marks
Paper – III	Practical	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – I V	Theory : Geomorphology	75 Marks
Paper – V	Theory : Climatology and Oceanography	75 Marks
Paper –VI	Theory : Environmental Geography	75 Marks
Paper –VII	Regional Development Planning	75 Marks
Paper –VIII	Practical	100 Marks

FINAL UNIVERSITY EXAMINATION

Paper – Ix	Theory : Regional Geography of India with special reference to Orissa	75 Marks
Paper – X	Theory : Geography of Tourism	75 Marks
Paper –XII	Practical	50 Marks

COURSE STRUCTURE : **NO CHANGE**

Detailed Course FIRST UNIVERSITY EXAMINATION Paper – I NO CHANGE

Paper-II (Theory) Economic Geography 75 Marks

Unit – I :

a) Definition, meaning and scope of Economic Geography

b) Types of economics activities :

i) Primary

ii) Secondary

iii) Tertiary

c) Classification of recourses and their characteristics

d) Impact of resource utilization on environment

Unit – II : World Agriculture, Fishing and Forestry

a) Factors influencing agriculture

i) Geographic

ii) Economic

iii) social

b) Location of agricultural activities, Vol…Thuron theory of agricultural location

c) World agricultural location

d) Agriculture problems of developing countries

e) Forestry – Types and characteristics of tropical and temperature forests

Forest conservation and management

Unit – III : Mineral and Power Resources :

a) Principal Coal fields of the world and their distribution

b) Principal Oil fields of the world and their distribution

c) Role of power resources in industrial location

d) Mode of occurrence distribution and production of following minerals

i) Iron ore, ii) Bauxite

Unit – IV : Manufacturing Industries :

a) Factors influencing the location of industries

b) Theories of industrial location – Wober, Iosch, Smith

c) World distribution of major industries –

i) Iron and steel, ii) Cotton textile

Unite – V : Resource Conservation

a) Conservation of Natural Resources

b) Conservation vis-à-vis development

c) Remote Sensing & GIS technique in resource conservation & monitoring

Books Prescribed : **No Change**

Paper – III **Practical Statistical Methods in Geography**

The students are required to maintain their practical records neatly and regularly for which 20% of the marks of this paper are allotted.

Unit – I : a) Special date classification of special data and their characteristics

b) Measurement of phenomena :

i) Nominal scale

ii) Ordinal scale

iii) Interval scale

iv) Ratio scale

Unit – II : a) Frequency distribution graphic representation of histogram, frequency curve, cumulative frequency curve of give showing mean median and mode.

b) Basic statistical concepts and manipulation measurement of central tendencies, Mean medial and mode of spatial data for ungrouped and group data.

c) Variability of spatial data measurement of dispersion special data.

i) Mean deviation for ungrouped and group data

ii) Standard deviation for grouped and ungroup data

Unit – III : a) Co-relation Analysis (bivariate)

i) Social diagram

ii) Spearman Rank Co-relation

iii) Product moment co-relation

Books Prescribed : **No Change**

SECOND UNIVERSITY EXAMINATION

Paper – IV **GEOMORPHOLOGY** **75 Marks**

Unit – I : a) A brief description of the history of the Earth (Geological time scale)

b) Lithosphere

i) Interior of the earth crust, mantle, core

ii) Rocks – origin and types

Unit – II : a) Isostacy

i) Concept of Isotacy

ii) Theories of Pratt and Alry

b) i) Forces of the earth, folds and faults

ii) Earth movement, Crogency : Theories of Rober and Holmes

Unit – III : a) Distribution of land and water on earth surface

i) Continental drift theory

ii) Concept of plate tectonics

Unit – IV : a) Weathering, Mass… Wasting and Erosion

i) Weathering, Physical and Chemical,

ii) Mass Wasting

iii) Erosion … Circle

iv) Basic Concept of davie and penck

Unit – V : a) Evolution of land forms under the agents

i) River

ii) Glacier

iii) Wind and

iv) Underground water

Paper – IV **CLIMATOLOGY AND OCENOGRAPHY** **75 Marks**

Unit – I : Climatology

a) Atmosphere structure and composition

b) Insolation, its distribution, heat budget

c) Heat, and temperature of the atmosphere : heating and cooling of the atmosphere, horizontal and vertical distribution temperature

Unit – II : General Circulation of the Atmosphere

a) Pressure belts of the earth

b) Planetary winds

c) Local winds

i) Land and sea breaze

ii) Hot local winds

iii) Mountain and valley wind

iv) Cold local winds

Unit – III : a) Hydrology cycle, evaporation, condensation and types of precipitation

b) Airmass and Fronts its types and characteristics

c) Cyclones, Anticyclones and Jet streams

Unit – IV : **a)** Classification of world climate by Kippen

b) Climate changes through geological times

c) Effect of climate change

Unit – V : **a)** General relief feature of the ocean floor and hypsographic curve

b) Bottom relief of the oceans Atlantic, Pacific, Indian

c) Ocean currents : Atlantic, Pacific, Indian

d) Salinity of ocean and its distribution

e) Ocean deposits : Classification and types

Books Prescribed : **No Change**

Books Prescribed :

1.	H. Mazid	:	Human Geography, Rawat Publication, Jaipur and New Delhi
2.	French B. & Squire, S.	:	Human and Economic Geography, Oxford University, New Delhi
3.	Adhikari, S.	:	Political Geography, Rawat Publication, Jaipur and New Delhi
4.	Dwivedi, R.L.	:	Fundamentals of Political Geography, Chaitanya Publishing Hose, Allahabad
5.	Diskhit, R.D.	:	Political Geography – The Discipline and Dimensions, Tata McGraw Hill Co. Ltd., New Delhi
6.	Hans Raj	:	Fundamental of Demography, Surjeet Publication, New Delhi
7.	Chandra R.C.	:	A Geography of Population, Kalyani Publisher, Cuttack
8.	Srivastav O.S.	:	Demography and Population Studies, Bikash Publishing

House, New Delhi

9. N. Hazid : Evolution of Geographical Thought, Rawat Publication, Jaipur and New Delhi

Books Prescribed :

1. Alexender A. : Economic Geography, Prentice Hall of India Ltd. N.D. 1994

2. R. Prithwish : Economic Geography. A Study of Resources, New Central Book Agency (P) Ltd. Calcutta, 1997

3. Sadhukhan S.K. : Economic Geography – An Appraisal of Resources, S. Chand and Compant Ltd., New Delhi, 1982

4. Dasgupta A. : Economic and Commercial Geography, A. Mukherjee & Co. (P Ltd, Calcutt-1976

5. Dubey R.N. & Singh L.R. : Economic and Commercial Geography, Kitab Mahal, Allahabad

6. Jones and Drakens World : Economics Geography, Surjeet Publication, Delhi

Books Prescribed :

1. Robinson, Act, AI : Elements of Cartography, Willey International… 78

2. Pal, S.K. : Statistical Technique, A Basic Approach to Geography, Tata McGraw Hill, New Delhi

3. Singh, R.L. : Element of Practical Geography 1980

4. M. Aslam : Statistical Methods in Geography, Rajesh Publication, 1980

Books Prescribed :

1. Strahier A.N. & Strahier A.H. : Elements of Physical Geography, John Willey and Sons

2. Daya, P. : Text Book of Geomorphology, Shukla Book Dept, Patna

3. Singh S. : Physical Geography, Basundhara Prakashan, Gorakhpur

4. Ahmed E. : Physical Geography, Kalyani Publishers, New Delhi

5. Vatal M. & Sharma R.C. : Oceanography for Geographers, Chaitanya Publishing House, Allahabad

6. A. Miller : Climatology, B.I. Publication, New Delhi

7. Lal D.S. : Climatology, Chaitanya Publishing House, Allahabad

Books Prescribed :

1. Hagget, P. : Geography – A Modern Synthesis, Harper and Row Publishers, Cambridge

2.	Dash M.C.	:	Fundamental of Ecology, Tata McGraw Hill Publishing Company, New Delhi
3.	Sharma, P.D.	:	Ecology and Environment, Rastogi Publication, Meerut
4.	Charles Southwicks	:	Ecology and the Quality of Our Environment
5.	Bernet C.F.	:	Man and Earth's Ecosystem, Willey, New York
6.	Singh S.	:	Environmental Geography, Prayag Pustak Bhaban

Books Prescribed :

1.	Mishra, R.F. (ed)	:	Regional Planning Concepts, techniques, Policies, Case Studies, University of Mysore, 1969
2.	Mishra, R.P. (ed)	:	Regional Planning and National Development, Bikash Publication
3.	Sengupta, P. & Sadasyak, G.	:	Economic Regionalisation in India, 61 Monography No. 8, 68
4.	Mitra, A.	:	Level of Regional Development on India, Census of India, 61-Vol-I, Part-I

Books Prescribed :

1.	A.K. Bhatia	:	International Tourism Fundamentals and Practices, Sterling Publishers Pvt. Ltd.
2.	A.K. Bhatia	:	Tourism Development – Principles and Practices, Steering Publishers Pvt. Ltd.
3.	A.K. Bhatia	:	Tourism Management and Marketing. The Business of Travel Agency Operations, Steering Publishers Pvt. Ltd.

Books Prescribed :

1.	Alex	:	Geography – A Modern Synthesis, Harper and Row Publishers, Cambridge
2.	Dash M.C.	:	Fundamental of Ecology, Tata McGraw Hill Publishing Company, New Delhi
3.	Sharma, P.D.	:	Ecology and Environment, Rastogi Publication, Meerut
4.	Charles Southwicks	:	Ecology and the Quality of Our Environment

Paper – IX **PRACTICAL** **50 Marks**

Students are required to submit neat practical records regularly for which 10% of the marks of this paper are allotted

Unit – I : 1) Preparation of maps showing the following : 20 Marks

a) Tourist sports on the maps of India and Orissa

b) Accommodation facilities available at different tourist places

c) Communication system available at different tourist places

d) Tourist flow map

Unit – II : Field study of tourist spots already existing either within the state or outside state 20 Marks

Unit – II : Practical Record and Viva

Books Prescribed :

1. Singh, R.L. : Element of Practical Geography, Kalyan Publication, New Delhi.
2. Md. Zulfoquar Ahmad Khan : Text Book of Practical Geography, Concept Publishing Company, New Delhi.
3. Ashian Saukean : Practical Geography.

GENERAL PRINCIPLES OF LAW AND JURISPRUDENCE (PASS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Constitutional Law of India	100 Marks
Paper – II	Indian Penal Code	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Criminology and Penology	100 Marks
Paper – IV	Human Rights	100 Marks

Detailed Course :

FIRST UNIVERSITY EXAMINATION

Paper – I **Constitutional Law of India** **100 Marks**

1. Salient Features
2. Preamble, Fundamental Rights, Directive Principles of State Policy
3. Indian Judiciary
4. Emergency Provisions

Books Prescribed :

1.	Constitutional Law of India	:	J.M. Pandey
2.	Constitution of India	:	G.S. Pandey
3.	Introduction to Constitution of India	:	D.D. Basu

Paper – II **Indian Penal Code** **100 Marks**

1. General Explanations
2. General Exceptions – Insanity, Infancy, Mistake of fact, Right of Private Defence
3. Offences against Human Body
4. Offences against Property

Books Prescribed :

1.	Indian Penal Code	:	Ratanlal & Dhirajlal
2.	Criminal Law	:	H.S. Gaur

SECOND UNIVERSITY EXAMINATION

Paper – III **Criminology and Penology** **100 Marks**

1. Definitions, Functions of Criminology
2. Schools of Criminology
   a) Positive School of Criminology
   b) Sociological School of Criminology
3. Purpose of Punishment, Capital Punishment
4. Indian Prison System
5. Probation and Parole

Books Prescribed :

1.	Criminology and Penalogy	:	N.V. Paramjape
2.	Criminology	:	Ahmed Siddique

Paper – IV **Human Rights** **100 Marks**

1. Concept of Human Rights – Provision of Human Rights in UN's Charter
2. United Nations and its Organs
3. Universal Declaration of Human Rights, 1948
4. Protection of Human Rights Acts – 1993 (National Human Rights Commission)

Books Prescribed :

1.	Nagendra Singh	:	Human Rights and the Law
2.	S.C. Khare	:	Human Rights and the UN
3.	B.P.S. Sahgal	:	Human Rights in India

GENERAL PRINCIPLES OF LAW AND JURISPRUDENCE (HONS.)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Constitutional Law of India	100 Marks
Paper – II	Indian Penal Code	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Criminology and Penology	100 Marks
Paper – IV	Human Rights	100 Marks
Paper – V	Law of Torts	100 Marks
Paper – VI	Hindu Law	100 Marks

FINAL UNIVERSITY EXAMINATION

Paper – VII	Jurisprudence	
Paper – VIII	Environmental Law and Consumers Protection Law	

Detailed Course :

FIRST UNIVERSITY EXAMINATION

Paper – I **Constitutional Law of India** **100 Marks**

(Same as Law and Jurisprudence Pass Paper – I)

(Constitutional Law of India)

Paper – II **Indian Penal Code** **100 Marks**

(Same as Law and Jurisprudence Pass Paper – II)

(Indian Penal Code)

SECOND UNIVERSITY EXAMINATION

Paper – III **Criminology and Penology** **100 Marks**

(Same as Law and Jurisprudence Pass Paper – III

(Criminology & Penology)

Paper – IV **Human Rights** **100 Marks**

(Same as Law and Jurisprudence Pass Paper – IV

(Human Rights)

Paper – V **Law of Torts** **100 Marks**

1. Definition, Nature and Scope of the Law of Torts
2. Liability in Torts – Strict Liability – Vicarious Liability, Liability in Mass, Torts
3. Negligence
4. Assault, Battery and Defemation
5. Trespass

Books Recommended :

1. Law of Torts : Ratanlal & Dhirajlal
2. Law of Torts : D.D. Basu
3. Law of Torts : Sinha

Paper – VI **Hindu Law** **100 Marks**

1. Hindu Marriage Act, 1955
2. Hindu Succession Act, 1056

Books Recommended :

1. Hindu Law : Tahir Mahmood
2. Hindu Law : Paras Divan

FINAL UNIVERSITY EXAMINATION

Paper – VII **Jurisprudence** **100 Marks**

1. Definitions – State and Law (Austia & Salmond)
2. Sources of Law – Customs, Precedent and Legislation
3. Concepts – Rights, Ownership and Possession

Books Recommended :

1.	Jurisprudence	:	Dr. Mani Tripathy
2.	Jurisprudence	:	Dr. V.D. Mahajan
3.	Jurisprudence	:	G.C.V. Subba Rao

Paper – VIII **Environmental Law and Consumers Protection Law** **100 Marks**

1. Environment Protection Act, 1986
2. Consumer Protection Act, 1986

Books Recommended :

1.	Law of Environ Protection in India	:	Lal
2.	Cases and Materials on Environmental Law	:	L.P.
3.	National Commission on Consumer Cases	:	Jagdish Arora
4.	Consumer Protection Act	:	Majumdar

HISTORY (PASS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Political History of India	100 Marks
Paper – II	History of Modern World	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – I II	Political History of India	100 Marks
Paper – IV	Heritage of Indian Art and Architecture	100 Marks
	OR	
	Constitutional or Development of India (1973-1947)	

FIRST UNIVERSITY EXAMINATION

Paper – I **Political History of India** **100 Marks**

Unit – I : i) Indus Valley Civilization, Rig Vedic Culture

ii) Magadhan Ascendency – Chandragupta Maurya, Asoka, Downfall of Mauryan Empire

Unit – II : i) Indo Greeks (Demetrions) Kushana (Kanishka-I)

ii) Guptas – Origin, Samudragupta, Chandragupta-II, Downfall of Guptas Empire

Unit – III : i) Emergence of Regional Powers (Struggle between Harsha, Pulakesiin-II and Sasanka

ii) Pallavas, Chalukyas and Cholas

Unit – IV : i) Establishment and Decline of Delhi Sultanate

ii) Moghuls – Babar, Akbar, Aurangzeb

Unit – V : i) Establishment of British Rule in India. Clive, Wellsally, Dalhousie

ii) Nationalism and Freedom Movement – Indian National Congress, Indian National Army and Partition

Books Prescribed :

Ancient :

1.	A.L. Basham	:	The Wonder that was India
2.	D.O. Kosambi	:	The Culture and Civilization of India in Historical Outline
3.	R.C. Majumdar (Ed.)	:	The History and Culture of the Indian People, Vol. III, The Age of Imperial Unity
4.	Romila Thapar	:	Asoka and the Decline of the Mauryas
5.	P.L. Gupta	:	Imperial Guptas
6.	V.D. Mahajan	:	Advance History of India
7.	H.C. Raychoudhury & Others	:	Advanced History of India
8.	G. Posseni	:	The Indus Civilization

Medieval India :

1.	A.B. Pandey	:	Medieval India, 2 Vols.
2.	J.L. Mehta	:	Medieval India, 3 Vols.
3.	Meera Singh	:	Medieval India, 3 Vols.
4.	A.L. Srivastav	:	The Delhi Sultanate, Vol. I The Mughal Empire, Vol. II
5.	Iswari Prasad	:	The Delhi Sultanate, Vol. I The Mughal Empire Vol. II

Modern India:

1.	Bipan Chandra	:	India's Struggle for Independence
2.	B.L. Grover	:	Modern India
3.	P. Robert	:	Modern India
			Cambridge History of India, Vol. VI

Paper – II **History of Modern World** **100 Marks**

Unit – I : A) French Revolution (1789), Causes and Effects, Significance of the Revolution

B) Napoleon Bonaparte – Rise to Power, Consulate, Nepoleonic Empire, Continental System, Causes of Nepolean's Failure, An Estimate of Nepolean, The Congress of Vienna-1815, Holy Alliance, Concert of Europe

Unit – II : A) Matternich System : Unification of Italy, Mazzini, Gabribaldi and Cavour, Unification Germany : Role of Bismark

B) The German Empire : Foreign Policy of Bismark

Unit – III : A) Revolution of 1917, Causes and Effects, Causes of First World War

B) Paris Peace Conference, Treaty of Versailles, League of Nations : Causes and Effects, UNO – Organisation, Evolution and Achievements

Unit – IV : A) India's Foreign Policy – Salient Features – Objectives, Non-Alignment

B) Cold War – Origin and Evolution

Text Books :

1.	History of Europe	:	P. Maiti
2.	History of Modern Europe	:	C.D. Hazer
3.	Modern World	:	P.K. Mishra, D. Kabi & P.P. Mishra
4.	International Relations	:	A.K. Sen
5.	A History of Modern Times	:	C.D.M. Ketelbey
6.	Mastering Modern World History	:	N. Lowe
7.	Modern World	:	Dr. S.P. Nanda

SECOND UNIVERSITY EXAMINATION

Paper – III **Political History of Orissa** **100 Marks**

Unit – I : 1) Nanda and Maurya Rule – Asoka and Kalinga

2) Kharavela

3) Invasion of Samudragupta, Its Impact and Regional Integration

Unit – II 4) Somavamsi : Janmejaya, Yayati II

5) Imperial Gangas : Chodagangadeva, Anangabhimadeva II

6) Gajapati Kings : Kapilendradev, Mukundadeva

7) Orissa under the Muslim Rule

Unit – III 8) Bhois and Khurda

9)` Chauhan Rule in Western Orissa – Surendra Sai

10) Orissa under Marathas

Unit – IV 11) British Rule in Orissa

12) Tribal Resistance Movements : Paik Rebellion

13) Creation of Orissa Province

Unit – V 14) Growth of Oriya Nationalism and Language Agitation

15) Freedom Movement in Orissa : Madhusudan Dash

16) Integration of Princely States

Books :

1.	Utkal University History of Orissa , Vol. I	:	N.K. Sahu
2.	History of Orissa	:	N.K. Sahu, P.K. Mishra, J.K. Sahu
3.	History of Orissa	:	K.C. Panigrahi
4.	Comprehensive History and Culture of Orissa	:	P.K. Mishra, J.K. Samal, Vol. I, Pt. I, Vol. II, Pt. I
5.	Cultural History of Orissa	:	B.K. Rath
6.	Four Hundred Years of Orissa	:	A.K. Panda
7.	Suryavansi Gajapatis of Orissa	:	R. Subramanyam
8.	History of Orissa, Vol. I	:	J.K. Sahu (Oriya)
9.	History of Orissa, Vol. II	:	J.K. Sahu (Oriya)
10.	Orissa under the Mughal	:	B.C. Ray
11.	Orissa under the Marathas	:	B.C. Ray
12.	Foundation of British Rule in Orissa	:	K.M. Patra
13.	Surendra Sai	:	Dr. N.K. Sahu
14.	Growth of Oriya Nationalism	:	N. Mohanty
15.	Freedom Movement in Orissa	:	Harekrushna Mahatab
16.	N.A.H.O. (P.G. Department of History)		

Paper – IV **Heritage of Indian Art and Architecture** **100 Marks**

Unit – I : A) Rock Art in India – with special reference to lock art in Orissa

B) Harappan Art and Architecture

1) Town Planning, Sculptural Art in Stone, Terracotta, Metal and Seals

2) Asokan School - Columns

Unit – II A) Kushana Art – Gandhara School of Art and Mathura Schools of Art

B) Stupa Architecture – Sanchi Stupa and Relief Panels

Unit – III A) Evolution of Temple Architecture During the Gupta Period

B)` Classical Idiom in Gupta Art

Unit – IV A) Rock Cut Architecture Udaigiri (Orissa) and Ajanta Cave No. 1 and 10

B) Evolution of Orissan Temple Architecture

Unit – V A) Indo-Islamic Architecture-Salient Features – Qutab Minar

B) Mughal Architecture – Red Ford and Taj Mahal

Books Recommended :

1. Brown, P. – History of Indian Architecture (Buddhist and Hindu) Bombay, 1942.
2. Coomaraswamy, A.K. – History of Indian and Indonesian Art, New York, 1027.
3. Fergussan, J. – History of Indian and Eastern Architecture, London, 1927.
4. Havell, E.B. – Hand Book of Indian Art, London, 1920.
5. Havell, E.B. – Ancient and Medieval Architecture of India, London, 1915.
6. Kramrisch, S. – The Art of India through the Ages, London, 1954.
7. Ray, N.R. – Maurya and Surya Art, Calcutta, 1945.
8. Singh, M. – India, Paintings from Ajanta Caves, New York, 1954.
9. Saraswati, S.K. – A Survey of Indian Sculpture.
10. Rowland, B. – The Art and Architecture of India, London, 1953.

OR

Constitutional Development in India (1773-1947) **100 Marks**

Unit – I

- Early efforts of the British Parliament to control the affairs of the East India Company.
- The Regulatory Act of 1773 – Provisions, Defects and Significance.
- The Amending Act of 1781
- The Pitt's India Act, 1984

  Provision, Papers, Functions of the Board of Control and Court of Director – Importance of the Act.

Unit - II

- Establishment of the East India Company
- a) Charter Act of 1973

  b) Charter Act of 1813

  c) Charter Act of 1833

  d) Charter Act of 1853

Unit – III

End of the Company Rules the beginning of the rule of British Crown

- Queen Victories Proclamation
- Govt. of India Act, 1858
- The Indian Council Act, 1861
- The Indian Council Act, 1892

Unit - IV

- Constitutional Development during the Early 20th Century
- Morley-Minto Reforms, Background, Objectives, Impact
- Govt. of India Act, 1919 Provisions Regarding Central
- Govt. Indian Participation in Council and Ministry
- Dyarchy in State Administration

Unit - V

- Cripps Mission and its Proposals
- Wavell Plan
- Cabinet Mission Plan
- Mountbatten Plan and Indian Independence Act, 1947

LIST OF BOOKS :

1. Constitutional History of India – A.B. Keith
2. V.D. Mahajan – Constitutional Development in India
3. Majumdar, Ray Chaudhury and Dutta – An Advanced History of Modern India (Abridged Edition)
4. V.D. Mahajan – Fifty Years of Modern India
5. History of Modern India – Graver and Sethi India
6. Advanced Study in the History of Modern India – G.S. Chhabra, Vol. I, Vol. II & III
7. Constitutional Development in India – F.C. Agrawal
8. India's Constitutional Documents – A.C. Banerjee
9. Modern India (1885-1947) – Sumit Sarkar
10. The Indian National Congress – An History

HISTORY (HONS.)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I	Political History of India	100 Marks
Paper – II	History of Modern World	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Political History of Orissa	100 Marks
Paper – IV	Heritage of Indian Art and Architecture	100 Marks

OR

	Constitutional Development in India	
Paper – V	Cultural History of India	100 Marks
Paper – VI	Cultural History of Orissa	100 Marks

FINAL UNIVERSITY EXAMINATION

Paper – VII	Freedom Movement in India	100 Marks
Paper – VIII	Indian Historiography	100 Marks
	OR	
	World Civilization	

Detailed Course :

FIRST UNIVERSITY EXAMINATION

Paper – I	**Political History of India**	**100 Marks**
	Same as History Pass Paper-I (Political History of India)	
Paper – II	**History of Modern World**	**100 Marks**
	Same as History Pass Paper-II (History) of Modern world	

SECOND UNIVERSITY EXAMINATION

Paper – III	**Political History of Orissa**		**100 Marks**
	Same as History Pass Paper-I (Political History of Orissa)		
Paper – IV	**Heritage of Indian Art and Architecture**		**100 Marks**
	Same as History Pass Paper-V		
	OR		
	Constitutional Development in India		
	Same as History Pass Paper-IV		
Paper – V	**Cultural History of India**		**100 Marks**
Unit – I :	A)	India : Land and People	
	B)	Indus Valley Civilization – Characteristic Features	
Unit – II	A)	Buddhism, Jainism and Brahmanical Religion	
	B)	Gupta Classical Age, Sangam Literature	
Unit – III	A)	Advents of Islam and its Impact, Sultanate Architecture	
	B)`	Bhakti and Sufi Movement	
Unit – IV	A)	Mughal Architecture – General Features	
	B)	Social Structure and Position of Women in Medieval India	

Unit – V

A) Renaissance – Features of Indian Renaissance, Raja Ram Mohan Ray, Dayanand Saraswati, Vivekananda

B) Society Religion in 18th Century, British Educational Policy and its Impact on Indian Society.

Books Recommended :

1. Wonder that was India – A.L. Vasam.
2. The History of the People of India, Vol. I to X, Relevant Chapters, Bharatiya Vidya Bhawan Senes.
3. R.K. Mission Cultural Heritage of India.
4. A Social Cultural and Economic History of India, Vol. I, II, III, P.N. Chopra, B.N Puri, M.N. Das, Macmillan.
5. Ancient Indian History and Civilization
6. Percy Brown – Indian Architecture – Medieval Period.
7. Women in Mughal India – Rekha Mishra, Munshiram Monoharlal, 1967.
8. Women in Modern India Forbes Geraldine, Cambridge University Press, 1996.

Paper – VI **Cultural History of Orissa** **100 Marks**

Unit – I : (Social Structure)

1. Varna System in Orissa
2. Position of Women in Early Medieval Orissa
3. Social Changes in the 19th Century

Unit – II : (State of Economy)

4. Land System in Ancient Orissa
5. Trade and Commercial in Ganga-Gajapati Perod
6. British economic Impact on Orissa

Unit – III : (Religious)

7. Religious Developments in Outline – Jainism, Buddhism, Saivism and Vaisnavism
8. Jagannath Cult
9. Religious Movements in 19th Century – Mahima Cult Evangelisation

Unit – III : (Literature)

10. Hathigumpha Inscription
11. Madalapanji-Date

12. Sarala Mahabharata – Society and Religion

Unit – IV (Art, Architecture and Outside Contact)

13. Canons of Orissa Architecture based on "Bhuvan Pradipa".
14. Temples of Orissa – 7th to 13th Century
15. Orissa's Contact with South East Asia.

List of Books :

1. Orissa – Social, Cultural and Religious Aspects, B. Das, Sandeep Prakashan, Delhi.
2. Role of Women in Orissa – K. Barai, Puthi Pustak
3. Social Changes in Orissa in 19th Century – N. Pttnaik
4. Life in Medieval Orissa – A.P. Sah
5. Economic History of Orissa, Ed. – N. Pattnaik
6. Medieval Orissa – S.K. Panda
7. Growth of Oriya Nationalism – Nivedita Mohanty
8. Cultural Developments in Orissa – H.C. Das
9. Buddhism in Orissa – N.K. Sahu
10. Saivism in Orissa – L.K. Panda
11. The Cult of Jagannath – K.C. Mishra
12. The Jagannath Cult and the Regional Traditions, Ed. – H. Kulke
13. Kharavela – N.K. Sahu
14. Madalapanji (ed.) – A.B. Mohanty
15. Sarala Mahabharata (ed.) – A.B. Mohanty
16. Sarala Mahabharatare Samajika Chitra – D. Maharana
17. Canons of Orissan Architecture – N.K. Bose
18. Architecture Memories in Orissa – K.L. Panigrahi
19. Temple of Orissa – Donaldson & Son
20. Comprehensive History and Culture of Orissa, Vol. I, Pt. – II (Ed.) – P.K. Mishra
21. Sidelights on History and Culture of Orissa, (Ed.) – M.N. Das

Paper – VII **FREEDOM MOVEMENT IN INDIA** **100 Marks**

Unit – I : 1) Growth of National Consciousness

- Factors for the Growth of Nationalism
- Role of Early Political Organisation

2) Indian National Congress – Its Birth, Early Activities, Pre-Gandhian Period

Unit – II : 1) Emergence of Gandhian Indian Political Scenario Early Experiments with Satyagraha. The Non-Co-operation Movement

2) Civil Disobedience, Movement and the Cult India Movement

Unit – III : 1) Development after Quit India Movement, Cripps Mission Cabinet Mission

2) Role of All India States, People's Conference The I.N.A. and S.C. Ease

Unit – IV : 1) Muslim League – Origin and Activities

2) Mountbateen Plan Partition of India

Unit – V : 1) Integration of Princely States

2) Dominion Status in India – A Review

Books Recommended :

1. Social Background of Indian Nationalism : A.F. Desai
2. History of Modern India : P.E. Resort
3. Modern India : M.L. Khurana
4. History of Modern India (1707-1947) : Arun Bhattacharya
5. Freedom Struggle : by Amalesh Tripathy and Others National Book Trust Publication

Paper – VIII **Indian Historiography** **100 Marks**

Unit – I : A) Meaning of Historiography – Nature and Scope of History

B) Trends in Modern Indian Historiography, Development of Social and Economic History

Unit – II A) Vedic Literature, Epics and Puranas

B) Bana's Harshacharita Kosalananda Kavya

Unit – III A) The Utilitarian and the Nationalist Historians in Indian History

B)` Some Leading Historians of India – K.C. Panigrahi and N.K. Sahu

Unit – IV A) Some Leading Historians of Medieval India – Alberuni and Abul Fazal

B) Some Leading Historians of Modern India – R.G. Bhandarkar and Jadunath Sarkar

Unit – V A) Sources of History, Primary and Secondary Sources, Authenticity of Sources

B) Use of Source Materials Hathigumpha Inscriptions. Separate Kalinga Edicts of Ashoka, Allahabad Inscriptions of Samudragupta

Books :

1. Historiography – Srivastav & Majumdar
2. History and its Methods – R. Shaikh AIL
3. Historians and Historiography in Modern India – L.P. Mathur

4. Historiography and Historians of Orissa – P.K. Mishra
5. Koshalananda Kavya (Oriya) Ed. By J.K. Sahu

OR

World Civilization

Unit – I : A) Prehistoric Culture

B) Egyptian Civilization : The Age of Early Egyptians and Pyramids.
New Kingdom 1580 BC-1150 BC Religion,
Art and Architecture, Writing and Literature

C) Mesopotamian Civilization,
Sumerian Kingdom,
Babilonian Empire,
Assyrian Rule and Contribution,
Art and Architecture,
Religion and Literature

Unit – II A) Ancient China
Old Empire-History and Culture (early period upto 3rd Century B.C)
Han Dynasty
Tang Dynasty
Art and Architecture
Religion and Philosophy

B) Mayan Civilization
Art and Architecture
Socio Economic Condition
Literature Writing and Intellectual Development

Unit – III A) Green Civilization
City States and Forms of Government
Political Institutions
History of Greeks Golden Age
Education and Literature
Religion and Philosophy

B)` Rome Civilization
Expansion of Rome
Rise of Dictatorship
Golden Age –
Greek Culture – Law, Architecture, Society, Religion and Philosophy

Unit – IV A) Rise of Christianity

Religious System prevailing on the eve of Birth of Jesus Christ

B) Rise of Islam

Religion before the advent of Mohammad the Prophet, Life and Teaching

Rise and growth of Islam and its impact on World Civiliztion

Unit – V A) The Crusades

1st Crusades, 2nd Crusades, 3rd Crusades, Impact on Society

B) Reformation Movement, Renaissance, Geographical Discoveries

Books :

1. Story of Civilization – Will Durant
2. History of World Civilization – Max Savelle
3. A Short History of Civilization – H.S. Lucas
4. A Short History of the World – H.G. Wells
5. History of the World – W.N. Weech
6. The History of World Civilization – J.E. Swain
7. World History – B.V. Rao
8. Glimpses of World History – J. Neheru

Inclusion of Books :

List of Books for +3 Arts (History)

1.	Nihar Ranjan Ray (Gen. Ed.) A Source Book of Indian Civilization	Paper – V
2.	Rajesh Kochhar, The Vedic People : The History and Geography	Paper – V
3.	Nayanjyot Lahiri, The Decline and Fall of the Indus Civilization	Paper – I, V
4.	R.S. Sharma, Early Medieval Indian Society : A Study in Feudalism	Paper – VI
5.	Satish Chjandra, History of Medieval India	Paper – I
6.	Meenakshi Khanna (ed.) Cultural History of Medieval India	Paper – V
7.	Bipan Chandra, History of Modern India	Paper – I
8.	Bipan Chandra, Nationalism and Colonialism in Modern India	Paper – VII
9.	Bipan Chandra, Essays on Colonialism	Paper – VII
10.	Lakshmi Subramaniam, A History of India, 1707-1857	Paper – I
11.	Dilip M. Menon (ed.), Cultural History of Modern India	Paper – V
12.	Arjun Dev, History of the World : From the Late Nineteenth to the Early-First Century	Paper – II
13.	Er. Sreedharan, A Textbook of Historiography	Paper – VIII
14.	Jadunath Sarkar, The Fall of Mughal Empire (Vols. 1-4)	Paper – I

15. G.S. Patel, History and Culture of India – A Study of Orissa — Paper – VI
16. Saroj Kr. Patel, Cultural History of Orissa — Paper – VI
17. S.P. Nanda, Dominant Publication, Pub-2012 History of Freedom Movement and Constitutional Development — Paper – VII
18. S.P. Nanda, Dominant Publication, Pub-2012 History of Modern India — Paper – I
19. S.P. Nanda, Dominant Publication, Pub-2012 History of Ancient India — Paper – I
20. Bipin Chandra, Dominant Publication, Pub-2012, Indian Nationalism — Paper – VII
21. P.K. Mukherjee, Dominant Publication, Pub-2012, International Relations — Paper – II

HOME SCIENCE (PASS)

COURSE STRUCTURE

FIRST UNIVERSITY EXAMINATION

Paper – I Theory	Food and Nutrition	75 Marks 3 hrs
Paper – II Theory	Home Management	75 Marks 3 hrs
Paper – III Practical	Related to Paper I & II	50 Marks 4 hrs

SECOND UNIVERSITY EXAMINATION

Paper – IV Theory	Child Development	75 Marks 3 hrs
Paper – V Theory	Textile and Clothing	75 Marks 3 hrs
Paper – VI Practical	Related to Paper IV and V	50 Marks 4 hrs

Instruction to the Paper Setter

1. Questions shall be set unit wise with minimum two questions from each unit (Total 10 questions). The students shall be asked to answer one question from each unit (Total 5 questions).
2. Maximum 60% of the questions shall be long answered type and 40% shall be short answered and/or objective types.

HOME SCIENCE

PRACTICAL

FIRST UNIVERSITY EXAMINATION

50 Marks

Paper – III (Practical) Related to Paper-I, Paper- II

Practical Related to Food and Nutrition :

1. Methods of Cooking – at least one dish from each method.
2. No change
3. Planning balanced diet for infants, children, adolescents, adults and old persons (only planning, no cooking)
4. Planning balanced diet for pregnant and lactating women (only planning, no cooking)

Practical Related to Home Management :

1. No change
2. Preparation of one fancy items for interior decoration
3. Flower arrangement : Different types of arrangement for different occasion
4. Floor decoration, by using colour powders and rice paste

SECOND UNIVERSITY EXAMINATION

Paper – Iv (Practical) Related to Paper-IV and Paper- V 50 Marks

Practical Related to Child Development : 25 Marks

1. Preparing garments for the new born baby : napkins and loose garments.
2. Preparation of one soft for the baby.
3. Preparation of immunization chart for new born baby.
4. Preparation of Teaching aids for nursing school children and exceptional children to impart formal education (one from each, only written work in the records).

Practical Related to Home Management : 25 Marks

1. Care of natural fibres (Cotton, Silk and Wool) (only written work)
2. Preparation of sample of natural dyes (from flower, leaves, barks etc. 3 eypes by using 4”/4” piece of cloth)
3. Dyeing. To dye the given fabric by tie and dye, block printing and stenciling (one from each category, cloth size 12”/12”).
4. Preparation of one shopping bag.

HOME SCIENCE (PASS)

PRACTICAL

FIRST UNIVERSITY EXAMINATION

50 Marks

Paper – III (Practical) Related to Paper-I, Paper- II same as Home Science Pass Paper-III

Practical Related to Food and Nutrition and Home Management :

1. Planning of different types of kitchen with diagram for different income group (only planning)
2. No change
3. Planning of different types of house plan with diagram for different income group (only planning, no cooking).
4. Planning meals for special occasions in family like birthday and marriage (only planning, no cooking)

B) Practical Related to Clothing and Designing 25 Marks

1. Tailoring : Drafting to frock and blouse with design (No stitching)
2. Drafting, cutting, stitching of petticoat (without placket opening)
3. Preparation of two handkerchiefs with four different stitches.
4. Preparation of two different types of knitted design, a sample size of 4”/4”

C) Practical Related to Clothing and Designing 25 Marks

Same as Home Science Pass Paper-VI

D) Practical Related to Textile and Fashion Designing 25 Marks

Same as Home Science Pass Paper-VI

HOME SCIENCE

PRACTICAL

FINAL UNIVERSITY EXAMINATION

Paper – IX

Practical Related to Home Science Extension Education 25 Marks

1. Preparation of visuals aids for extension teaching : Poster, Charts, Pictures, Diagrams etc. Related to Home Science (Two different types).
2. Preparation and use of flash cards, flip charts, bulletin boards in extension teaching (one type).

3. Planning a visual to improve the knowledge of rural women on health and nutrition (one type).
4. Preparation of low cost nutritious snacks, lunch and dinner for the following groups : pre-school children, pregnant and lactating women and old person (any two, only planning).

Paper – VII (Theory) : Household Economics

Unit – I : Money :……equilibrium will be replaced by

Money : Nature, kinds and function of money, law of demand, inflation and deflation

Wants : Classification of wants, characteristics of wants, Law of diminishing utility

Detailed Course :

FIRST UNIVERSITY EXAMINATION

Paper – I (Theory Food and Nutrition 100 Marks

Unit – I : Food : Constituents of food, classification of nutrients, their function, sources, composition, properties recommended allowances for men, women and children, and deficiencies of protein, carbohydrates, lipids, minerals, vitamins, roughages and water.

Unit – II : Nutritive value of foods : Nutritive value of cereals, pulses, nuts, oilseeds, green vegetables, roots and tubers, fruits, milk and milk product, sugar, jiggery, spices and condiments, fleshy foods (meat and fish), eggs. Food groups : A balanced diet, basic food groups.

Unit – III : Utilization of nutrients : Metabolism of proteins, carbohydrates and fats. Factors influencing basal metabolism. Measuring and determining energy content of food consumption.

Unit – IV : Meal planning : Definition and factors considered in meal planning. Reviewing recommended nutritional requirement for balanced diet and planning diet incase of pregnancy, lactation, heavy working, moderate working mean and women, infants, children, adolescents (boys and girls), old man and woman.

Unit – V : Food processing : Methods of food preparation, changes in food during preparation, effect of preparation of nutritive value, causes and factors and food spoilage importance and principles of food preservation. Household and commercial methods of food preservation. Food adulteration and food poisoning.

Books Recommended :

1. Human Nutrition and Dietetics : by Davidson ad Passmore
2. Food and Nutrition : by Educational Planning Group

3. Essentials of Food and Nutrition, Vol. I & II by M.S. Swaminathan
4. Normal and Therapeutic Nutrition : by Robinson, Oxford and IBH
5. Food Science : by Shrilakshmi
6. Food Microbiology by M.R. Adams and M.O. Moss
7. All Publications of MIN
8. Principles of Nutrition : by Psher and Fuqua
9. Nutrition : by F.P. Antia
10. Text Book of Human Nutrition : by M.S. Bamji, N.P. Rao and V. Reddy
11. Nutrition : An Integrated Approach : by Pike and Brown.

Paper – II (Theory Home Management 100 Marks

Unit – I : Introduction to Home Management : The home, its role and function, the role of women, values, goals and standards. The Management Process : Steps of management process – planning, organising, assembling, resources, implementation and evaluation. Decision making in home management : The quality of a good homemaker.

Unit – II : Management of Resources : Types of resources management of time : Steps in making daily, weekly time plan, evaluation of time plan. Management of Energy : Efforts used in home making activities, energy requirement in different tasks.

Unit – III : Management of Money : Types of income, management of income, planning a budget, steps in the preparation of budget, Engel's law of consumption, keeping records and accounts, means to supplement income, savings as investment.

Unit – IV : Housing : Selection of sites, planning of houses for different income levels, different types of buildings materials for low, middle and high income group at different geographical areas and climates. Housing problems, different types of housing schemes by government and non-governmental agencies.

Interior Decoration : Basic principles and elements of design, organization of space, arrangement of different rooms of different purposes.

Unit – V : Colour : Importance of colour in interior decoration, planning colour schemes and colour combination for interior decoration. Flower arrangement : Types of flower arrangement. Equipments needed for flower arrangement, rules to be followed and placement of flower arrangement.

Books Recommended :

1. Home Management : by Educational Planning Group
2. Home Management : by M.K. Mann

3. Management of Family Living : by Nickell and Dorsey
4. Management in Family Living : by Gross and Crandall
5. Interior Decoration - A do it yourself : by Pramilla Mehra
6. Home Furnishing : by A.H. Rutt
7. The Art of Flower and Foliage Arrangement : by A.H. Rutt
8. Designing for Living by K.M. Ford and A Crighton Rinehart
9. How to Colour –Tune your Home : by Louis Cheskin
10. The House : by Agan

Paper – III (Practical) Related to Paper-I & Paper-II **50 Marks**

Practical Related to Food and Nutrition **25 Marks**

1. Methods of cooking : at least two different type of dishes from each method.
2. Food preservation : at least one time from each method of food preservation (dehydration, pickles, jam, jelly, squash).
3. Planning balanced diet for infants, children, adolescents, adults and old persons.
4. Planning balanced diet for pregnant and lactating women.

Practical Related to Home Management **25 Marks**

1. Pottery Painting : One item will be prepared by using different types of colours and other materials like sand, paste, stones, beads etc.
2. Preparation of two fancy items for interior decoration.
3. Flower arrangements for different rooms and for different occasions (at least two) for drawing room, dinning room, dinning table, cnetre table, study room, puja and other occasions.
4. Food decoration : For different purposes and occasion using different materials like chalk, paints, grains, sand, colour powders, rice paste, flowers (at least two years) for puja and festive occasions.

SECOND UNIVERSITY EXAMINATION

Paper – IV (Theory) Child Development **100 Marks**

Unit – I : Methods of studying child development : Cross sectional, longitudinal, observation, interview, questionnaire, casehistones, biographical, pre-natal growth and development : Principles of development, fertilization, role of heredity and

environment in development. Sex determination, stages of pre-natal growth and development, factors affecting pre-natal growth and development.

Unit – II : Physical development : Physical growth cycle, body size, body proportion, bone, muscles ad teeth development, nervous system. Motor development : Principles of motor development, sequence of motor development and motor skills (from birth to five years).

Unit – III : Emotional development : Pattern of emotional development, characteristics of children's emotion, common emotional patterns, effects of emotions on personality. Social development : Goals of socialization, social expectation, importance of early social experience. The pattern of social development.

Unit – IV : Understanding : How concepts develop, characteristics of children's concepts. Some common concepts in children. Personality development : Meaning, pattern. Some important personality determinants. Plan : Characteristics, types and contribution of play in child's development.

Unit – V : Exceptional children : Meaning, definition and types of exceptional children. Management and care of the following : Gifted, mentally, retarded, physically and sensory's handicapped; welfare and rehabilitation of the disabled children.

Books Recommended :

1. Child Development : by E.B. Hurlock
2. Elements of Child Development : by K. Panda
3. Elements of Educational Psychology : by H.R. Bhatia
4. Child Psychology : by Thompson
5. Child Psychology : by Jersild
6. Child Development : by G. Craig
7. Child Behaviour and Development : by Kupuswami
8. The Child and Society – The Process of Socialization : by F. Elkin and G. Hande
9. Exceptional Children : by Uday Shankar, Sterling Pub;., N.D.
10. Exceptional Children : by D.P.H. Afahar and J.M. Kauftman, Prentice Hall International Inc.; New Jerssy.
11. Disabled Children in India : by S.N. Gajendra Godakar, Somaya Publ.

Paper – V (Theory) Textile and Clothing 100 Marks

Unit – I : Textile fibres : Classification of textile fibres according to sources and chemical composition. Identification of different textile fibres, manufacturing process and physical and chemical properties of cotton, wool, silk.

Unit – II : Construction of textile fibres : Yarn making process and different types of yarns produced weaving : description and working of looms, different types of weavings, count of cloth and balanced of cloth.

Unit – III : Finishing of textile fabrics : Objectives, Classification of finishing process and different process of finishing in detail.

Unit – IV : Dyeing : Importance of dyeing and printing, different kinds of dyes, different ways of which cloth can be dyed and different methods of printing used in textile industry.

Unit – V : Care of clothes : Methods of laundering and their principles, dry cleaning, stain removal, washing, storage and care of cotton, wool and silk clothes.

Books Recommended :

1.	Household laundry works	:	by D. Deulker
2.	Textile Fabrics and their Care	:	by S. Dhantyagi
3.	Fibre of Fabric	:	by Corbmon
4.	Textile Science	:	by J.J. Marsh
5.	Master Pieces of Indian Textiles	:	by R.J. Meheta
6.	Textile Fibres and their Use	:	by K.P. Hess

Paper – VI (Practical Related to Child Development 50 Marks

Practical to Child Development 25 Marks

1. Preparing garments for the new born baby : napkins, loose garments with design. Preparation of kantha and mosquito nets.
2. Preparation of two puppets for the baby (soft toys, rag dolls etc.).
3. Preparation of visual aids for nursery school children to impart format and moral education (2 types).
4. Preparation of visual aids for exceptional children to impart format and moral education (2 types).

Practical Related to Textile and Clothing 25 Marks

1. To study the characteristics of different fibres (cotton, silk, wool and polyster). Identification of these fibres by physical and chemical test.
2. Preparation of sample of different types of weaves (four types).

3. Dyeing to dye the given fabric by tie and dye, block printing, stenciling (at least 3 different types).
4. Preparation of wall hanging, ladies vanity bag, or purse (anyone).

HOME SCIENCE (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I Theory	Food and Nutrition	75 Marks
Paper – II Theory	Home Management	75 Marks
Paper – III Practical	Related to Paper I & II	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV Theory	Child Development	75 Marks
Paper – V Theory	Textile and Clothing	75 Marks
Paper – VI Theory	Human Physiology	75 Marks
Paper – VII Theory	Household Economics	75 Marks
Paper – VII	Practical	100 Marks 4 hrs

FINAL UNIVERSITY EXAMINATION

Paper – IX Theory	Marriage and Family Relationship	75 Marks
Paper – X Theory	Home Science Extension Education	75 Marks
Paper – XI Practical	Related to Paper IX & X	75 Marks

Instruction to the Paper Setter

1. Questions shall be set unit wise with minimum two questions from each unit (Total 10 questions). The students shall be asked to answer one question from each unit (Total 5 questions).
2. Maximum 60% of the questions shall be long answered type and 40% shall be short answered and/or objective type

Detailed Course :

FIRST UNIVERSITY EXAMINATION

Paper – I (Theory) Food and Nutrition 75 Marks

(Same as Home Science Pass Paper – I) (Food and Nutrition)

Paper – II (Theory) Home Management 75 Marks

(Same as Home Science Pass Paper – II) (Home Management)

Paper – III (Practical) Related to Paper I & II 50 Marks

(Same as Home Science Pass Paper – III)

(Related to Food and Nutrition and Home Management)

SECOND UNIVERSITY EXAMINATION

Paper – IV (Theory) Child Development 75 Marks

(Same as Home Science Pass Paper – IV (Child Development)

Paper – IV (Theory) Textile and Clothing 75 Marks

(Same as Home Science Pass Paper – V (Textile and Clothing)

Paper – VI (Theory) Anatomy and Physiology 75 Marks

Unit – I : The tissue cell : The structure of cell and it's function. The elementary tissue of the body (types, structure and function). The blood : it's composition and function, blood pressure.

Unit – II : Digestive system : The elementary canal, the mouth, the pharynx and oesophagus, its structure and function, the salivary glands and saliva, the stomach and gastric digestion, the small intestine and intestinal digestion. The large intestine and defaecatin. The structure and function of liver, gall bladder and spleen.

Unit – III : The respiratory system : The structure and function of the respiratory passages, the thoracic cavity and lungs. The circulatory system : Heart, it's structure and function, the circulation of blood.

Unit – IV : The urinary system : The structure and function of kidney, the renal function, the urinary bladder. Mechanism of urine formation and its dilution by kidney. The reproductive system. the female organs of generation, it's function (Uterus, ovaries, fallopian tubes).

Unit – V : Endocrine glands : Structure and function of endocrine glands along with disorders associated with it. Pituitary, Thyroid, Parathyroid, Adrenal, Gondads, Pancreas. Nervous System : General principles of nervous system, structure and function of sympathetic and para-sympathetic nervous system.

Books Recommended :

1. Anatomy and Physiology for Nurses : by Evelyn Pearce
2. Physiology : by Ghose
3. Anatomy and Physiology : by Rayon
4. Human Physiology (Vol. I & II) : by C.C. Chatterjee

Paper – VII (Theory) Household Economics 75 Marks

Unit – I : Money : Nature, kinds and functions of money, inflation and deflation, monetary standards, index number. Wants : Classification of wants, characteristics of wants, Law of diminishing utility, law of equimarginal utility, consumer surplus, consumer equilibrium.

Unit – II : Public Finance : Public revenue, public expenditure, causes of increasing public expenditure, public debt, deficit financing in India. Taxes : Direct and indirect tax, income tax, sale tax, excise duties.

Unit – III : Savings : Types of savings, Institutions available for savings : Life Insurance, Post Office, Banks etc. kinds of banks : Commercial Bank, Reserve Bank, Nationalised Bank, Cheques, Bills of Exchange, Drafts.

Unit – IV : Economic Planning in India : Objective of economic planning, the strategy of planning. Resources for plans assessment of Indian planning since independence. Population in India : Studies on demography, population explosion, causes, problems of rapid growth, population and economic development, remedies for population explosion and population policy.

Unit – V : Consumer Education : Consumer Education strategies, consumer problems, consumer protection legislation and consumer aids. Role of advertising and their effect on consumerism.

Books Recommended :

1. Money, Banking and Public Finance : by Sundaram and Vaish
2. Principles of Economics : by M.L. Seth
3. Indian Economy : by Ruddar Datt and K.P.M. Sundaram (S. Chand and Co.; Ram Nagar, New Delhi-55).
4. Indian Economy : by S.K. Mishra and V.K. Puri (Himalaya Publishing House, Delhi, Nagpur).
5. Consumerism : A Growing Concept : by Mohini Seth and P. Setharaman
6. A Practical Hand Book for Consumers : by Anju D. Agrawal

Paper – VIII (Practical) 100 Marks

Practical Related to Household Economics 25 Marks

1. Preparation to two usable from household wastes.
2. Ways of supplementing income. Give 3 examples, calculate and compare the cost supplemented.

3. Preparation of family budget for three different income group.
4. Plan and prepare two low cost nutritioius snacks for preschool children, school children and adolescents.
5. Planning, organising, preparing meals for special occasions in family like, birthday, religious function, marriage and others (any two).

Practical Related to Clothing Construction **25 Marks**

1. Tailoring : Drafting, cutting and stitching of Bawa suit, frock, petticoat and blouse.
2. Embroidery : Preparation of two fancy articles with different types of embroidery stitches.
3. Knitting : Preparation of a baby set either by hand or machine knitting.
4. Prepare one fancy item with crochet work.

Practical Related to Child Development **25 Marks**

1. Preparation garment for the new born baby : napkins, loose garments with design. Preparation of kantha and mosquito nets.
2. Preparation of two puppets for the baby (soft toys, rag dolls etc.).
3. Preparation of visual aids for nursery school children to impart formal and moral education (2 types).
4. Preparation of visual aids for exceptional children to impart formal and moral education (2 types).

Practical Related to Textile and Clothing **25 Marks**

1. To study the characteristics of different fibres (cotton, silk, wool and polyste). Identification of these fibres by physical and chemical test.
2. Preparation of sample of different types of weaves (four types).
3. Dyeing to dye the given fabric by tie and dye, block pringing, stenciling (at least 3 different types).
4. Preparation of wall hanging, ladies vanity bag, or purse (anyone).

FINAL UNIVERSITY EXAMINATION

Paper – IX (Theory) Marriage and Family Relationship **75 Marks**

Unit – I : Marriage : Concept, definition, types of marriage (love and arranged) with their advantages and disadvantages, factors to be considered in the selection of a marriage partner, significance of marriage ceremony importance of education in preparation for marriage, factors responsible for successful marriage.

Unit – II : Family, Concept, structure, characteristics and function of family, types of family, their advantages and disadvantages family as a unit of society. Family disintegration : Meaning, causes, remedial measures stages of responsibilities of different family life cycle.

Unit – III : Problems of family and marital life : Some problems of family life like sickness, accidents, loss of spouse, problems of the aged, problems of widowhood, gender discrimination. Marital problem like marital conflict, divorce separation, single parenthood, dowry.

Family welfare programmes : Meaning, nature and scope, role of national and international agencies in family welfare.

Unit – IV : Women Studies : Role and status of women in society today. Significant place of women in the family and community, women empowerment. Women welfare programmes : Concept of various schemes for women, Agencies working for welfare of women and children (Government and Voluntary).

Unit – V : Legal protections and provisions : Legislation and Act relating to marriage, guardianship, adoption, divorce, property, marital rights and development and protection of women, Hindu Marriage Act, Dowry Prohibition Act, Protection of Old Age.

Books Recommended :

1.	Indian Social System	:	by K. Singh
2.	Happiness in marriage	:	by A.D. Souza
3.	The Family	:	by W.J. Goode
4.	Marriage and Family in India	:	by Kapadia
5.	Women and Society in India	:	by Neera Desai and Maitreyi Krishnaraj
6.	The Family in Urban Setting	:	by Ross (Tomto Press)
7.	Marriage	:	by Blood and Blood
8.	The Indian Social Problems (Vol. I & II)	:	by G.R. Madan
9.	Social Welfare Administration In India (Kitab Mahal, New Delhi-2)	:	by D.R. Sachdeva
10.	Hindu Marriage Act		
11.	Dowry Prohibition Act		

Paper – X (Theory) Home Science Extension Education 75 Marks

Unit – I : Extension Education : Meaning, nature, importance, scope, objective and principles of extension education. Role and qualities of extension worker. Need for Home Science extension, Programmes for extension education. Extension Education and Development.

Unit – II : Communication in Extension : Concept, nature and importance of communication, factors responsible for effective communication, extension teaching methods (individual, group and mass), factors involved in the selection of appropriate methods.

Unit – III : Audio-visual Aids : Meaning and types of audio-visual, contribution of audio, visual and audio-visual aids in extension teaching, other teaching aids, Principles of selection, use and preparation of different visual aids, national programmes related to Home Science extension education.

Unit – IV : Community Development : Concept, principle, objectives, scope and limitation. Subject matter of community development. The problems of community work, major elements involved in India's community development and extension process.

Unit – V : Nutritional Problems of the Community : Diagnosis and treatment of the following malnutrition situations Protein Energy Malnutrition, Xeropthalmia, Vitamin B Complex deficiencies, Anemia, Flurosis, Goiter, Role of national and international agencies to combat these.

Books Recommended :

1.	An Introduction to Extension Education	:	by S.V. Supe
2.	Extension Programme Planning	:	by A.S. Sandhu
3.	Text Book of Agricultural Communication	:	by A.S. Sandhu
4.	Extension Education	:	by Adivi Reddy
5.	Extension and Rural Welfare	:	by O.P. Dhahama
6.	Audio-Visual Methods in Teaching	:	by Dale Edgar
7.	Extension Education	:	by Govt. of India
8.	Text Book of Home Science	:	by Govt. of India
9.	Education and Communication for Development	:	by O.P Dharama and O.P. Devdas
10.	Preventive and Social Medicine	:	by Park and Park
11.	Nutrition in the Community, Publ.	:	by John Wiley & Sons

Paper – XI (Practical) Relate to Paper-IX and Paper-X **50 Marks**

Practical Related to Marriage and Family Relationship **25 Marks**

1. The student will be asked to write a term paper consisting of 20-25 pages on any problem related to marriage and family relationship under the supervision of a teacher. The evaluation of the term paper be made as follows :

   Writing of the term paper **15 Marks**

   Viva Voce **10 Marks**

N.B. : The total students may be divided among all teachers quality (as far as practicable) for supervising the writing of the term paper.

Practical Related to Home Science Extension Education **25 Marks**

1. Preparation of visual aids for extension teaching : poster, charts, pictures, diagrams etc. (at least four different types).
2. Preparation and use of flash cards, flip charts, bulletin boards in extension teaching (at least two different types).
3. Planning demonstration suitable to improve the knowledge of rural women on health and nutrition and demonstrate it with suitable visual aids (at least two).
4. Preparation of low cost nutritious snacks, lunch and dinner for the following groups : pre-school children, pregnant and lactating women and old person (any three).

LIBRARY & INFORMATION SCIENCE (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	fundamentals of Librarianship	75 Marks
Paper – II	Library Classification	75 Marks
Paper – III	Classification Practical	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Cataloguing Theory	75 Marks
Paper – V	Library Management	75 Marks
Paper – VI	Cataloguing Practical	50 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Fundamentals of Librarianship** **75 Marks**

1. Nature, Scope, Purpose and Philosophy of Librarianship
2. Library as a social institution
3. Five laws of librarianship
4. Types of libraries and their functions
5. Organisational pattern and functions of different sections of a library
6. Acquisition and processing of books
7. Library records and statistics

Paper – II **Library Classification** **75 Marks**

1. Definition, need, purpose and function of library classification
2. Characteristics of enumerative and faceted schemes of classification
3. General introduction to DDC and CC
4. Notation : Structure, Function and Qualities with special reference to DOC and CC
5. Fundamental Categories (PM EST)
6. Call Number

Paper – III **Classification Practical** **50 Marks**

1. Classification of titles dealing with simple subjects according to DDC-19th Edition.

SECOND UNIVERSITY EXAMINATION

Paper – IV **Cataloguing Theory** **75 Marks**

1. Definition, Need, Purposes and Function of the Library Catalogue.
2. Forms of Catalogue – Inner and Outer form.
3. Kinds of entries and their description according to AACR-2 and CCC.
4. History of Catalogue Codes with particular reference to CA Cutter, AACR-2 and CCC.
5. Subject Heading – Sears List of Subject Heading and Chain Indexing.

Paper – IV **Library Management** **75 Marks**

1. Administration, Organisation, and Management – Their basic concept, purpose and related functions
2. POSDCORB
3. Principles of Scientific Management

4. Library Committee, Types and Function
5. Budget : Concept and Types
6. Stock Verification
7. Preservation of Library Materials

Paper – VI **Cataloguing Practical** **50 Marks**

Cataloguing of books having Single Authorship and Shared Author according to AACR-2

LIBRARY & INFORMATION SCIENCE (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Sociology of Librarianship	75 Marks
Paper – II	Library Classification	75 Marks
Paper – III	Classification Practical	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Cataloguing Theory	75 Marks
Paper – V	Library Management	75 Marks
Paper – VI	Documentation and Information Science	75 Marks
Paper - VII	References Services	75 Marks
Paper - VII	Practical	100 Marks

FINAL UNIVERSITY EXAMINATION

Paper – IX	Introduction to Computer	75 Marks
Paper – X	Resource Sharing and Networking	75 Marks
Paper – XI	Reference Service Practical	50 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Sociology of Librarianship** **75 Marks**

1. Nature, Scope, Purpose, Philosophy and Ethics of Librarianship
2. Role of Library and Information Centres in Modern Society
3. Ranganathan's Five Laws of Library Science and their Implications
4. Different Library Systems : Academic, Public and Special
5. Organisation Pattern of Different Functions of a Library

6. Collection Development Policy
7. Library Movement in India since 1900
8. Public Library Extension Services

Paper – II **Library Classification** **75 Marks**

1. Definition, Need, Purpose and Function of Library Classification
2. General Introduction to DDC and CC
3. Notation – Structure, Function and Qualities with reference to DDC and CC
4. Fundamentals of Categories (PMEST)
5. Call Number
6. Devices : Alphabetical, Chronological, Geographical and Subject Device

Paper – III **Classification Practical** **75 Marks**

1. Preparation of Class Number of Simple and Compound Titles according to DDC (latest edition available)

SECOND UNIVERSITY EXAMINATION

Paper – IV **Cataloguing Theory** **75 Marks**

1. Definition, Need, Purpose and Function of the Library Catalogue
2. Forms of Catalogue-Inner and Outer
3. Kinds of entries and their description according to AACR-2 and CCC
4. Subject Heading – Sear's List of Subject Heading and Chain Indexing
5. Bibliographical Description : Definition, Need and ISBD
6. Computerized Cataloguing

Paper – V **Library Management** **75 Marks**

1. Administration, Organisation, and Management : Basic Concept, Purpose and Related Functions
2. Elements of Management POSDCORB
3. Principle of Scientific Management : Purpose and Application
4. Library Committee : Types and Functions
5. Budget : Preparation and Types
6. Planning of Library Building
7. Preservation of Books and Non-Boom Materials

Paper – VI **Documentation in Information Science** **75 Marks**

1. Documentation : Definition, Scope and Purpose
2. Types of Documents and Sources of Information
3. Facets of Documentation : Documentation Work and Service
4. Abstracting : Concepts and Types
5. Functions and Activities of INSDOC & NASSDOC
6. Dissemination of Information : CAS, SDI
7. Methodology for Compilation of Documentation List

Paper – VII **Reference Services** **75 Marks**

1. Definition, Need, Purpose and Scope of Reference Service
2. Types of Reference Service : Long-Range, Ready Reference
3. Categories and Usefulness of Reference Tools : Encyclopaedia, Dictiionary, Year Book, Directories
4. Organisation of Reference Sections in College and University Library
5. Steps in Evaluating Reference Tools

Paper – VII **Documentation Practical** **75 Marks**

1. The candidate has to submit a documentation list assigned by the concerned Course Teacher according to BIS (ISI : 1978 Rev. ed) norms at the time of Examination for evaluation both by Internal and External Examiners in a Joint sitting. (20 Marks)
2. The candidate has to submit an Accession

(B) Cataloguing Practical :

1. Cataloguing of books having Single Author, Shared Authors, Psedonym Author, and Govt. Publication According to AACR-2.

FINAL UNIVERSITY EXAMINATION

Paper – IX **Introduction to Computer** **75 Marks**

1. Computer : Concept, Definition and need
2. Components of Computers and Characteristics
3. Types of Computer Analogue, Digital and Hybrid
4. Computer Hardware and Software
5. Role of Computer in Libraries

Paper – X **Resource Sharing and Networking** **75 Marks**

1. Resource Sharing : What, Why and How to Resource Sharing
2. Areas of Resources Sharing
3. Problems and Safeguards in Resource Sharing
4. Networking : Concept and Types
5. Networking Topologies
6. Library and Information Networks : INFLIBNET and DELNET

Paper – XI **Reference Service Practical** **50 Marks**

1. The Candidate has to submit :
   a) Evaluation of any three different types of reference tools such as Dictionary, Encyclopaedia, Year Book, Director. **(30 Marks)**
   b) Record dealing with 20 reference queries usually encountered in a Reference Section of a Library for evaluation of the same by both internal and external examiners in a joint sitting. **(20 Marks)**

MATHEMATICS (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	(a) Calculus	40 Marks
	(b) Linear Algebra	40 Marks
	(c) Analytical Geometry	20 Marks
Paper – II	(a) Differential Equation	50 Marks
	(b) Programming in FORTRAN	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	(a) Analysis	50 Marks
	(b) Vector Calculus	50 Marks
Paper – IV	(a) Algebra	50 Marks
	(b) Numerical Analysis	50 Marks

FINAL UNIVERSITY EXAMINATION

There shall be no examination in Mathematics (Pass) in the Final University Examination.

N.B. : i) Each paper consists of five units.

ii) Numbers of in the right hand side indicates marks in the respective topics.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **100 Marks**

(a) The Candidate has to submit : **40 Marks**

Unit – I (i) Asymptotes, Curvature, Singular Points, Curve Tracing

(ii) Partial Differentiation, Maxima, Minima of function or two more real variables

Unit – II (iii) Definite Integral, Length of a CUNe, Area bounded by curves, Volume and surface of solid of revolution, Beta function and Gama function.

Books Prescribed :

1. Text Book of Differential Calculus : Gorakh Prasad, Pothisala Pvt. Ltd., Allahabad, Chapters – 10, 11 (11.1-11.2), 12.
2. Text Book of Integral Calculus : Gorakh Prasad, Pothisala Pvt. Ltd., Allahabad, Chapters – 6 (6.1-6.3), Chapter – 7 (7.1-7.2). Chapter – 8 (8.1-8.3), Chapter – 10 (10.1-10.6).

Reference Books :

(i) A Treatise of Differential Calculus : by J. Edward.

(ii) Differential Calculus : by Das & Mukherjee, U.N., Dhar and Sons, Pvt. Ltd., Calcutta.

(iii) Integral Calculus : by Das ad Mukharjee, U.N., Dhar and Sons, Pvt. Ltd., Calcutta.

(iv) Advanced Calculus : by David Widder, PHI.

(b) Linear Algebra **40 Marks**

Unit – III (i) System of linear equations, Algebra of matrices and determinants.

(ii) n-dimensional vector space, linear dependence/independence of vectors.

Unit – IV (iii) Linear space, Linear Transformation, Linear sub-space, characteristics roots and and eigen values, Euclidean space, Orthogonal matrices, orthogonal transformations.

(iv) Rank of a matrix, solution of system of Homogeneous equations.

Books Prescribed :

(i) Basic Structure in Algebra : by J.N. Pattnaik, Kalyani Publisher, Delhi.

(ii) Higher Algebra : by A. Kurush, Mir Publishers, Chapter – 1 (1.1), Chapter – 2 (8-12), Chapter – 7 (29-33), Chapter – 8 (34-35).

Reference Books :

(i) Linear Algebra : by S.K. Hoffman and Ray Kunze, PHI.

(ii) Finite Dimentional Vector Spaces : by Halmos, Affiliated East-West Publication.

(c) Analytical Geometry of Three Dimensions **20 Marks**

Unit – III (i) Sphere, Cone, Cylinder, Central coincoids, generating lines and ruled surfaces.

Books Prescribed :

(i) An Introduction to the Theory of Quadratic Surfaces : by R.N. Das, Kalyani Publishers : Chapter-I (Art. 1.1-1.6, 1.8), Chapter-II (Art. 2.1-2.9), Chapter-III (Art. 3.1-3.3), Chapter-IV (Art. 4.1-4.8), Chapter-V (Art. 5.1-5.4).

Reference Books :

(i) Text Book of Analytical Geometry of Three Dimensions : by P.K. Jain and Khalil Ahmad, Wiley Eastern Ltd. (New Age International Ltd.) N.D.

(ii) An Elementary Treaties on Co-ordinate Geometry of Three Dimensions : by R.J.T. Bell, Macmillan.

(iii) Analytical Solid Geometry : by Shanti Narayan, S. Chand and Co.

(iv) Co-ordinate Geometry in Three Dimensions : by N. Sharan and L. Gupta, Pothisala.

Paper – II **100 Marks**

(a) Differential Equation **50 Marks**

Unit – I (i) Basic concepts of differential equation of 1^{st} order and 1^{st} degree.

(ii) solution of equations of 1^{st} order but of higher degree.

Unit – II (iii) solution of Linear with constant coefficients.

Unit – II (iv) Series solution and special functions excluding Bessel functions.

Books Prescribed :

(i) Elements of Ordinary Differential Equations with Application by J. Sinha Roy and S. Padhi, Kalyani Publishers, New Delhi, Chapters 1-4 and Chapter -7.

Reference Books :

(i) Introduction Course in Differential Equation : by D.A. Murry (Longman).

(ii) Differential Equation and their Application : by Martin Braun, Springer International.

(b) Programming in FORTRAN **50 Marks**

Unit – IV (i) Algorithm and Flow Chart, Constants, Variables, Expression in FORTRAN, Control Statements, Jumping, Branching and Looping.

Unit – V : Subscribed Variables, Functions and Sub-routines, Sub-programs

Books Prescribed :

Programming in FORTRAN : by V. Rajarama, Prentice Hall of India, New Delhi.

Reference Books :

FORTRAN IV Programming : by M.G. Chopra and Ram Kumar, Vikash Publ. House.

FIRST UNIVERSITY EXAMINATION

Paper – III **100 Marks**

(a) Analysis 5**0 Marks**

Unit – I (i) Convergence of sequences and series, Weierstrass completeness principles, Cauchy general principles of Convergence, Convergence of series of positive terms. Convergence test : comparison test, ratio test, root test. Absolute convergence, Convergence test for alternating series.

(ii) Metric Property of set of pints in R & C Limits points, Interior points, exterior points and boundary points of a set. Open set, closed set and closure of a set.

Unit – II (iii) Limit and Continuity of functions, discontinuity of various types.

(iv) Differentiation : Differentiable functions, left and right derivatives, Mean value theorem, Higher derivatives, Taylor's theorem.

Unit – III (v) Riemann Integration : Definition of Riemann Integral, Theorems on Inerrability, Properties of Reimann Integral, Fundamental Theorem of calculus.

Books Prescribed :

Mathematical Analysis : by S.C. Mallick, Willey Eastern Pvt. Ltd.

Reference Books :

1. A First Course in Mathematical Analysis : by D. Somasundaram & B. Choudhury, narosa Publishing House.
2. Mathematical Analysis by T.M. Apostoli, Narosa Publishing House, New Delhi.
3. Methods of Real Analysis by Richard R. Goldberg, Oxford.
4. Fundamental Concepts of Analysis : by Alton H. Smith & Walter A., Albrecht, Jr. PHI.
5. Fundamentals of Mathematical Analysis, by G. Das * S. Pattnayak, Tata McGraw Hill.

(b) Vector calculus **50 Marks**

Unit – IV Vector Differential Calculus : Scalar fields and vector fields. Vector Calculus, Curves, Arc Length , Tangent, Velocity and acceleration. Directional derivative. Gradient of a scalarfied. Transformation of coordinate system of vector components. Divergence of a vector field. Curt of a vector field.

Unit – V Line integrals : Integral theorems, Line integrals, Evaluation of the line integrals, Double integrals, Transformation of double integral into the integrals.

Surfaces : Tangent plane, First fundamental forms, Area surface integrals : Triple integrals, Divergence theorem of Gauss, Application of divergence theorem, Stokes theorem, application of stokes theorem. Line integrals independent of path.

Books Prescribed :

Advance Engineering Mathematics : by Erwin Ereyszig. Wiley Eastern Ltd. Chapter-8 (8.1, 1-8.6, 8.8,11), Chapter-9 (9.1-12).

Reference Books :

Mathematical Analysis : S.C. Mallick, Willey Eastern Pvt. Ltd.

Paper – IV **100 Marks**

(a) Algebra **50 Marks**

Unit – I (i) Group Theory : Definition and examples, subgroups. Counting, principle, normal subgroups, quotient groups, homomorphism.

Unit - II (ii) Ring Theory : Definition and examples, some special classes of rings, Homomorphism, ideals and quotient rings.

(iii) Theory of Equations : Polynomials and their roots, evaluating the roots fo cubic and bi-quadratic equations.

Books Prescribed :

1. Topics in Algebra : by I.N. Herstein, Vikas Publishing House, New Delhi. Chapter-2 (2.1-2.7), Chapter-3 (3.1-3.5).
2. Higher Algebra : by A. Kurosh, Mir Publishers Chapter-9 (38).

Reference Books :

1. A First Course in Abstract Algebra : by J.B. Fraleigh, Addision – Wesley Publ. Company.

(b) **Numerical Analysis** **50 Marks**

Unit – III (i) Introduction, Binary number system, Floating point representation, The binary numbers in Floating Point Normalised form. Representation of a Decimal Number in Normalised form. Approximation of numbers : Significant Digits, K-

Digit Arithmetic. Loss of significance, Algebraic Manipulation to significance. Errors : Absolute, Relative and percent errors.

(ii) Polynomial Interpolation : Introduction Existence and uniqueness of inter-polating polynomials. Language in terpolating formula, Error in interpolation, Newton's Divided Difference Interpolating Formula. Forward difference Operator, Newton's Forward difference Interpolation formula. Backward Difference Inter-polating polynomial, Central difference and averaging operators.

Unit – IV

(iii) Numerical Solution of Non-Linear Equations Introduction. Method of Bisection. Regular Falsi Method (without its convergence). Secant method (without rate of convergence and order of convergence) Newton Rapshon method. Fixed pint interaction method.

(iv) Numerical Differentiation : Introduction. Simple Numerical Methods.

Unit – V

(v) Numerical Integration : Introduction. Some simple quadrature rules. Newton-Cotes Rules. Trapezoidal rule and Simpson's 1/3 rule with their error term and compound rules.

(vi) Numerical Solution of Differential Equations : Introduction, Picard's Method, Geometrical interpretation of Euler's Method (Convergence analysis is omitted.)

(vii) System of Linear Equations : Direct Methods, Back Substitution Method, Gaussian Elimination with Backward Substitution. Inversion of matrix and matrix inversion method.

Prescribed Books :

1. A Course on Numerical Analysis : by B.P. Acharya and R.N. Das, Kalyani Publishers, New Delhi. Chapter-1 (1.1, 1.2, 1.5, 1.6, 1.8), Chapter-2 (2.1-2.6, 2.8, 2.9, 2.11), Chapter-3 (3.1-3.4, 3.6-3.8), Chapter-5 (5.1-5.2), Chapter-6 (6.1-6.3, 6.6), Chapter-7 (7.1-7.3), Chapter-8 (8.1-8.3).

Reference Books :

(i) Introductory Methods of Numerical Analysis : by S.S. Sastry, PHI, New Delhi.

(ii) Numerical Mathematical Analysis : by J.B. Scarborough, John Hofkin's Press, Baltimore.

(iii) Numerical Methods for Scientific and Engineering Computation : by M.K. Jain, etel, Willey Eastern Ltd., New Delhi.

(iv) Introduction to Numerical Analysis : by F.B. Hildebrand McGraw Hill, NY.

(v) Numerical Methods for Scientists and Engineers.

MATHEMATICS (HONS.)

FOR ARTS STUDENTS

(With Practical Component)

For Colleges having infrastructure facilities for Computer Practical's

This course has been prescribed in two sets, one with practical component and the other is without practical component. The colleges having infrastructure facilities for Computer Practices may introduce the Honours Course with practical component and the Colleges which do not have such facility may introduce the Honours course without practical component.

COURSE STRUCTURE :

. FIRST UNIVERSITY EXAMINATION

Paper – I	(a) Calculus	30 Marks
	(b) Linear Algebra	30 Marks
	(c) Analytical Geometry	15 Marks
Paper – II	(a) Differential Equation	40 Marks
	(b) Programming in FORTRAN	35 Marks
Paper – III	Practical : Windows/DOS/UNIX/ MS-Office/FORTRAN	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	(a) Analysis	40 Marks
	(b) Vector Calculus	35 Marks
Paper – V	(a) Algebra	40 Marks
	(b) Numerical Analysis	35 Marks
Paper – VI	(a) Probability	40 Marks
	(b) Different Geometry	35 Marks
Paper – VII	Practical in C and Data Structure	75 Marks
Paper – VIII	Practical Solution of Numerical Problems in C & in FORTRON	60 Marks

FINAL UNIVERSITY EXAMINATION

Paper – IX	(a) Complex Analysis	40 Marks
	(b) Partial Differential Equation	35 Marks
Paper – V	Object Oriented Programming with C++	40 Marks
Paper – VI	Practical on C++	35 Marks

N.B. : i) Each paper consists of five units.

ii) Numbers of in the right hand side indicates marks in the respective topics.

FIRST UNIVERSITY EXAMINATION

DETAILED COURSE :

Paper – I **75 Marks**

(a) Calculus : **30 Marks**

Unit – I (i) Asymptotes, Curvature, Singular Points, Curve Tracing

(ii) Partial Differentiation, Maxima, Minima of function or two more real variables

Unit – II (iii) Definite Integral, Length of a Curve, Area bounded by curves, Volume and surface of solid of revolution. Beta function and Gama Function.

Prescribed Books :

(i) Text Book of Differential Calculus : Gorakh Prasad, Pothisala Pvt. Ltd., Allahabad. Chapter – 10, 11 (11.1-11.2), 12.

(ii) Text Book of Integral Calculus : Gorakh Prasad, Pothisala Pvt. Ltd., Allahabad Chapter-6 (6.1-6.3), Chapter-7 (7.1-7.2), Chapter-8 (8.1-8.3), Chapter-10 (10.1-10.6).

Reference Books :

(i) A Treatise of Differential Calculus : by J. Edward.

(ii) Differential Calculus : by Das & Mukherjee, U.N. Dhar & Sons Pvt. Ltd., Calcutta.

(iii) Integral Calcus : by Das & Mukherjee, U.N. Dhar & Sons Pvt. Ltd., Calcutta.

(iv) Advanced Calculus : by David Widder, PHI.

(b) Linear Algebra **30 Marks**

Unit – III (i) System of linear equations, Algebra of matrices and determinants.

(ii) n-dimensional vector space, linear dependence/independence of vectors.

Unit – IV (iii) Linear space, Linear Transformation, Linear sub-space, characteristics roots and and eigen values, Euclidean space, Orthogonal matrices, orthogonal transformations.

(iv) Rank of a matrix, solution of system of Homogeneous equations.

Books Prescribed :

(i) Basic Structure in Algebra : by J.N. Pattnaik, Kalyani Publisher, Delhi.

(ii) Higher Algebra : by A. Kurush, Mir Publishers, Chapter – 1 (1.1), Chapter – 2 (8-12), Chapter – 7 (29-33), Chapter – 8 (34-35).

Reference Books :

(iii) Linear Algebra : by S.K. Hoffman and Ray Kunze, PHI.

(iv) Finite Dimensional Vector Spaces : by Halmos, Affiliated East-West Publication.

(c) Analytical Geometry of Three Dimensions 20 Marks

Unit – V (i) Sphere, Cone, Cylinder, Central coincoids, generating lines and ruled surfaces.

Books Prescribed :

(ii) An Introduction to the Theory of Quadratic Surfaces : by R.N. Das, Kalyani Publishers : Chapter-I (Art. 1.1-1.6, 1.8), Chapter-II (Art. 2.1-2.9), Chapter-III (Art. 3.1-3.3), Chapter-IV (Art. 4.1-4.8), Chapter-V (Art. 5.1-5.4).

Reference Books :

(i) Text Book of Analytical Geometry of Three Dimensions : by P.K. Jain and Khalil Ahmad, Wiley Eastern Ltd. (New Age International Ltd.) N.D.

(ii) An Elementary Treaties on Co-ordinate Geometry of Three Dimensions : by R.J.T. Bell, Macmillan.

(iii) Analytical Solid Geometry : by Shanti Narayan, S. Chand and Co.

(iv) Co-ordinate Geometry in Three Dimensions : by N. Sharan and L. Gupta, Pothisala.

Paper – II 100 Marks

(a) Differential Equation 40 Marks

Unit – I (i) Basic concepts of differential equation of 1^{st} order and 1^{st} degree.

(ii) Solution of equations of 1^{st} order but of higher degree.

Unit – II (iii) Solution of Linear with constant coefficients.

Unit – II (iv) Series solution and special functions excluding Bessel functions.

Books Prescribed :

(i) Elements of Ordinary Differential Equations with Application by J. Sinha Roy and S. Padhi, Kalyani Publishers, New Delhi, Chapters 1-4 and Chapter -7.

Reference Books :

(i) Introduction Course in Differential Equation : by D.A. Murry (Longman).

(ii) Differential Equation and their Application : by Martin Braun, Springer International.

(b Programming in FORTRAN 50 Marks

Unit – IV (i) Algorithm and Flow Chart, Constants, Variables, Expression in FORTRAN, Control Statements, Jumping, Branching and Looping.

Unit – V : Subscribed Variables, Functions and Sub-routines, Sub-programs

Books Prescribed :

Programming in FORTRAN : by V. Rajarama, Prentice Hall of India, New Delhi.

Reference Books :

FORTRAN IV Programming : by M.G. Chopra and Ram Kumar, Vikash Publ. House.

Paper – III Practical : Window/DOS/UNIX/MS-Office, FORTRAN 50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV 75 Marks

(a) Analysis 50 Marks

Unit – I (i) Convergence of sequences and series, Weierstrass completeness principles, Cauchy general principles of Convergence, Convergence of series of positive terms. Convergence test : comparison test, ratio test, root test. Absolute convergence, Convergence test for alternating series.

(ii) Metric Property of set of pints in R & C Limits points, Interior points, exterior points and boundary points of a set. Open set, closed set and closure of a set.

Unit – II (iii) Limit and Continuity of functions, discontinuity of various types. Uniform continuity

(iv) Differentiation : Differentiable functions, left and right derivatives, Mean value theorem, Higher derivatives, Taylor's theorem.

Unit – III (v) Riemann Integration : Definition of Riemann Integral, Theorems on Inerrability, Properties fo Reimann Integral, Fundamental Theorem of calculus.

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2. Mathematical Analysis by T.M. Apostoli, Narosa Publishing House, New Delhi.
3. Methods of Real Analysis by Richard R. Goldberg, Oxford.

4. Fundamental Concepts of Analysis : by Alton H. Smith & Walter A., Albrecht, Jr. PHI.
5. Fundamentals of Mathematical Analysis, by G. Das * S. Pattnayak, Tata McGraw Hill.

(b) Vector calculus **35 Marks**

Unit – IV Vector Differential Calculus : Scalar fields and vector fields. Vector Calculus, Curves, Arc Length , Tangent, Velocity and acceleration. Directional derivative. Gradient of a scalarfied. Transformation of coordinate system of vector components. Divergence of a vector field. Curt of a vector field.

Unit – V Line integrals : Integral theorems, Line integrals, Evaluation of the line integrals, Double integrals, Transformation of double integral into the integrals.

Surfaces : Tangent plane, First fundamental forms, Area surface integrals : Triple integrals, Divergence theorem of Gauss, Application of divergence theorem, Stokes theorem, application of stokes theorem. Line integrals independent of path.

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Reference Books :

Mathematical Analysis : S.C. Mallick, Willey Eastern Pvt. Ltd.

Paper – V **100 Marks**

(a) Algebra 4**0 Marks**

Unit – I (i) Group Theory : Definition and examples, subgroups. Counting, principle, normal subgroups, quotient groups, homomorphism.

Unit - II (ii) Ring Theory : Definition and examples, some special classes of rings, Homomorphism, ideals and quotient rings.

(iii) Theory of Equations : Polynomials and their roots, evaluating the roots fo cubic and bi-quadratic equations.

Books Prescribed :

1. Topics in Algebra : by I.N. Herstein, Vikas Publishing House, New Delhi. Chapter-2 (2.1-2.7), Chapter-3 (3.1-3.5).
2. Higher Algebra : by A. Kurosh, Mir Publishers Chapter-9 (38).

Reference Books :

1. A First Course in Abstract Algebra : by J.B. Fraleigh, Addision – Wesley Publ. Company.

(b) **Numerical Analysis** 35 **Marks**

Unit – III (i) Introduction, Binary number system, Floating point representation, The binary numbers in Floating Point Normalised form. Representation of a Decimal Number in Normalised form. Approximation of numbers : Significant Digits, K-Digit Arithmetic. Loss of significance, Algebraic Manipulation to significance. Errors : Absolute, Relative and percent errors.

(ii) Polynomial Interpolation : Introduction Existence and uniqueness of inter-polating polynomials. Languae in terpolating formula, Error in interpolation, Newton's Divided Difference Interpolating Formula. Forward difference Operator, Newton's Forward difference Interpolation formula. Backward Difference Inter-polating polynomial, Central difference and averaging operators.

Unit – IV (iii) Numerical Solution of Non-Linear Equations Introduction. Method of Bisection. Regular Falsi Method (without its convergence). Secant method (without rate of convergence and order of convergence) Newton Rapshon method. Fixed pint interaction method.

(iv) Numerical Differentiation : Introduction. Simple Numerical Methods.

Unit – V (v) Numerical Integration : Introduction. Some simple quadrature rules. Newton-Cotes Rules. Trapezoidal rule and Simpson's 1/3 rule with their error term and compound rules.

(vi) Numerical Solution of Differential Equations : Introduction, Picard's Method, Geometncallinterpretation of Euler's Method (Convergence analysis is omitted.)

(vii) System of Linear Equations : Direct Methods, Back Substitution Method, Gaussian Elimination with Backward Substitution. Inversion of matrix and matrix inversion method.

Prescribed Books :

1. A Course on Numerical Analysis : by B.P. Acharya and R.N. Das, Kalyani Publishers, New Delhi. Chapter-1 (1.1, 1.2, 1.5, 1.6, 1.8), Chapter-2 (2.1-2.6, 2.8, 2.9, 2.11), Chapter-3 (3.1-3.4, 3.6-3.8), Chapter-5 (5.1-5.2), Chapter-6 (6.1-6.3, 6.6), Chapter-7 (7.1-7.3), Chapter-8 (8.1-8.3).

Reference Books :

(i) Introductory Methods of Numerical Analysis : by S.S. Sastry, PHI, New Delhi.

(ii) Numerical Mathematical Analysis : by J.B. Scarborough, John Hofkin's Press, Baltimore.

(iii) Numerical Methods for Scientific and Engineering Computation : by M.K. Jain, etel, Willey Eastern Ltd., New Delhi.

(iv) Introduction to Numerical Analysis : by F.B. Hildebrand McGraw Hill, NY.

(v) Numerical Methods for Scientists and Engineers : by R.G. Stanton, PHI.

(vi) Elementary Numerical Analysis : by S.D. Conte and Carl de Boor, McGraw Hill, Kogakusha Ltd.

Paper – VI **75 Marks**

(a) **Probability :** **40 Marks**

Unit – I Sample Sets, Probability, Random Variables, Distribution and expectation of Random Variables, Integer Valued Random Variables, Random Variables with density function. Conditioning and independence : examples of conditioning. Basic formulae.

Unit - II Mean and Variance : Multiplication theorem of variance and co-variance.

Prescribed Books:

Elementary Probability Theory with Stochastic Processes : by K.L. Chung, Springer International Student Edition. Chapter-2 (2.1-2.4), Chapter-4 (4.1-4.5), Chapter-5 (5.1, 5.2, 5.5), Chapter-6 (6.1-6.3).

(b) **Differential Geometry :** **40 Marks**

Unit – III (i) Theory of space curve : Equation to a curve. Arc length of a curve, Tangential vector. Osculating plane, Normal plane and Rectifying place, Curvature and torsion and Frenet formulae. Formulae for curvature and torsion. Some theorems on curvature and torsion. Helices.

Unit - IV Osculating circle. Osculating sphere, Spherical indicatrices involute and evolute. Bertrand curves. Coordinates in terms of arc-length. Intrinsic equation.

Unit – V Theory of surfaces : Introduction. Normal line and tangent plane, surface of revolution. Characteristics, envelope and edge of regression. Developable surfaces. Fundamental differential form. Angel between two directions. Family of curves. Normal sections. Principal direction. Asymptotic direction. Conjugate directions and Geodesic.

Prescribed Books:

1. Fundamentals of Differential Geometry : by B.P. Acharya and R.N. Das, Kalyani Publishers, New Delhi, Chapter 1 (1.0-1.17), Chapter-2 (2.0-2.2).

Paper – VI Programming in C & Data Structure 75 Marks

Overview of C, Constants, Variables and Data type operators and expressions, Managing I/o operators, Decisions making and branching, looping, arrays, character strings, user defined functions, structure and union, Pointers, File management in C, dynamic memory allocation and linked list, stacks, list and tree.

Prescribed Books:

1. E. Balaguruswamy : Programming in ANSIC, Chpaters 1-13.
2. V. Rajaraman : Computer Programming in C. Chapters – 15, 18.

Paper – VIII Practical 75 Marks

Solution of Numerical Problems in C and in FORTRAN

FINAL UNIVERSITY EXAMINATION

Paper – IX 75 Marks

(a) **Complex Analysis : 40 Marks**

Unit – I Complex number, Complex, Complex function, Limits and derivatives, Cauchy Reimann equaticm, Laplace equation, Harmonic function, Harmonic conjugate, relational function, Exponential function, Logarithm function, Analytic function, Examples of Alalytic function.

Unit - II Complex Integration, Cauchy theorem, Cauchy Integral formula (without proof), Independence of Path Cauchy inequality, Liouville's theorem, Fundamental theorem of algebra, Power Series, Radius of convergence of power series.

Unit – III Taylor's series and Laurent series (without proof), Zeros and singularities, residues, Cauchy's residue theorem (without proof), Evaluation of real integral using residue theorem.

Prescribed Books:

Advanced Engineering Mathematics : by Erwin Kreyszig, Wiley Eastern Pvt. Ltd., Chapters – 12, 14, 16, 17.

Prescribed Books:

1. Foundation of Complex Analysis : by S. Punnuswamy, Narosa Publ. House.
2. Functions of One Complex Variable : by J.B. Conway, Springer International Student Edition.
3. Complex Analysis : by L.V. Ahlfors, McGraw Hill Book Co., NY.
4. Functions of a Complex Variable : by Gino Moretti, PHI.

(b) **Partial Differential Equation** 35 **Marks**

Unit – IV Total differential equation, condition of integrability, methods of obtaining primitive, solution by inspection, homogenous equations, partial differential equation of 1 storder : classification of integrals and their geometrical interpretation. Formation of partial differential equation, Lagrange's method of solving linear 1^{st} order equations. Charpit's method for 1^{st} order non-linear equations, standard forms.

Unit - V Linear partial differential equations with constant coefficients, Homogeneous linear equations, reducible non-homogenous linear equations.

Prescribed Books:

A Course on Ordinary and Partial Differential Equations : by J. Sinha Roy & S. Padhi, Kalyani Publishers, New Delhi, Chapters – 12 & 13.

Reference Books:

1. A Text Book on Differential Equation : by N.M. Kapoor, Pitamber Publ. House.

Paper –X **75 Marks**

Unit – I Principles of Object Oriented Programming Object Oriented Programming Paradigm, Basic Concept of OOP, Benefit of OOP, Application of OOP.

Structure of a C++ Program – Creating a source file, compiling and linking a C++ Program.

Tokens, Expressions and Control structures – Key words, Identifiers, Data types, User defined data types, Derived data types, Symbolic constant, Variables, Operators in C++. Functions in C++ Functions prototyping, call by reference, return by reference, Inline function, default argument; Virtual function, function overloading. Classes and Objects – Defining class and member function, Structure of a C++ program with class, nesting of member function, money allocation for objects, static data member, static member function, Friend function, pointers to data members.

Unit - II Constructors and destructors-default constructor and parameterized constructor, copy constructor, dynamic constructor, construction with dealt arguments, dynamic initialization of objects, constructor overloading, destructors and its functions.

Unit – III Operator Overloading and type conversions – Defining operator overloading, overloading unary and binary operators, overloading binary operator, using friend function, manipulation of strings using operators, rules for over loading operators, type conservations.

Unit - IV Inheritance : Extending classes – Defining derived classes, single inheritance, making a private member inheritable, multiple inheritance, Hierarchical inheritance, Hybrid in heritance, Virtual base class, Abstract classes, constructors in derived classes, nesting of classes.

Unit – III Pointers, Virtual functions and Polymorphism – Pointers to objects, this pointer, pointers to derived classes, virtual functions, pure virtual function.

Prescribed Books:

Object Oriented Programming with C++ : E-Balaguruswamy (Chapter 1 to Chapter 9)

Prescribed Books:

Object Oriented Programming in Turbo C++; by Robert Lafore Mastering C++; by Venugopal. Understanding C++; by Revichandran.

Paper –IX **Practical on C++.** **75 Marks**

MATHEMATICS (HONS.)

(Without Practical Component)

For Colleges having infrastructure facilities for Computer Practical's

COURSE STRUCTURE :

. FIRST UNIVERSITY EXAMINATION

Paper – I	(a) Calculus	40 Marks
	(b) Linear Algebra	40 Marks
	(c) Analytical Geometry	20 Marks
Paper – II	(c) Differential Equation	50 Marks
	(d) Programming in FORTRAN	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	(c) Analysis	50 Marks
	(d) Vector Calculus	5 Marks
Paper – IV	(c) Algebra	50 Marks
	(d) Numerical Analysis	55 Marks
Paper – V	(c) Probability	50 Marks
	(d) Different Geometry	55 Marks

Paper – VI	(a) Complex Analysis	50Marks
	(b) Partial Differential Equation	50 Marks

FINAL UNIVERSITY EXAMINATION

Paper – VII	(c) Mechanics	50 Marks
	(d) Mathematical Methods	50 Marks
Paper – VIII	Any one of the following :	100 Marks
	(a) Number Theory	
	(b) Graph Theory	
	(c) Operation Research	

N.B. : i) Each paper consists of five units.

ii) Numbers of in the right hand side indicates marks in the respective topics.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **100 Marks**

(a) Calculus : **40 Marks**

Unit – I (i) Asymptotes, Curvature, Singular Points, Curve Tracing

(ii) Partial Differentiation, Maxima, Minima of function or two more real variables

Unit – II (iii) Definite Integral, Length of a Curve, Area bounded by curves, Volume and surface of solid of revolution. Beta function and Gama Function.

Prescribed Books :

(j) Text Book of Differential Calculus : Gorakh Prasad, Pothisala Pvt. Ltd., Allahabad. Chapter – 10, 11 (11.1-11.2), 12.

(ii) Text Book of Integral Calculus : Gorakh Prasad, Pothisala Pvt. Ltd., Allahabad Chapter-6 (6.1-6.3), Chapter-7 (7.1-7.2), Chapter-8 (8.1-8.3), Chapter-10 (10.1-10.6).

Reference Books :

(i) A Treatise of Differential Calculus : by J. Edward.

(ii) Differential Calculus : by Das & Mukherjee, U.N. Dhar & Sons Pvt. Ltd., Calcutta.

(iii) Integral Calcus : by Das & Mukherjee, U.N. Dhar & Sons Pvt. Ltd., Calcutta.

(iv) Advanced Calculus : by David Widder, PHI.

(b) Linear Algebra **40 Marks**

Unit – III (i) System of linear equations, Algebra of matrices and determinants.

(ii) n-dimensional vector space, linear dependence/independence of vectors.

Unit – IV (iii) Linear space, Linear Transformation, Linear sub-space, characteristics roots and and eigen values, Euclidean space, Orthogonal matrices, orthogonal transformations.

(iv) Rank of a matrix, solution of system of Homogeneous equations.

Books Prescribed :

(i) Basic Structure in Algebra : by J.N. Pattnaik, Kalyani Publisher, Delhi.

(ii) Higher Algebra : by A. Kurush, Mir Publishers, Chapter – 1 (1.1), Chapter – 2 (8-12), Chapter – 7 (29-33), Chapter – 8 (34-35).

Reference Books :

(v) Linear Algebra : by S.K. Hoffman and Ray Kunze, PHI.

(vi) Finite Dimensional Vector Spaces : by Halmos, Affiliated East-West Publication.

(c) Analytical Geometry of Three Dimensions **20 Marks**

Unit – V (i) Sphere, Cone, Cylinder, Central coincoids, generating lines and ruled surfaces.

Books Prescribed :

(i) An Introduction to the Theory of Quadratic Surfaces : by R.N. Das, Kalyani Publishers : Chapter-I (Art. 1.1-1.6, 1.8), Chapter-II (Art. 2.1-2.9), Chapter-III (Art. 3.1-3.3), Chapter-IV (Art. 4.1-4.8), Chapter-V (Art. 5.1-5.4).

Reference Books :

(i) Text Book of Analytical Geometry of Three Dimensions : by P.K. Jain and Khalil Ahmad, Wiley Eastern Ltd. (New Age International Ltd.) N.D.

(ii) An Elementary Treaties on Co-ordinate Geometry of Three Dimensions : by R.J.T. Bell, Macmillan.

(iii) Analytical Solid Geometry : by Shanti Narayan, S. Chand and Co.

(iv) Co-ordinate Geometry in Three Dimensions : by N. Sharan and L. Gupta, Pothisala.

Paper – II **100 Marks**

(a) Differential Equation **50 Marks**

Unit – I (i) Basic concepts of differential equation of 1^{st} order and 1^{st} degree.

(ii) Solution of equations of 1^{st} order but of higher degree.

Unit – II (iii) Solution of Linear with constant coefficients.

Unit – III (iv) Series solution and special functions excluding Bessel functions.

Books Prescribed :

(i) Elements of Ordinary Differential Equations with Application by J. Sinha Roy and S. Padhi, Kalyani Publishers, New Delhi, Chapters 1-4 and Chapter -7.

Reference Books :

(i) Introduction Course in Differential Equation : by D.A. Murry (Longman).

(ii) Differential Equation and their Application : by Martin Braun, Springer International.

(b Programming in FORTRAN 50 Marks

Unit – IV (i) Algorithm and Flow Chart, Constants, Variables, Expression in FORTRAN, Control Statements, Jumping, Branching and Looping.

Unit – V : Subscribed Variables, Functions and Sub-routines, Sub-programs

Books Prescribed :

Programming in FORTRAN : by V. Rajarama, Prentice Hall of India, New Delhi.

Reference Books :

FORTRAN IV Programming : by M.G. Chopra and Ram Kumar, Vikash Publ. House.

SECOND UNIVERSITY EXAMINATION

Paper – III 100 Marks

(a) Analysis 50 Marks

Unit – I (i) Convergence of sequences and series, Weierstrass completeness principles, Cauchy general principles of Convergence, Convergence of series of positive terms. Convergence test : comparison test, ratio test, root test. Absolute convergence, Convergence test for alternating series.

(ii) Metric Property of set of pints in R & C Limits points, Interior points, exterior points and boundary points of a set. Open set, closed set and closure of a set.

Unit – II (iii) Limit and Continuity of functions, discontinuity of various types. Uniform continuity

(iv) Differentiation : Differentiable functions, left and right derivatives, Mean value theorem, Higher derivatives, Taylor's theorem.

Unit – III (v) Riemann Integration : Definition of Riemann Integral, Theorems on Inerrability, Properties of Reimann Integral, Fundamental Theorem of calculus.

Books Prescribed :

Mathematical Analysis : by S.C. Mallick, Willey Eastern Pvt. Ltd.

Reference Books :

1. A First Course in Mathematical Analysis : by D. Somasundaram & B. Choudhury, narosa Publishing House.
2. Mathematical Analysis by T.M. Apostoli, Narosa Publishing House, New Delhi.
3. Methods of Real Analysis by Richard R. Goldberg, Oxford.
4. Fundamental Concepts of Analysis : by Alton H. Smith & Walter A., Albrecht, Jr. PHI.
5. Fundamentals of Mathematical Analysis, by G. Das * S. Pattnayak, Tata McGraw Hill.

(b) Vector calculus **50 Marks**

Unit – IV Vector Differential Calculus : Scalar fields and vector fields. Vector Calculus, Curves, Arc Length , Tangent, Velocity and acceleration. Directional derivative. Gradient of a scalarfied. Transformation of coordinate system of vector components. Divergence of a vector field. Curt of a vector field.

Unit – V Line integrals : Integral theorems, Line integrals, Evaluation of the line integrals, Double integrals, Transformation of double integral into the integrals.

Surfaces : Tangent plane, First fundamental forms, Area surface integrals : Triple integrals, Divergence theorem of Gauss, Application of divergence theorem, Stokes theorem, application of stokes theorem. Line integrals independent of path.

Books Prescribed :

Advance Engineering Mathematics : by Erwin Ereyszig. Wiley Eastern Ltd. Chapter-8 (8.1, 1-8.6, 8.8,11), Chapter-9 (9.1-12).

Reference Books :

Mathematical Analysis : S.C. Mallick, Willey Eastern Pvt. Ltd.

Paper – IV **100 Marks**

(a) **Algebra** **50 Marks**

Unit – I (i) Group Theory : Definition and examples, subgroups. Counting, principle, normal subgroups, quotient groups, homomorphism.

Unit - II (ii) Ring Theory : Definition and examples, some special classes of rings, Homomorphism, ideals and quotient rings.

(iii) Theory of Equations : Polynomials and their roots, evaluating the roots fo cubic and bi-quadratic equations.

Books Prescribed :

1. Topics in Algebra : by I.N. Herstein, Vikas Publishing House, New Delhi. Chapter-2 (2.1-2.7), Chapter-3 (3.1-3.5).

2. Higher Algebra : by A. Kurosh, Mir Publishers Chapter-9 (38).

Reference Books :

1. A First Course in Abstract Algebra : by J.B. Fraleigh, Addision – Wesley Publ. Company.

(b) **Numerical Analysis** 50 **Marks**

Unit – III (i) Introduction, Binary number system, Floating point representation, The binary numbers in Floating Point Normalised form. Representation of a Decimal Number in Normalised form. Approximation of numbers : Significant Digits, K-Digit Arithmetic. Loss of significance, Algebraic Manipulation to significance. Errors : Absolute, Relative and percent errors.

(ii) Polynomial Interpolation : Introduction Existence and uniqueness of inter-polating polynomials. Languae in terpolating formula, Error in interpolation, Newton's Divided Difference Interpolating Formula. Forward difference Operator, Newton's Forward difference Interpolation formula. Backward Difference Inter-polating polynomial, Central difference and averaging operators.

Unit – IV (iii) Numerical Solution of Non-Linear Equations Introduction. Method of Bisection. Regular Falsi Method (without its convergence). Secant method (without rate of convergence and order of convergence) Newton Rapshon method. Fixed pint interaction method.

(iv) Numerical Differentiation : Introduction. Simple Numerical Methods.

Unit – V (v) Numerical Integration : Introduction. Some simple quadrature rules. Newton-Cotes Rules. Trapezoidal rule and Simpson's 1/3 rule with their error term and compound rules.

(vi) Numerical Solution of Differential Equations : Introduction, Picard's Method, Geometrical interpretation of Euler's Method (Convergence analysis is omitted.)

(vii) System of Linear Equations : Direct Methods, Back Substitution Method, Gaussian Elimination with Backward Substitution. Inversion of matrix and matrix inversion method.

Prescribed Books :

1. A Course on Numerical Analysis : by B.P. Acharya and R.N. Das, Kalyani Publishers, New Delhi. Chapter-1 (1.1, 1.2, 1.5, 1.6, 1.8), Chapter-2 (2.1-2.6, 2.8, 2.9, 2.11), Chapter-3 (3.1-3.4, 3.6-3.8), Chapter-5 (5.1-5.2), Chapter-6 (6.1-6.3, 6.6), Chapter-7 (7.1-7.3), Chapter-8 (8.1-8.3).

Reference Books :

(i) Introductory Methods of Numerical Analysis : by S.S. Sastry, PHI, New Delhi.

(ii) Numerical Mathematical Analysis : by J.B. Scarborough, John Hofkin's Press, Baltimore.

(iii) Numerical Methods for Scientific and Engineering Computation : by M.K. Jain, etel, Willey Eastern Ltd., New Delhi.

(iv) Introduction to Numerical Analysis : by F.B. Hildebrand McGraw Hill, NY.

(v) Numerical Methods for Scientists and Engineers : by R.G. Stanton, PHI.

(vi) Elementary Numerical Analysis : by S.D. Conte and Carl de Boor, McGraw Hill, Kogakusha Ltd.

Paper – V **100 Marks**

(a) **Probability :** **50 Marks**

Unit – I Sample Sets, Probability, Random Variables, Distribution and expectation of Random Variables, Integer Valued Random Variables, Random Variables with density function. Conditioning and independence : examples of conditioning. Basic formulae.

Unit - II Mean and Variance : Multiplication theorem of variance and co-variance.

Prescribed Books:

Elementary Probability Theory with Stochastic Processes : by K.L. Chung, Springer International Student Edition. Chapter-2 (2.1-2.4), Chapter-4 (4.1-4.5), Chapter-5 (5.1, 5.2, 5.5), Chapter-6 (6.1-6.3).

(b) **Differential Geometry :** **40 Marks**

Unit – III (i) Theory of space curve : Equation to a curve. Arc length of a curve, Tangential vector. Osculating plane, Normal plane and Rectifying place, Curvature and torsion and Frenet formulae. Formulae for curvature and torsion. Some theorems on curvature and torsion. Helices.

Unit - IV Osculating circle. Osculating sphere, Spherical indicatrices involute and evolute. Bertrand curves. Coordinates in terms of arc-length. Intrinsic equation.

Unit – V Theory of surfaces : Introduction. Normal line and tangent plane, surface of revolution. Characteristics, envelope and edge of regression. Developable surfaces. Fundamental differential form. Angel between two directions. Family of curves. Normal sections. Principal direction. Asymptotic direction. Conjugate directions and Geodesic.

Prescribed Books:

1. Fundamentals of Differential Geometry : by B.P. Acharya and R.N. Das, Kalyani Publishers, New Delhi, Chapter 1 (1.0-1.17), Chapter-2 (2.0-2.2).

Paper – VI **100 Marks**

(a) **Complex Analysis :** 5**0 Marks**

Unit – I Complex number, Complex, Complex function, Limits and derivatives, Cauchy Reimann equaticm, Laplace equation, Harmonic function, Harmonic conjugate, relational function, Exponential function, Logarithm function, Analytic function, Examples of Analytic function.

Unit - II Complex Integration, Cauchy theorem, Cauchy Integral formula (without proof), Independence of Path Cauchy inequality, Liouville's theorem, Fundamental theorem of algebra, Power Series, Radius of convergence of power series.

Unit – III Taylor's series and Laurent series (without proof), Zeros and singularities, residues, Cauchy's residue theorem (without proof), Evaluation of real integral using residue theorem.

Prescribed Books:

Advanced Engineering Mathematics : by Erwin Kreyszig, Wiley Eastern Pvt. Ltd., Chapters – 12, 14, 16, 17.

Prescribed Books:

1. Foundation of Complex Analysis : by S. Punnuswamy, Narosa Publ. House.
2. Functions of One Complex Variable : by J.B. Conway, Springer International Student Edition.
3. Complex Analysis : by L.V. Ahlfors, McGraw Hill Book Co., NY.
4. Functions of a Complex Variable : by Gino Moretti, PHI.

(b) **Partial Differential Equation** 50 **Marks**

Unit – IV Total differential equation, condition of integrability, methods of obtaining primitive, solution by inspection, homogenous equations, partial differential equation of 1st order : classification of integrals and their geometrical interpretation. Formation of partial differential equation, Lagrange's method of solving linear 1^{st} order equations. Charpit's method for 1^{st} order non-linear equations, standard forms.

Unit - V Linear partial differential equations with constant coefficients, Homogeneous linear equations, reducible non-homogenous linear equations.

Prescribed Books:

A Course on Ordinary and Partial Differential Equations : by J. Sinha Roy & S. Padhi, Kalyani Publishers, New Delhi, Chapters – 12 & 13.

Reference Books:

1. A Text Book on Differential Equation : by N.M. Kapoor, Pitamber Publ. House.

Paper – VII **100 Marks**

(a) **Mechanics :** **50 Marks**

Unit – I Methods of Plane Statics : Introductiory notes, Equilibrium of Practical. Equilibrium of a system of particle. Work and potential energy. Application in Plan Statics : Mass centers and centre of gravity. Friction, Flexible cable. Plane kinematics of a particle, Motion of a rigid body parallel to a fixed plane.

Unit - II Methods of plane dynamics. Motion of a particle. Motion of a system. projective with and without resistance. Moment of inertial kinetic energy and angular momentum. Rigid body rotating about a fixed axis.

Prescribed Books:

Principle of Mechanics : by J.L. Synge & B.A. Griffith, International Students Edition. Chapter-2 (2.1-2.4), Chapter-3 (3.1, 3.2. 3.4), Chapter-4 (4.1, 4.2), Chapter -5 (5.1, 5.2), Chapter-6 (6.1, 6.2), Chapter-7 (7.1, 7.2).

(b) **Mathematical Method :** **50 Marks**

Unit – III Laplace Transformation : Laplace transform. Inverse transform linearity. Laplace transforms of derivatives and integrals.

Unit - IV Shifting on a s-axis, shifting in the t-axis unit step function. Differentiation and integration of transforms. Convolution.

Unit - V Fourier Series and Integrals : Periodic functions. Trigonometric series. Fourier series. Euler formulae. Functions having arbitrary period. Even and odd functions. Half range expansion. Determination of Fourier coefficient without integration. Approximation by trigonometric polynomials. Square error, the Fourier integral.

Prescribed Books:

Advanced Engineering Mathematics : by Erwin Kreyszig, Wiley Eastern Ltd. Chapter-5 (5.1-5.5), Chapter-10 (10.1-10.6, 10.8, 10.9).

(a) Number Theory :

Divisibility, Primes, Congruency, Solution of congruency, Congruency of degree 1, the function … (n), Number Theory from Algebraic View point, multiplicative groups, Rings, Fields.

Quadratic reciprocity : Quadratic residues, Jacobi symbols.

Functions of Number Theory : Greatest integer function, arithmetic function, Mobium inversion formula, the multiplication of arithmetic.

Some Diophantine Equations ax + y4 = c, positive solutions, other linear equations x4 + y4 = Z2, sums of four and five squares Waring's Problem, sum of fourth power.

Prescribed Books:

An Introduction to Theory of Numbers by Ivan Niven and H.S. Zuckerman, Wiley Eastern Pvt. Ltd. Chapter-1 (1.1-1.3), Chapter-2 (2.1-2.4, 1.10, 2.11), Chapter-3 (3.1-3.3), Chapter-4 (4.1-4.4), Chapter-5 (5.1-5.9).

(b) Graph Theory :

Introduction, paths and circuits. Trees and fundamental circuits. Cut sets and cut vertices. Planar and dual graphs. Vector spaces of a graph.

Prescribed Books:

Graph Theory with Application to Engineering and Computer Science : by N. Deo, PHI.

Reference Books:

Graph Theory : by F. Harary, Narosa Publ. House.

(c) Operation Research :

Introduction, Definition, Modeling, Characteristics, Methods and Scope of

OR

Elementary inventory models : Definition and characteristics of inventory problem. Deterministic models. The economic lot size system, economic lot size with different rates of replacement, a simple order levels system with constant rate of demand, generalized economic lot size model. Simple probabilistic models : Instantaneous demand, not set up cost model.

Replacement : Types of replacement problems, replacement of items that deteriorate, replacement of items that all completely.

Allocation : 1. Linear Programming, simplex method

Allocation : 2. Assignment problem

Allocation : 3. Transportation problem

Prescribed Books:

1. Operation Research : by S.D. Sharma, Kedar Nath, Ram Nath Co., Meerut. Chapter-2 (2.1, 2.15, 2.18), Chapter-4 (4.1, 1.3), Chapter-6 (6.1, 6.12, 1.14, 6.18,6.18.3), Chapter-8 (8.1, 8.7, 7.3, 8.9).

Reference Books:

1. Operation Research : by B.S. Goel and S.K. Mittal, Pragati Prakashani, Meerut.

2. Operation Research : P.K. Gupta and O.S. Hirra, S. Chand & Co. Ltd.
3. Optimization Methods in Operation Research and System Analysis : by K.V. Mittal, Willey Eastern Ltd., New Delhi.
4. Linear Programming (Theory & Application) : by T.N. Mallik, U.N. Dhar & Sons Pvt. Ltd., Calcutta.

PHILOSOPHY (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Logic	100 Marks
Paper – II	General Philosophy	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Indian Philosophy	100 Marks
Paper – IV	Moral Philosophy	100 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I Logic 100 Marks

Chapter – I, II, III, V, Vi & Appendix of "An Introduction to Symbolic Logic" : by Basson & D.J.O. Corner.

Paper – II General Philosophy 75 Marks

1. Word meaning, Definition
2. Vagueness, Sentence-meaning
3. Concept, truth, sources of knowledge, what is knowledge
4. Analytic truth – Technical, Empirical and Logical possibilities
5. Chapter VI & VIII Substances and Universal, Mind and Body

Prescribed Books:

An Introduction to Philosophical Analysis : by J. Hospers

Reference Books:

Fundamental Questions of Philosophy : by A.C. Ewig

SECOND UNIVERSITY EXAMINATION

Paper – III **Indian Philosophy** **100 Marks**

1. Common Characteristics of Indian Philosophy
2. Carvak : Theory of Perception
3. Buddhism : Four Noble Truths, Doctrine of Impermanence, Dependent Origination
4. Jainism : Syad vada, Anekanta Vada
5. Nyaya : Sources of Knowledge
6. Vaisesika : Categories
7. Samkhya : Theory of causation, Purusa, Prakruti, Evolution
8. Sankara and Ramanuja : Concept of Brahman, Atman.

Books Prescribed :

A Critical Survey of Indian Philosophy : C.D. Sharma

An Introduction to Indian Philosophy : Dutta & Chatterjee

Reference Books:

Outlines of Indian Philosophy : M. Hiriyana

History of Indian Philosophy : S.N. Sinha

Bharatiya Darsana : G.C. Nayak

Paper – IV **Moral Philosophy** **100 Marks**

1. Definition, Meaning and Nature of Ethics, Relations of Ethics to Politics, Sociology and Religion
2. Moral and Non-moral actions, Objects of moral judgement.
3. Moral Standard – Hedonism (Mill & Bentham) Regorism (Kant), Perfectionism (Die to live)
4. Theories of Punishment, Law as standard, Relation of Individual to Society.
5. Indian Ethics : Niskama Karma of the Bhagavad Gita, Gandhian View of Non-violence.

Books Prescribed :

Manual of Ethics : by J.N. Sinha

Reference Books:

An Introduction to Ethics : by W. Lillie

A Manual of Ethics : by J. Mackenzie

PHILOSOPHY (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Logic	100 Marks
Paper – II	General Philosophy	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Indian Philosophy	100 Marks
Paper – IV	Moral Philosophy	100 Marks
Paper – V	History of European Philosophy	100 Marks
Paper – VI	Philosophy of Religion	100 Marks

FINAL UNIVERSITY EXAMINATION

Paper – VII	Contemporary Indian Philosophy	100 Marks
Paper – VIII	Political Philosophy	100 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I Logic **100 Marks**

Same as Philosophy Pass Paper – I (Logic)

Paper – II General Philosophy **75 Marks**

Same as Philosophy Pass Paper – II (General Philosophy)

Prescribed Books:

An Introduction to Philosophical Analysis : by J. Hospers

Reference Books:

Fundamental Questions of Philosophy : by A.C. Ewig

SECOND UNIVERSITY EXAMINATION

Paper – III Indian Philosophy **100 Marks**

Same as Philosophy Pass Paper – III (Indian Philosophy)

Paper – IV Moral Philosophy **100 Marks**

Same as Philosophy Pass Paper – IV (Moral Philosophy)

Paper – V **History of European Philosophy** **100 Marks**

1. Bacon : Idola, Induction
2. Descartes : Method of Doubt, Theory of God, Mind-Body Relation
3. Spinoza : Substance, Attributes, Modes
4. Leibnitz : Monads, Pre-established Harmony
5. Locke : Refutation of Innate Ideas, Theory of Knowledge
6. Berkeley : Esse Est Percipii, Subjective Idealism
7. Hume : Theory of Knowledge
8. Kant : Criticism as a Theory of Knowledge, Space and Time

Books Prescribed :

(i) Critical History of Western Philosophy : by Y. Masih

(ii) History of Modern European Philosophy : by Ratnakar Pati

Reference Books:

1. History of Modern Philosophy : by R. Falkenberg
2. A History of Philosophy : by Frank Thilly

Paper – IV **Moral Philosophy** **100 Marks**

Same as Philosophy Pass Paper – IV (Moral Philosophy)

Paper – VI **Philosophy of Religion** **100 Marks**

1. Introduction and Chapters – 1, 2, 3, 4, 5, 6, 9 & 11

Books Prescribed :

Philosophy of Religion by John Hicks

Reference Books:

1. Comparative Religion : by N. Tiwari
2. Philosophy of Religion : by A.R. Mohapatra
3. Religious Philosophy : by Y. Masih
4. Evil, Karma and Reincarnation : by G.C. Nayak

FINAL UNIVERSITY EXAMINATION

Paper – VII Contemporary Indian Philosophy 100 Marks

1. Characteristics of Contemporary Indian Philosophy
2. M.K. Gandhi : Truth, Non-violence, Satyagraha
3. R.N. Tagore : Idea of God
4. Swami Vivekananda : Karma Yoga and Gyana Yoga
5. Sri Auribondo : Concept of Ultimate Reality and Evolution
6. Dr. S. Radhakrishan : Theory of Knowledge, Reality and Religion

Books Prescribed :

1. Contemporary Indian Philosophy : by B.K. Lal
2. Contemporary Indian Philosophy : by T.M.P. Mahadevan and G.V. Saroja

Reference Books:

1. Contemporary Indian Philosophy : by P. Nagaraj Rao
2. Indian Philosophy since Independence : by Dale Rippe

Paper – VIII Political Philosophy 100 Marks

1. Characteristics of Political Philosophy
2. Plato – Ideal State, Republic, Justice Idea of God
3. Aristotle – Theory of State, Justice, Government
4. Hobbes, John Fock and Rousseau-Social Contract Theory
5. Hegel – Dialectical Method Marx – Dialectical Materialism

Books Prescribed :

1. Political Thought : by C.L. Wayper
2. History of European Political (Philosophy : by D.K. Bhandari)
3. A History of Political Theory : by G.M. Sabine

Reference Books:

1. Problem of Political Philosophy : by D.D. Raphael
2. Greek Political Theory : by E. Barker

POLITICAL SCIENCE (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Political Theory and Ideology	100 Marks
Paper – II	Indian Political Ideas	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Major Political Systems	100 Marks
Paper – IV	Indian Govt. and Politics	100 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I Political Theory and Ideology 100 Marks

1. Political Science, Nature Scope and Singnificance
2. Traditional and Contemporary Methods and Approaches : Behaviours and Post Behavioural Approaches
3. System Approach : Views of Almond and Easten
4. Theories of the Origin and Nature of State
5. Sovereignty : Monistic and Pluralistic Views
6. Nature and Grounds of Political Obligation
7. Political Concepts : Rights, Liberty, Equality and Justice
8. Liberal and Marxist Theories of Democracy
9. Political Ideologies : Nationalism and Internationalism
10. Communism and Fascism

Books Recommended :

1. MacIver : The Modern State (OUP)
2. H.J. Laski : A Grammar of Politics (S. Chand)
3. C.J. Charles worth : Contemporary Political Analysis
4. O. Young : Systems of Political Science
5. H.J. Lasth : The State in Theory and Practice
6. Benn and Peters : Social Principles and the Democratic State (S. Chand)
7. E. Barker : Principles of Social and Political Theory (Oxford IBH).
8. S.H. Chang : The Marxist Theory of State

9. V.I. Lenin : The State and Revolution
10. Ashirwadan L Political Theory
11. R.N. Agarwal : Principles of Political Science
12. R. Miliband : Modern Political Analysis
13. H. Enlari : Behavioural Persuasion in Politics (Oxford IBIH)
14. R. Dah : Modern Political Analysis (PHI)
15. J.R. Lucas : The Principles of Politics
16. David Easton : System Analysis of Political Life
17. David Easton : A Framework of Political Life
18. R.L. Gupta : Political Theory (Sultan Chand)
19. O.P. Gupta : An Introduction to Political Theory (Mac Millan)
20. J.C. Johan : Contemporary Political Theory (Sterlings)

Paper – II **Indian Political Ideas** **100 Marks**

1.	MANU	Social Organization, Nature and Function of the Govt.
2.	KAUTILYA	Relationship between Ethics and Politics, Nature and Characteristics of the Govt.
3.	RAJA RAM MOHAN ROY	Liberalism and Internationalism
4.	DAYANANDA SARASWATI	
5.	SWAMI VIVEKANANDA	Concept of Nationalism and Internationalism
6.	GOPAL KRISHNA GOKHALE	Political Goal and Techniques
7.	TILAK	Political Goal and Techniques
8.	MAHATMA GANDHI	Ends and Means Relationship, Concept of Swaraj, Satyagraha, Sarvodaya
9.	JAWAHARLAL NEHRU	Nationalism and Internationalism, Democracy and Socialism
10.	M.N. ROY	Marxism and New Humanism

Books Recommended :

1. M.N. Das : Political Philosophy of Jawaharlal Nehru
2. N.K. Bose : Lectures on Gandhism
3. I.L. Sahav : The Legacy of Lokmanya
4. Kiran Singh : Prophet of Indian Nationalism
5. V.P. Verma : Modern Indian Political Thought (Laxmi Narain)

SECOND UNIVERSITY EXAMINATION

Paper – III **Major Political System** **100 Marks**

1. U.K.
   - (a) The British Political Tradition : Nature and elements of the British Political System
   - (b) Parliamentary Govt. Monarchy, Cabinet, Parliament (Role and Function) Civil Service.
   - (c) Political Parties Interest Groups and Political Process
   - (d) Rule of Law and Judicial System
2. U.S.A.
   - (a) Nature, Basic Features of the American Political System
   - (b) Federalism in USA
   - (c) Federal Govt. : The President, the Congress and the Supreme Court (Role and Function
   - (d) Political Parties, Interest Groups and Political Process
3. FRANCE :
   - (i) Constitutional development in France during the Fourth Republic
   - (ii) I) Problems of Political Instability
     ii) Emergence of De Gaulli
     iii) Founding of the 5^{th} Republic
   - (iii) Features of the Constitution of the 5^{th} Republic
   - (iv) Presidency – Powers and Functions
   - (v) Parliament – National Assembly, Senate
   - (vi) Prime Minister and the Cabinet
   - (vii) Political Parties
4. PEOPLE'S REPUBLIC OF CHINA
   - (a) Growth and Development of Chinese Nationalism. The Communist Movement in China with special reference to Mans contribution. Nature and Basic Features of the Constitution.
   - (b) Constitutional Framework : National People's Congress, State Council Judicial System (Role and Function)
   - (c) The Communist Party : Mass Campaigns and Culture Resolution
   - (d) The Role of Chinese Army

OR

5. SWITZERLAND

   (a) Basic Features of the Constitution : Federalism

   (b) Federal Executive Federal and Federal Tribunal

   (c) Direct Democracy and Constitutional Amendments

Books Recommended :

1. G.C. Field : Government in Modern Societies
2. Richard Rose : Politics in England (Little Brown)
3. J.P. Macintosh : The Govt. and Politics of Britain
4. Claudics O Johns : Govt. in the United States (New Delhi)
5. Robert Dahl : Democracy in the United States : Promises and Performance
6. C.J. Friderich : Constitutional Govt. and Democracy
7. D.H. Valler : Govt. and Politics of Communist China
8. John Wilson Bonis : Leadership in Communist China
9. Roy C. Macridis and B.E. Brown (Ed) Comparative Politics Notes and Readings
10. Luclan N. Pye : Non-Western Political Process
11. Eckstein and Apter : Comparative Politics – Cd Reader
12. Dorothy Pickle : The 5th French Republic
13. D. Thomson : Democracy in France
14. P.M. William : Crisis and Comprome : Politics in 4th Republic
15. P.M. William : The French Parliament 1958-67
16. Major Political System : J.C. Johari
17. World Constitution : V. Bhagwan and Bhusan

Paper – IV **Indian Government and Politics** **100 Marks**

1. Constituent Assembly and India : Composition and Working
2. Preamble and Basic Features of the Constitution
3. Fundamental Rights and Directive Principle of State Policy
4. President Council of Ministers, Cabinet, Prime Minister
5. Parliament, Lok Sabha, Rajya Sabha : Composition, Function and their Relations, Opposition in Indian Parliament
6. Supreme Court : Composition and Function, Judicial Review Judicial Independence and Judicial activism
7. Federalism in India : Centre State Relations : Legislations, Administration, Financial, Inter State Council

8. State Government : Government and His Role, Council of Ministers, Chief Ministers State Legislature, High Court
9. Panchayati Raj : Problems and Prospects
10. Constitutional Amendments

Books Recommended :

1. Dasgupta, Schanial : Justice and Political Order in India
2. Kothari, Rajai – Political in India
3. Bombwali K.R. : National Power and State Antony
4. Roy, A. Jet : Political Power in India
5. Hore, Dillip : Inside India today
6. Morris Jones : Govt. and Politics of India
7. Aust in Granvile : The Indian Constitution Corner Stone of a Nation
8. M.V. Pyles : Constitutional Govt. of India (S. Chand)
9. K.V. Rao : Parliamentary Democracy in India
10. D.D. Basu : Introduction to the Constitutional of India (PHI)
11. S.C. Dash : The Constitutional of India
12. D.G. Gupta : Indian Govt. and Politics (Vikas)
13. J.C. Joheri : Indian Govt. and Politics (Vishal)
14. R.N. Mishra : Regionalism and State Politics in India
15. G.N. Pandey : Constitutional Law of India (Allahabad)
16. Kamal – Democratic Politics in India
17. J.C. Johari – Indian Political System (Anmol)

POLITICAL SCIENCE (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Political Theory and Ideology	100 Marks
Paper – II	Indian Political Ideas	100 Marks

SECOND UNIVERSITY EXAMINATION

Paper – III	Major Political Systems	100 Marks
Paper – IV	Indian Govt. and Politics	100 Marks
Paper – V	Public Administration	100 Marks
Paper – VI	Western Political Thought	100 Marks

FINAL UNIVERSITY EXAMINATION

Paper – VII	Political Sociology	100 Marks
Paper – VIII	International Politics : Theory and Dynamics	100 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Political Theory and Ideology** **100 Marks**

(Same as Paper – I of Pass Course)

Paper – II **Indian Political Ideas** **100 Marks**

(Same as Paper – II of Pass Course)

SECOND UNIVERSITY EXAMINATION

Paper – III **Major Political System** **100 Marks**

(Same as Paper – III of Pass Course)

Paper – IV **Indian Government and Politics** **100 Marks**

(Same as Paper – IV of Pass Course)

Paper – V **Public Administration** **100 Marks**

1. Nature and Scope of Public Administration : Approaches to its Study, Role of Public Administration in Developing and Developed Societies.
2. Principles and Concepts of Organisation : Hierarchy, Span of Control, Unity of Cummand, Centralization, Delegation, Head Quarters and Field Relations.
3. Forms of Organization : Formal and Informal, Line and Staff Agencies
4. Public Enterprises in India
5. The Chief Executive as General Manager
6. The Legislature as Board of Directors
7. Delegated Legislation
8. Administrative Adjudication
9. Civil Service in India : Recruitment, Training and Promotion, Union Public Service Commission
10. Financial Administration in India : Procedure of Financial Legislation, Estimates Committee, Public Accounts Committee, The Comptroller and Auditor General.

Books Recommended :

1. Auasthi and Maheswari : Public Administration
2. M.P. Sharma : Public Administration
3. S.R. Maheswari : Indian Administration
4. C.P. Bhambhri : Public Administration in India
5. Om Prakash : Theory and Working of State Corporations in India
6. Ashok Chanda : Indian Administration
7. R.B. Jain (Ed.) : Contemporary Issues in Indian Administration

8. Public Administration in India : Arora and Goyal
9. Public Administration in India : Singh and Singh
10. Public Administration : Vishnu Bhagawan and Vidya Bhushan
11. Public Administration : Fadia and Fadia
12. A.R.C.S. : Report on the Machinery of the Govt. of India
13. A.R. Tyagi : Public Administration
14. L.D. White : An Introduction to the Study of Public Administration
15. A.P. Premchand : Parliament Control over Public Expenditure

Paper – VI Western Political Thought 100 Marks

1. Plato
2. Aristotle
3. Machiavelli
4. Hobbes
5. Locke
6. Rousseau
7. Bentham
8. Mill
9. Hegel
10. Marx

Books Recommended :

1. G.H. Sabire : A History of Political Theory
2. John Plamenate : Man and Society (McGraw Hill)
3. A. Hacker : Political Theory (Macmillan)
4. P. Lasleft : Introduction to Locke's Two Treaties of Govt. (Cambridge)
5. C.B. Macpherson : Political Theory of Possessive Individualism (Oxford)
6. J. Plamenaty : The English Utilitarian (Oxford)
7. H.J. Laski : Political Thought in England Locke to Bentham (Home Univ. Library)
8. Herbert Marcuse : Reason and Revolution
9. Hegal : The Rise of Social Theory (Routledge and Kegan Paul)
10. E. Barker : Greek Political Theory : Plato and His Predecessors (Methuan)
11. H. Warrender : The Political Philosophy of Hobbert (Oxford)
12. Kingsley Martin : French Liberal Thought in the Eighteenth Century – Chapter on Rousseau
13. W Ebenstein : Modern Political Thought
14. C.L. Wayper : Political Thought
15. A.G. Mayet : Leninism
16. Foster Johnes and Lancestor : Masters of Political Thought
17. Dunning : History of Political Theory, Vol. I, II, and III

18. A.K. Mukhopadhyaya : Western Political Thought
19. Sukhbir Singh : Western Political Thought, Vol. I and II

Paper – VII Political Sociology 100 Marks

1. Political Sociology : Emergence, Nature and Scope of Study
2. The Socio Political Processes : A Theoretical Framework. The Political System : (a) Easton's Model (b) Almond's Model
3. Influence Power, Authority and Legitimacy
4. Elitism
5. Political Culture : Types and Significance
6. Political Socialization : Meaning, Forms, Role of Agents
7. Political Communication : Meaning, Communication Structures, Significance
8. Political Participation : Meaning, Types, Significance
9. Bureaucracy : Weber's View
10. Political Development : Theories, Crisis of Political Development, The Nature of the Non-Western Political Process

Books Recommended :

1. A.K. Mukhopadhyaya : Political Sociology
2. D.S. Rathore : Political Sociology
3. Ali Asraf and Sharma : Political Sociology : A New Grammar of Politics
4. Mibrath : Political Participation
5. R. Dahl : Modern Political Analysis
6. Oran Young : System Analysis of Political Life
7. James Charles Worth : Contemporary Political Analysis
8. Davia Easton : System Analysis of Political Life
9. Almond and Aoleman : Politics of Developing Areas
10. David Bell : Power, Influence and Authority
11. Carl Deustch : Nerves of Government
12. Rush and Althoff : An Introduction to Political Sociology
13. Haralmbus : Sociology : Themes and Prospective
14. J.P. Nettel : Political Mobilisation
15. Hand Book Political Science (Volumes of Political Development)
16. L.W Pve : Aspects of Political Development

Paper – VIII International Politics Theory and Dynamics 100 Marks

1. The nature and functioning of one sovereign nation state system.
2. Concepts of International Politics : Power, National Interests, Balance of Power, Power Volumes
3. Theories of International Politics : Realist – Theory, System Theory, Division Making Theory
4. Determinants of Foreign Policy : National Interest, Ideology, Gements of National Power including nature of domestics, social and political institution.
5. Foreign Policy Choices : Imperialism, Balanced of Power, Alliances, Isolationism, Pax Sorietica) The Middle Kingdom Complex of China, Non-Alignment
6. Non-Alignment : Meaning, Bases (National and International) Non-Alignment Movement and its Role in International Relations
7. Origin and Development of International Organisation : The UN and its Specialized Agencies : Their Role in International Relations
8. Regional Organisations : OAS, OAU, the Arab League, the ASEAN, the EEL and their role in International Relations.
9. India's Foreign Policy and Relations with Super Powers
10. India and its Neighbours : India and South East Asia, India and African Problems. India's Economic Diplomacy, India and the Question of Nuclear Weapons

Books Recommended :

1. Hans J. Morgenthan : Politics among Nations
2. J.K. Baral : International Politics – Theory and Dynamics
3. Mahendra Kumar : International Politics
4. K.N. Thomson : Understanding World Politics
5. K.N. Walta : Theory of International Politics
6. J.N. Rosenau : International Politics and Foreign Policy
7. V.K. Malhotra : International Relations
8. Peter Calvocorres : The World since 1945
9. V.P. Dutta : India's Foreign Policy
10. Haris Kapur : India's Foreign Policy
11. R.T. Jangam : An Outline of International Politics
12. Spanier : The Games Nation Plays
13. Palmer and Perkins : International Relations
14. Roy C. Macridis : Foreign Policy in World Politics

Journals :

International Studies (New Delhi) World Focus (New Delhi)

PSYCHOLOGY (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I **General Psychology** **100 Marks 3 hrs.**

Unit – I

(i) Psychology's Past : From the Armchair to the laboratory, psychology's present : Behaviour, body, mind and culture. The major psychological perspectives : biological, evolutionary, multicultural and cognitive. Methods : Experimental, Observation and Introspection.

(ii) Physiological basis of behaviour : Structure and function of neuron, synapse, Central Nervous System (Spinal Cord, Brain), Autonomic Nervous System, Methods of studying brain function, Endocrine glands and their significance behaviour.

Unit – II

(iii) The nature of perpetual process; Gestalt factor in perception, figure and ground, role of need and past experience in perception. Illusion and Hallucination, Perceptual Constancies.

(iv) Learning and Conditioning : The learning process, learning and maturation, nature of learning curve. Classical conditioning of Pavlov, operant conditioning of skinner, trial and error learning of Thorndike, Observational learning of Bandura.

Unit – III

(v) Remembering and forgetting : Meaning and working definition of memory, models of memory – Atkinson Shiffrin model and neural network model, Types of memory –STM, LTM and working memory, process of memory, Forgetting – Causes of forgetting, Theories of forgetting.

(vi) Thinking : Thinking as a symbolic problem solving behaviour, stages of creative thinking. Relation between thought and language.

Unit – IIV

(vii) Emotion, Definition, physiological expression during emotion. Role of hypothalamus and Cortex in emotion, Theories of emotion – James Lange, Cannon Band.

(viii) Motivation : Definition, Maslows hierarchy of needs, measurement of drives, types of motives – Biological, Social and Personal.

Unit – V

(ix) Personality : Meaning and definition, Theories of personality – Trait theory (cattel and Aliport), Type Theory (Sheldons, Kretchmere and Jungs), measurement of Personality.

Text Book :

1. Barron, R.A. (2002) Psychology, 3rd edition, Prentice Hall of India Pvt. Ltd.

Reference Books :

1. C.K. Ciccarelli and Mayer, Psychology, Pearson.
2. Ways of supplementing income. Give 3 examples, calculate and compare the cost supplemented (only planning).
3. No change
4. Planning of different types of house plan with diagram for different income group (only planning, no cooking).
5. Planning meals for special occasions in family like birthday and marriage (only planning. No cooking).

(b) Practical Related to Clothing and Designing 25 Marks

1. Tailoring : Drafting of frock and blouse with design. (No stitching)
2. Drafting, cutting, stitching of petticoat (without placket opening)
3. Preparation of two handkerchief with four different stitches.
4. Preparation of two different types of knitted design, a sample size of 4”/4”.

(c) Practical Related to Child Development 25 Marks

Same as Home Science Pass Paver - VI

(d) Practical Related to Textile and Fashion Designing 25 Marks

Same as Home Science Pass Paver - VI

HOME SCIENCE (HONS.)

FIRST UNIVERSITY EXAMINATION

Paper – XI Practical

Practical Related to Home Science Extension Education 25Marks

1. Preparation of visual aids for extension teaching : Poster, Charts, Pictures, Diagrams etc. Related to Home Science (Two different types).
2. Preparation and use of flash cards, flip charts, bulletin boards in extension teaching (one type).
3. Planning a visual also to improve the knowledge of rural women on health and nutrition (one type).
4. Preparation of low cost nutritious snacks, lunch and dinner for the following groups : pre-school children, pregnant and lactating women and old person (any two, only planning).

Paper – VII

Unit – I Money : ……. Equilibrium will be prepared by

Money : Nature, kinds and function of money, law of demand, inflation and deflation,

Wants : Classification of wants, characteristics of wants. Law of diminishing utility.

PSYCHOLOGY (HONS.)

FIRST UNIVERSITY EXAMINATION

Paper – I **Abnormal Psychology** **75 Marks 3 hrs.**

Unit – I (i) Bases of abnormal behaviour and models of abnormality : Methods of studying abnormal behaviour : (case history, interview, projective method), The stigma of abnormal behaviour.

Unit – II (ii) Freudian contribution for understanding behaviours : Topographical aspects of mind, dynamic aspects of personality, psycho-sexual development defence mechanisms and dreams.

Unit – III (iii) (a) Generalised anxiety disorder, Panic disorder, Phobic disorder, Obessive compulsive

(b) Mood disorder : Bipolar disorder-I and Bipolar disorder-II

(c) Causes and treatment of mood disorder.

Unit – IV (iv) Psychoses : Nature, etiology, and treatment of schizopreria, Manic depressive psychoses.

(v) Psychosomatic disorder : Nature and etiology of petic ulcer and hypertension.

Unit – V (vi) Mental retardation; levels of mental retardation, types, etiology and treatment of mental retardation.

(vii) Therapeutic Procedure : Psychoanalytic therapy; Non-directive psychotherapy and behaviour therapy.

Text Book :

Abnormal Psychology – An Experimental Clinical Approach, Gerald Davidson & John M. Neale.

Reference Book :

1. Abnormal Psychology by G. Sarason & Sarason, Prentice Hall of India Pvt. Ltd., New Delhi.
2. Abnormal Psychology by Carson R.C. & Butcher, J.N. Herper Collins.
3. Abnormal Psychology and Modern Life by James, C. Coleman, D.B. Taraporewala.

PSYCHOLOGY (HONS.)

FIRST UNIVERSITY EXAMINATION

Paper – III **Practical** **50 Marks**

1. Phenomenon of Retroactive inhibition
2. Doing two things at a time
3. Set in memory
4. STM as a function of retention interval
5. Level of aspiration
6. Simple Reaction Time

Books Recommended :

1. Mohanty, G.B., Experiments in Psychology
2. Mohrin, S.M., Experiments in Psychology

PSYCHOLOGY (HONS.)

SECOND UNIVERSITY EXAMINATION

Paper – IV **Educational Psychology** **75 Marks 3 hrs.**

Unit – I (i) Aims and Objectives of Educational Psychology – Theories of learning and teaching, basic teaching model of glasses, principles of educational psychology.

Unit – II (ii) Motivation – Increasing motivational level of the students arousal, expectancy, incentive and disciplinary functions of the teacher, motivational technique in classroom breaching.

(iii) Basic conditions of learning – Contiguity, practice and reinforcement, Nature of skill learning, Phases and basic conditions of skill learning, Transfer of training, Theories of transfer of training, Transfer in specific school subjects.

Unit – III (iv) Basic characteristics of educational tests. Reliability, Validity, Objectivity and efficiency, objective and essay types of tests.

Unit – IV (v) Disadvantaged children : Causes of their educational under achievement, remedial measures.

(vi) Mental Health; Nature, steps to improve mental health of the students and teacher.

Unit – V (vii) Goals at classroom management

(ix) Creating a positive learning environment.

Text Book :

1. Jonpce Decceco, Educational Psychology.

2. Wool Folk, A.E. (1995), Educational Psychology, (6th Edition) Allyon and Bacon, London/Bostern.

Reference Book :

1. Gage, N.L. and Berlimer, D.C. (1998), Educational Psychology, 6th Edition, Houghton Miffin, New York.

PSYCHOLOGY (HONS.)

SECOND UNIVERSITY EXAMINATION

Paper – V Statistics 75 Marks 3 hrs.

Unit – I
(i) Concept of statistics : Parametric and non-parametric statistics, Scores and Data, Frequency Distribution, Polygon and Histogram, Uses and Abuses of Statistics.
(ii) Measures of central tendency : Mean, median, model and their specific uses.

Unit – II
(iii) Measures of Variability : Quartile deviation, average deviation, standard deviation and their specific uses.
(iv) Percentiles : Percentile Rand and ogive.

Unit – III
(v) Correlation : Concept of Correlation, product moment and rand order.
(vi) 'T' test for correlated and uncorrected samples, normal probability curve, general.

Unit – IV
(vii) Reliability of Test : Measuring of reliability, methods of determining test reliability, Test-retest, Alternative or parallel form, split half of validity of reliability.

Unit – V
(vii) Chi-square
(viii) Manawhitney 'U' test

Text Book :

1. Brota, K.D. (1992), Experimental Design in Behavioural Research, New Age International (-.) Ltd., New Delhi.
2. Anastasi – Psychological Testing, Mac Milan, New York.
3. Siegal, S. (1994), Non-Parametric Statistics, New York, Tata McGraw Hill.
4. Fergusson

Reference Book :

Garret – Statistics in Psychological Education, VPS Publication.

PSYCHOLOGY (HONS.)

SECOND UNIVERSITY EXAMINATION

Paper – VI **Guidance and Counselling** **75 Marks 3 hrs.**

Unit – I (i) Definition of Counseling, goals of counseling, distinction between guidance and counseling. Need, Areas and Techniques of Guidance and Counseling.

(ii) States of counseling – Initial disclosure, indepth exploitations, commitments to actions, current trends and objectives of counseling.

Unit – II (iii) Frama of reference for understanding assessment, component of effective assessment, characterization of an effective counselor.

(iv) Techniques of counseling (use of questions), Risks and opportunities in the placement and diagnosis of counseling.

Unit – III (v) Definition, of crisis interventions. The purpose of crisis intervention, Steps in crisis intervention.

(vi) Building a counseling relationships process, working in a counseling relationship process and termination of counseling relationship processes.

Unit – IV (vii) Reliability of Test : Measuring of reliability, methods of determining test reliability, Test-retest, Alternative or parallel form, split half of validity of reliability.

Unit – V (vii) Characteristics of older adults as clients, experiences and counselilng procedure with older adults.

(viii) Working with family of older adults clients.

Unit – VI (ix) Psychoanalytic approach and behaviour approach.

(x) School counseling, Vocational counseling, Family counseling and marriage counseling.

Text Book :

1. Gladding, T.S. (1992) Counseling : A Comprehensive Profession, Mac Milan, New Delhi.
2. Patterson, S.T. – Counseling, Prentice Hall Publication.

Reference Book :

Narayan Rao, Counselling and Guidance

PSYCHOLOGY (HONS.)

SECOND UNIVERSITY EXAMINATION

Paper – VIII **Life Span and Development Psychology** **75 Marks 3 hrs.**

Unit – I Nature and Characteristics of Human Development

(i) Introduction – The methods of studying developmental psychology : Cross sectional and longitudinal method.

(ii) Prenatal development : Stages, factors inflecting prenatal development and effects of birth factors.

Unit – II (iii) Infancy and growth : Sensory and perceptual capacities, motor development.

(iv) Early experiences : Its effects.

Unit – III (v) Plaget's theory of cognitive development.

(vi) Language Development : Stages and factors influencing language development.

Unit – IV (vii) Adolescence : Characteristics – Physical, Social and Personality changes

(viiI) The adolescent at risk, cognitive development.

Unit – V (ix) Old age : Characteristics, developmental task, changes in the mental abilities.

(x) Theories of aging.

Text Book :

1. Hurlock : Developmental Psychology and Life Span, T.M.H.
2. Pande, K.C. : Child Psychology, Kalyani Publication
3. Mohanty, G.B. : Child Psychology, Kalyani Publication

PSYCHOLOGY (HONS.)

SECOND UNIVERSITY EXAMINATION

Paper – VIII **Practical** **100 Marks**

1. Retention amount of materials
2. Text of neuroticism and extroversion
3. Habit interference
4. Vergil conditioning
5. Reminiscence
6. Reporting a case study

Books Recommended :

1. Experiments in Psychology : Mohsin, Orient Longman
2. Experiments in Psychology : Mohanty, G.B., Kalyani Publishers

3. U.N. Dash, A.S. Mishra, H.C. Nanda, G.K. and Jena, N. (2002), Practical Exercises in Psychology (Modern Publishers)

PSYCHOLOGY (HONS.)

SECOND UNIVERSITY EXAMINATION

Paper – IX **Social Psychology** **75 Marks 3 hrs.**

Unit – I

(i) Definition of social psychology, meaning and scope of social psychology, relation with other social sciences, research methods in social psychology.

(ii) Aims and objectives of social psychology.

Unit – II

(iii) Groups : Nature, formation and types, concept of group mind, difference between group and crowded characteristics of a leader, role of the leader in the group, gender difference in leadership.

Unit – III

(Iv) Attitudes – Nature, formation and changes

(a) Social learning, social comparison and gender factors

(b) The process of changing attitude – Traditional Approach, Cognitive Approach

(v) Prejudices and Stereotypes : Nature and their formation, methods of reducing prejudice.

Unit – IV

(vi) Social psychology in action : Application to health and environment :

(a) Maintaining a healthy state and coping with illness

(b) Environmental psychology

Unit – V

(viii) Propaganda and Education : Techniques of effective propaganda.

(ix) Social Crime : Juvenile Delinquency – Meaning, causes and remedial measures.

Text Book :

1. Baron, A.R. & Bayne, D. (1997) : Social Psychology, Prentice Hall of India Pvt. Ltd.

Reference Book :

1. Introduction to Social Psychology : Kupuswamy, Assia Rule.

2. Individual and Society : Kretch, Crutchfield and Balachey, McGraw Hill.

PSYCHOLOGY (HONS.)

FINAL UNIVERSITY EXAMINATION

Paper – IX **Industrial Psychology** **75 Marks 3 hrs.**

Unit – I (i) Concept of organizational and industrial psychology, challenges and opportunities for organisational behaviour on OB Model.

Unit – II (ii) Scientific management and Hawthorn studies

(iii) Job analysis, vocational selection and placement : Methods of selection and placement.

Unit – III (iv) Industrial incentives : Financial and non-financial

(v) Industrial morale : meaning, methods of improving morale

Unit – IV (vi) Industrial Fatigue and monotony : meaning, causes and remedial measures

(vii) Work environment : Ventilation, illumination and noise

Unit – V (viiI) Industrial accident : Causes and Prevention, accident proneness, test to measure, accident proneness.

Text Book :

1. Blum & Naylon – Industrial Psychology, C.B.S. Publishers, New Delhi.

Reference Book :

1. Robins, S.P., Organisational Behaviour, Prentice Hall of India, New Delhi.

PSYCHOLOGY (HONS.)

FINAL UNIVERSITY EXAMINATION

Paper – XI **Practical** **50 Marks 6 hrs.**

1. R.L. by the methods of limits
2. R.L. by the methods of constant stimuli
3. D.L. by the methods of limits
4. D.L. by the constant methods
5. Word Association Test (Complex areas of four critical words)

Books Prescribed :

1. Experimental Psychology : Mohsin
2. Experimental Psychology : Postman and Eggan

PSYCHOLOGY (PASS)

FIRST UNIVERSITY EXAMINATION

50 Marks 6 hrs.

Paper – I **Same as Hons. Paper – I**

Paper – II **Same as Hons. Paper – II**

Paper – III **Same as Hons. Paper – III**

PSYCHOLOGY (PASS)

SECOND UNIVERSITY EXAMINATION

50 Marks 6 hrs.

Paper – IV **Same as Hons. Paper – IV**

Paper – V **Same as Hons. Paper – V**

Paper – VI **Practical**

Books Prescribed :

1. Serial learning
2. Bilateral transfer of training
3. Knowledge of result in Muller-Lyer illusion
4. Retention and amount of materials
5. Ravens progress matrices

Books Prescribed :

1. Experimental Psychology : Mohsin
2. Experimental Psychology : Postman and Eggan

ELECTIVE

Paper – I **75 Marks 3 hrs.**

Unit – I	(i)	Concept of organizational industrial psychology
Unit – II	(ii)	Scientific management and Hawthorn studies
Unit – III	(iii)	Industrial incentives : Financial and non-financial
	(iv)	Industrial morale : meaning, methods of improving morale
Unit – IV	(vi	Work environment : Ventilation, illumination and noise
	(vi)	Fatigue – Causes and reduction of industrial fatigue
Unit – V	(vii)	Industrial accident : Causes and Prevention, accident proneness, test to measure, accident proneness.
	(viii)	Selection and training personnel

Text Book :

Blum & Naylon – Industrial Psychology, C.B.S. Publishers, New Delhi.

Reference Book :

Robins, S.P., Organisational Behaviour, Prentice Hall of India, New Delhi.

GEOGRAPHY (HONS.)

Course Structure : **No Change**

Detailed Course **FIRST UNIVERSITY EXAMINATION PAPER – I** **No Change**

Paper – II **(Theory)** **Economic Geography** **75 Marks**

Unit – I

(a) Definition, meaning and scope of Economic Geography

(b) Types of economics activities – (i) Primary (ii) Secondary (iii) Tertiary

(C) Classification of resources and their characteristics

(d) Impact of Resource Utilization on environment

Unit – II World Agriculture, Fishing and Forestry

(a) Factors influencing agriculture (i) Geographic (ii) Economic (iii) Social

(b) Location of agricultural activities. Von…Thuron theory of agricultural location

(c) World agricultural location

(d) Agricultural problems of developing countries (i) Forestry – Types and characteristics of tropical and temperature forests (ii) Forest conservation and management.

Unit – III Mineral and Power Resources

(a) Principal coal fields of the world and their distribution

(b) Principal oil fields of the world and their distribution

(c) Role of power resources industrial location

(d) Mode of occurrence distribution and production of following minerals

Unit – IV Manufacturing Industries

(a) Factors influential the location of industries

(b) Factors of industrial location – Weber, Iosch, Smith

(c) World distribution of major industries

(i) Iron and steel (ii) Cotton textile

Unit – V Resource Conservation

(a) Conservation of Natural Resources

(b) Conservation vis-à-vis development

(c) Remote sensing and GIS technique in resource conservation and monitoring

Books Prescribed : **No Change**

Paper – III Practical Statistical Methods in Geography

The students are required to maintain their practical records neatly and regularly for which 20% of the marks of this paper are allotted.

Unit – I (a) Special date classification of special data and their characteristics

(b) Measurement of Phenomena – (i) Nominal Scale, (ii) Ordinal Scale, (iii) Interval Scale, (iv) Ratio Scale

Unit – II (a) Frequency distribution graphic representation of histogram, frequency curve, cumulative frequency curve of give showing mean median and mode.

(b) Basic statistical concepts and manipulation measurement of central tendencies, mean median and mode of spatial data for ungrouped and group data.

(c) Variability of spatial data measurement of dispersion special data.

PSYCHOLOGY (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	General Psychology	75 Marks 3 hrs
Paper – II	Differential Equation	75 Marks 3 hrs
Paper – III	Practical	50 Marks 3 hrs

SECOND UNIVERSITY EXAMINATION

Paper – IV	Educational Psychology	75 Marks 3 hrs
Paper – V	Statistics	75 Marks 3 hrs
Paper – VI	Practical	50 Marks 3 hrs

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I General Psychology **75 Marks**

Unit – I 1. Subject matter of Psychology : Psychology as the science of behaviour and experience. Methods : Introspection, Observation and Experimental : The historical background and modern psychology.

2. Physiological basis of behaviour : The neurons, the nature of nerve impulse, the neural arc. Synapse, all or none lane. Structure and function of Central Nervous System (Spinal cord and brain). Methods of studying brain function. Structure

and function of the Autonomous Nervous System. Endocrine grands and their significance in behaviour.

Unit – II 3. The nature of the perceptual process : Gestalt factors in perception. Figure and Ground. Role of need and past experience in perception. Illusion and Hallucination.

4. The learning process : Learning and maturation. Learning and motivation. Conditioning of Pavlov and Skinner. Trial and Error learning of Thorndike. Insightful learning of Kohler. Nature of learning curve. Difference between and human learning.

Unit – III 5. Remembering and forgetting : Short Term Memory (STM) and Long Term Memory (LTM). Processes of memorization. Methods of measuring retention. Nature of forgetting. The Phenomenon of Retro Active Inhibition (RAI) and Pro Active Inhibition (PAI). Theories of forgetting.

6. Thinking : Bodily changes observed during emotion. Role of hypothalamus and cortex in emotion. Theories of emotion : James – Lange and Connon – Bard.

Unit – IV 7. Emotion : Bodily changes observed during emotion. Role of hypothalamus and cortex in emotion. Theories of emotion : James – Lange and Cannon – Bard.

8. Motivation : Maslow's hierarchy of needs. Measurement of drives. Types of motives – Biological, Social and Personal.

Unit – V 9. Personality : Meaning, traits and types of personality. Determinants of personality. Assessment of personality.

Books Prescribed :

1. G.B. Mohanty : A Text Book of General Psychology, Kalyani Publishers
2. J.P. Das : The Working Mind : Sage Publications
3. K.C. Panda and Namita Panda : General Psychology, Kalyani Publishers
4. Kimble, Garmegy and Zigler : Principles of General Psychology, Willey Eastern
5. Lerner, Kendall, Miller, Hultsch, Lensen : Psychology, Mc Millan.
6. Papalia et al. : Psychology
7. R.A. Baran : Psychology : The Essential Science.

Paper – II **Abnormal Psychology** **75 Marks**

Unit – I 1. Concept of abnormality psychology : Methods of studying abnormal behaviour : Case history method, Clinical method and Statistical method.

Unit – II 2. Freud's contributions for understanding human behaviour : Topographical aspects of mind, Dynamic aspects or personality. Psychosexual development, Defence mechanisms and Dreams.

Unit – III

3. Neuroses : Nature, etiology and treatment of Anxiety neurosis, Obsessive, Compulsive neurosis, Hysteria and Phobia, Distinction between neurosis and psychosis.
4. Psychoses : Nature, etiology and treatment of Schizpphrenia, Manic Depressive Psychoses.
5. Psychosomatic disorders : Nature and etiology of Peptic Ulcer and Hypertension.

Unit – IV

6. Mental Retardation : Levels of mental retardation. Types, etiology and treatment of mental retardation.
7. Therapeutic Procedures : Psychoanalytic therapy, Non-directice psychotherapy and Behaviour therapy.

Books Prescribed :

1. Carson R.C. and Butcher J.N. : Abnormal Psychology-Herper Collins
2. James C. Coleman : Abnormal Psychology and Modern Life : D.B. Taraporewala
3. Neal and Davison : Abnormal Psychology
4. Page J. D. : Abnormal Psychology, T.M.H.
5. Shanmugam : Abnormal Psychology, T.M.H.
6. Mohanty G.B. : Abnormal Psychology, Kalyani Publishers

Paper – III **Practical** **50 Marks**

1. Phenomenon of Retroactive Interference
2. Doing two things at a time
3. Set in memory
4. STM as a function of retention interval
5. Level of aspiration
6. Simple Reaction Time

Books Prescribed :

1. Mohanty, G.B. : Experiments in Psychology
2. Mohsin S.M. : Experiments in Psychology
3. Postman and Egan
4. Underwood
5. Woodworth and Schlosberg

SECOND UNIVERSITY EXAMINATION

Paper – IV **Educational Psychology** **75 Marks**

Unit – I

1. Aims and objectives of Educational Psychology – Theories of learning and teaching. Basic teaching model of Glaser.

Unit – II

2. Motivation : Increasing motivational level of the students : arousal, expectancy, incentive and disciplinary functions of the teacher.
3. Basic conditions of learning : Contiguity, practice and rein forcement. Nature of skill learning. Phases and Basic conditions of skill learning. Transfer of training. Theories of transfer of training. Transfer in specific school subjects.

Unit – III

4. Creativity : Nature, creativity and learning; creativity and intelligence; measurement of creativity. Instructions for enhancing in students.
5. Basic characteristics of educational tests : Reliability, Validity, Objectivity and Efficiency. Objective and Essay types of tests.

Unit – IV

6. Disadvantaged children : Causes and their educational under achievement; remedial measures.
7. Mental Health : Nature, steps to improve mental health of the students and teachers.

Books Prescribed :

1. De Cecco, J.P. : Psychology of Learning Instruction (Educational Psychology), Prentice Hall.
2. Chauhan : Advanced Educational Psychology, Vikash Pub.
3. S.P. Chaube : Educational Psychology, L.N. Agrawal, Agra.
4. Rath, Das * Das : Cognitive Abilities and School Achievements of Socially Disadvantaged Children, Allied Pub.
5. Ally and Bacon : Educational Psychology.

Paper – V **Statistics :** **75 Marks**

Unit – I

1. Concept of Statistics : Parametric and non-parametric statistics. Scores and Data. Frequency distribution, Polygon and Histogram.
2. Measures of central tendency : Mean, Median, Mode and their specific uses.

Unit – II

3. Measures of Variability : Quartile Deviation, Average Deviation, Standard Deviation and their specific uses.
4. Percentiles, Percentiles Rank and Ogive.

Unit – III

5. Correlation : Concept of correlation, Product moment and rank order.
6. Normal Probability Curve : General characteristics.

Unit – IV

7. Reliability of Test : Meaning of reliability, Methods of determining test reliability – Test-retest, Alternate or parallel form, Split-half.
8. Validity of Test : Meaning of Validity, Face Validity, Construct Validity, Criterion Validity, Relation of Validity to Reliability.

Books Prescribed :

1. Statistics in Psychology and Education : Garrett, V.F.S. Publications
2. Psychological Testing : Anastasi, Mac Millan pub.
3. Fundamentals of Statistics in Psychology and Education : Guilfford, McGraw Hill
4. Statistical Analysis in Psychology and Education : A.G. Eerguson & Y. Takome

Paper – VI **Practical** **50 Marks**

1. Knowledge of result in Muller Lyer Illusion
2. Learning and Saving Method by using paired associates
3. Serial learning
4. Raven's Progressive Matrices
5. Bilateral Transfer of Training
6. Retention and amount of materials

Books Prescribed :

1. Experiments in Psychology : Mohsin, Orient Longman
2. Experiments in Psychology : Mohanty G.B., Kalyani Pub.
3. Experimental Psychology : Woodworth and Scholsberg, Oxford & IBH Pub.
4. Experimental Psychology : Postman % Egan
5. Experimental Psychology : Underwood.

PSYCHOLOGY (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	General Psychology	75 Marks 3 hrs.
Paper – II	Abnormal Psychology	75 Marks 3 hrs.
Paper – III	Practical	50 Marks 4 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – IV	Educational Psychology	75 Marks 3 hrs.
Paper – V	Statistics	75 Marks 3 hrs.

Paper – VI	Guidance and Counselling	75 Marks 3 hrs
Paper – VII	Life Span and Developmental Psychology	75 Marks 3 hrs.
Paper - VIII	Practical	100 Marks 6 hrs

FINAL UNIVERSITY EXAMINATION

Paper - IX	Social Psychology	75 Marks 3 hrs.
Paper – X	Industrial Psychology	75 Marks 3 hrs.
Paper – XI	Practical	50 Marks 4 hrs.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **General Psychology** **75 Marks**

Same as Pass Paper – I (General Psychology)

Paper – II **Indian Political Ideas** **75 Marks**

Same as Pass Paper – II (Abnormal Psychology)

Paper – III **Practical** **75 Marks**

Same as Pass Paper – III (Practical)

SECOND UNIVERSITY EXAMINATION

Paper – IV **Educational Psychology** **75Marks**

Same as Pass Paper – IV (Educational Psychology)

Paper – V **Statistics** **75 Marks**

Same as Pass Paper – V (Statistics)

Paper – VI **Guidance and Counselling** **75 Marks**

Unit – I Nature, Need and Function

Unit – II Areas of Guidance and Counselling

Unit- III Techniques of Guidance and Counselling

Unit – IV Characteristics of Effective Counselling

Unit – V Some Specific Guidance and Counselling

(a) Vocational guidance

(b) Family counseling

Books Recommended :

1. Counselling Process, Lows and Patterson and Elizabeth Welfe
2. Guidance and Counselling in Colleges and Universities

Paper – VII **Life Span and Developmental Psychology** **75 Marks**

Unit – I
1. Introduction : The methods of studying developmental psychology.
2. Prenatal Development : Stages, Prenatal influences and effects of birth factors.

Unit – II
3. Infancy and growth : Sensory and perceptual capacities. Motor development.
4. Early experiences : It's effects.

Unit – III
5. Piaget's theory of cognitive development.
6. Language Development : Stages and factors influencing language development.

Unit – IV
7. Adolescence : Characteristics – Physical, Social and Personality changes.
8. Old age : Characteristics, development task, change in the mental abilities.

Books Prescribed :

1. Hurlock : Developmental Psychology and Life Span. TMH.
2. Hurlock : Development Psychology, TMH.
3. Panda K.C. : (Child Psychology), Elements of Child Development, Kalyani Pub.
4. Mohanty G.B. : Child Psychology, Kalyani Publishers
5. C.K. Singleman and D.R. schaffer : Life Span Human Developinig
6. E. Mam's and D.Farke : Child Psychology : A Contemporary Viewpoint and Hethe Mington.

Paper – VIII **Practical** **75 Marks**

1. Knowledge and result in Muller Lyer illusion
2. Learning and saving method by using paired associates
3. Serial learning
4. Raven's progressive matrices
5. Bilateral transfer of training
6. Retention and amount of materials
7. Test of neuroticism and extraversion
8. Habit inference
9. Verbal conditioning
10. Reminiscence
11. Reporting a case study

Books Recommended :

1. Experiments in Psychology : Mohsin, Orient Longman
2. Experiments in Psychology : Mohanty G.B. Kalyani Pub.
3. Experimental Psychology : Woodworth and Scholsberg, Oxford and IBH Pub.

4. Experimental Psychology : Postman and Egan
5. Experimental Psychology : Underwood
6. Anastasi : Psychological Testing
7. Mohsin S.M. : Experiments in Psychology
8. Postman and Egan : Experimental Psychology
9. Woodworth and Schlosberg : Experimental in Psychology

SECOND UNIVERSITY EXAMINATION

Paper – IX **Social Psychology** **75 Marks**

Unit – I 1. Aims and Objectives of Social Psychology.

Unit – II 2. Groups : Nature, formation and types, Concept of-group mind. Difference between group and crowd, Characteristics of a leader. Role of the leader in the leader in the group. Gender difference in leadership.

Unit – III 3. Attitudes : Nature, formation and change (a) Social learning, Social comparison and genetic factors, (b) How attitudes change – The process of changing attitude (i) Traditional approach, (ii) Cognitive approach.

4. Prejudice and stereotypes : Nature and their formation Methods of reducing prejudice.

Unit – IV 5. Social Psychology in action : Applications to health and environment (a) Maintaining a healthy state and cooping with illness. Dealing with health related informations social. Psychology as the applied side.

6. Environmental Psychology : How environmental factors affect human behaviour.

7. Social Control : Nature and types.

Books Recommended :

1. Introduction to Social Psychology : Kupuswamy, Assia Pub;.
2. Individual and Society : Kretch, Crutchfield and Balachey, McGraw Hill.
3. Social Psychology : Akolkar, Assia Pub.
4. Social Psychology : Robert A Baron and Donn Byrne.
5. Applied Social Psychology : G. Mishra and A. Mohanty

Paper – X **Industrial Psychology** **75 Marks**

Unit – I 1. Concept of Organisational and Industrial Psychology

Unit – II 2. Scientific Management and Hawthorn Studies

3. Job analysis, vocational selection and placement : Methods of selection. Use of Psychological Tests for Placement

Unit – III 4. Industrial Incentives : Financial and non-financial

5. Industrial morale : Meaning, methods of improving morale.

Unit – IV 6. Industrial Fatigue and Monitory : Meaning, Causes and Remedial Measures.

7. Work Environment : Ventilation, Illumination and Noise

Unit – IV 8. Industrial Accident : Causes and Prevention Accident Proneness. Tests to measure accident proneness.

Books Recommended :

1. Psychology in Industry : Maier, Oxford IBH.
2. Industrial Psychology : Blum and Nylor, Harper and Row Pub.
3. Industrial Psychology : Vitles
4. Text Book of Industrial and Organisational Psychology : G.B. Mohanty, Kalyani Pub.
5. Organisational Behaviour : S.P. Robbins.

Paper – XI **Practical** **50 Marks**

1. R.L. by the methods of limits
2. R.L. by the constant methods
3. D.L. by the methods of limits
4. D.L. by the constant methods.
5. Word Association Test (complex areas of four critical words).

Books Recommended :

1. Experiments in Psychology : Mohsin, Orient Longman
2. Experiments in Psychology : Underwood, Times of India
3. Experimental Psychology : Woodworth and Scholsberg, Oxford and IBH Pub.
4. Experiments in Psychology : Postman and Egan, Kalyani Pub.
5. Experiments in Psychology : G.B. Mohanty Kalyani Pub.

PUBLIC ADMINISTRATION (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Principles of Public Administration	100 Marks 3 hrs.
Paper – II	Indian Political Ideas	100 Marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – III	State and District Administration in India	100 Marks 3 hrs.
Paper – IV	Administrative Systems of Selected Countries	100 Marks 3 hrs.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I Principles of Public Administration 100 Marks

1. Definition of Public Administration : Its Nature, Scope, Methods of Study, Difference between Public Administration and Private Administration. Its Relationship with other Social Sciences – Political Science, Economics and Sociology.
2. POSDCORB view of Public Administration, Subject matter view of Public Administration, Managerial view of Public Administration, Integral view of Public Administration.
3. Organisation : Its meaning, formal and informal organization. Hierarchy, Span of control Delegation of authority, Unit of command, Centralisation, Decentralisation.
4. Units of Organisation : Units according to nature of relationship with chief executive, Units according to size or comprehensiveness.
5. Bases of Organisation, Line and Staff.
6. Personnel Administration : Civil Service – Its meaning and nature, recruitment, training and promotion.
7. Delegated Legislation and Administrative adjudication, Neo-Despotism.
8. Public Administration after Globalisation.

Books Recommended :

1. Theory and Practice of Public Administration : M.P. Sharma
2. Public Administration : A.R. Tyagi
3. Pubic Administration : A. Avasthi and S.R. Maheswari
4. Introduction to the Study of Public Administration : L.D. White
5. Essentials of Public Administration : E.N. Gladden

Paper – II Indian Government and Administration 100 Marks

1. Nature of Indian Administration as reflected in the Preamble the principles of the Government as defined in Directive Principles of State Policy, Federal System of Administration, Union-State Relationship, Parliamentary control over administration.
2. The Union Government : President, Cabinet, Prime Minister, Relationship between Political and Parliament Executive.
3. Integrated Judicial Administration : Supreme Court, High Court, the Subordinate Courts.
4. Staff Agencies in the Central Government : Planning Commission, Finance Commission, Union Public Service Commission, Cabinet Secretarial National Development Council.

Books Recommended :

1. Indian Administration : S.R. Maheswari
2. Introduction to Constitution of India : D.L. Basu
3. A.D. Gowwalisw, Appleby and A.R.C. Report
4. Central Administration in India : A. Avasthi
5. Indian Administration : Avasthi and Avasthi
6. Indian Journal of Public Administration

SECOND UNIVERSITY EXAMINATION

Paper – III State and District Administration in India 100 Marks

1. Sate Administration : The Governor, Cabinet, Chief Minister, State Legislature, legislative Control over Administration.
2. The Secretariate organization in the State Administration, the Chief Secretary, his functions and role. The Board of Revenue.
3. The Departmental Organisation, the field organization of the various Departments, the Division, the Revenue Divisional Commissioner.
4. The District Administration : The district as the territorial unit of administration, the Collector, his changing role, People's Participation in the district administration.
5. Panchayati Raj in Orissa : Organisation, functions and role.
6. Development Administration : Meaning, importance and components.

Books Recommended :

1. State Govt. in India : S.R. Maheswari
2. Indian Administration : S.R. Maheswari
3. State Administration : Indian Institute of Pubilc Administration, Special Number

4. District Administration : I.P.P.A., Silver Jubilee Series : R.B. Jain, Vol. Edited T.N. Chaturbedi Series (ed).
5. State Government in India : S.R. Maheswari

Paper – IV Administration Systems of Selected Countries 100 Marks

1. United Kingdom Civil Service, Rule of Law, Cabinet Govt.
2. U.S.A. : The U.S. Federalism, separation of powers and checks and balances, President, the Congress with emphasis upon Senate and its administrative function, Judicial Administration.
3. A Switzerland : Federalism of Switzerland, Supremacy of the Federal Assembly, Federal Council, People's participation in the administration.
4. Urban : Governments U.K., U.S.A. and France.

Books Recommended :

1. Government in Modern Societies : G.C. Field
2. British Government Observed : B. Chapman
3. Democracy in the United States : Promises and Performance : Robert Dahl
4. Constitutional Government and Democracy : C.J. Frederich
5. Government of Switzerland : Rapard
6. The Civil Service in Great Britain : S.R. Maheswari

FINAL UNIVERSITY EXAMINATION

Paper – VII Genres, Terms and Concepts 100 Marks

(a) Epic, tragedy, comedy, lyric

(b) Simile, metaphor, image, symbol

(c) Irony, paradox, satire, allogory.

Division of Marks :

There shall be 3 essay type questions of 20 marks each on item (a), and five short answer (100 words) type questions of 8 marks each covering items (b) and (c)

Books Recommended :

R.A. Scott – James : The Making of Literature

M.H. Abrams : A Glossary of Literature Terms Critical Idiom Series on Item (a).

Paper – VIII Translation from European Literature 100 Marks

The following texts shall be studied :

Chekov : The Cherry Orchard

Camus : The Outsider

Rilke : Duino Elegies

Division of Marks :

There shall be 3 essay type questions of 24 marks each, one from each text. And eight short answer (75 words) type questions, two from each text, our of which four shall be answered.

SANSKRIT (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I & II

SECOND UNIVERSITY EXAMINATION

Paper – III & IV

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **100 Marks**

1. Kiratarjuniyam Canto I of Bharavi 40 Marks
2. Srimad Bhagavad Gita-II 40 Marks
3. Chhandas from Chhandamanjari 20 Marks

   Arya, Anustubh from Srutabodha, Indravajra, Upendravajra, Upajati, Bhujangaprayata, Drutavilambita, Vamsastha, Praharsini, Vasantatilaka, Malini, Mandakranta, Sikharini, Sardulavikriditam, Sragdhara.

Paper – II **100 Marks**

1. Dasakumarcharitam of Dandin Ucchvasa II 30 Marks
2. Meghadutam (Purva Megha) 40 Marks
3. History of Vedic Literature : 30 Marks

   From Samhitas to Vedangas

Books Prescribed :

1. Vaidik Sahitya aur Sanskrit : Baladev Upadhyaya
2. Vaidika Sahitya ebam Samskruti – Dr. A. Ch. Dash

SECOND UNIVERSITY EXAMINATION

Paper – III **100 Marks**

1. Abhijnana Sakuntalam of Kalidas 60 Marks

2.	Dramaturgya – Sahityadarpana (Chapter – VI) Nandi, Prastavana, Pancasandhi, Panca Asthaprakriti, Panca Arthopaksepaka, Pancakarya	20 Marks
3.	Sahity Darpana (Chapter – X) The following alamkaras are to be studied without sub-divisions Anuprasa, Yamaka, Uparrya, Rupakam, Utpreksha, Vibhabana, Visesokti, Vyatireka, Arthantaranyasa, Apanhuti.	20 Marks

Paper – IV **100 Marks**

1.	History of Classical Literature Epics, Mahakavyas, Lyrics, Dramas, Fables, Fairy tales and Champus	60 Marks
2.	Kavya laksana dna Prayojana from Sahityadarpana-I	15 Marks
3.	Essay in Sanskrit	10 Marks
4.	Translation in to Sanskrit	15 Marks

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SANSKRIT (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I & II

SECOND UNIVERSITY EXAMINATION

Paper – III, IV, V & VI

FINAL UNIVERSITY EXAMINATION

Paper – VII & VIII

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I & II Same as Pass Paper – I & II

SECOND UNIVERSITY EXAMINATION

Paper – III & IV Same as Pass Paper – III & IV

Paper – V **100 Marks**

1.	Sukanasopadesah from Kadambari of Banabhatta	30 Marks
2.	Karakaprakaranam from Siddhanta Kaumudi	70 Marks

Paper – VI **100 Marks**

1.	Manusmriti-II Sloka 1 -108	35 Marks

2.	General Ideas of Alankara, Riti, Guna, Vakrokti, Davani and Rasa School, Abhidha, Laksana and Vyanjana Vrttis	35 Marks
3.	Inscription : (i) Girnar Rock Inscription of Rudradaman of Sake Yr, 72 (ii) Allahoad stone Pillar Inscription of Samudragupta (iii) Mandasor Stone Pillar Inscription of Yasodhasman (iv) Bankhera Copper Plate of Harsavardhan	30 Marks

Paper – VII **100 Marks**

1.	Rg Vdea Agni (101), Savitr (1.35), Usas (1.48), Vishnu (1.154) Indra (11.12) Rudra (11.33), Varuna (VII.89), Saramapani Samvada (X.108), Samjnana (X.191), Sukla Yayurveda-Purusasukta (XXX 11.60). These Suktas are to be studied with Sayana's Commentry.	60 Marks
2.	Upanisad Kathopanisad - Chapter-I (Valli I to III)	20 Marks
3.	Vedic Grammar : Following sixteen sutras are to be studied :	20 Marks

Paper – VIII **100 Marks**

1.	Sanjna, Sandhi Svara, Vyansana and Visarga	50 Marks
2.	Spoken Sanskrit Conducted by External and Internal Examiner	20 Marks
3.	Sisupala Vadhan-I	30 Marks

SOCIOLOGY (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Introduction to Sociology	100 Marks 3 hrs.
Paper – II	Society in India	100 Marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – III	Social Problems	100 Marks 3 hrs.
Paper – IV	Kinship, Marriage and Family	100 Marks 3 hrs.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Introduction to Sociology** **100 Marks**

Unit – I **Meaning and Nature of Sociology :**

a) Emergence of Sociology

b) Meaning, Nature and Scope of Sociology

c) Sociology and its relationships with other Social Science – Political Science, Economics, History

d) Sociology and Social Psychology, Sociology and Social Anthropology

Unit – II **Basic Contents :**

a) Society and Community

b) Institution and Association

c) Social Group – Primary, Secondary, Reference Groups

d) Status and Role

Unit – III **Individual and Society :**

a) Relation between individual and society

b) Culture and personality

c) Socialization – Types

d) Theories of Socialization – Frend and Mead

Unit – IV **Social Stratification and Mobility :**

a) Meaning and Nature of Social Stratification

b) Forms of Social Stratification

c) Theories (Functionalist and Marxist)

d) Social Mobility : Meaning and forms.

Unit – V **Social Stratification and Mobility :**

a) Definition and Nature

b) Technology and Social Change

c) Education and Social Change

d) Economic Development and Social Change

Books Recommended :

1. Bottomore, T.B. (1972) : Sociology : A Guide to Problems and Literature, George & Urwin, Bombay.

2. Haralambos, M. (1998) : Sociology : Thomos & Perspectives, Oxford University Press, New Delhi.
3. Inkeles, Alex (1987) : What is Sociology, Prentice Hall of India, New Delhi.
4. Jayaram, N. (1988) : Introductory Sociology, Macmillan India, Madras.
5. Johnson, H.M. (1995) : Sociology : Systematic Introduction, Allied Publishers, New Delhi.
6. Schaefer, R.T. & Robert, P.L. (1999) : Sociology, Tata McGraw Hill, New Delhi.

Paper – II **Society in India** **100 Marks**

Unit – I **Unity and Diversity :**

a) Linguistic and religious composition
b) Race and caste composition
c) Factors of unity
d) Hinderance to national integration

Unit – II **Indian Social Organisation :**

a) Varnashrama-Dharma
b) Purusartha
c) Concept of karma and Rine
d) Changing dimensions

Unit – III **Individual and Society :**

a) Theories of origin
b) Characteristics
c) Jajmani System
d) Change and continuity in the caste system

Unit – IV **Social Stratification and Mobility :**

a) Westernization
b) Sanskritization
c) Industrialization
d) Modernization

Unit – V **Social Stratification and Mobility :**

a) Bhakti Movement
b) Sufi Movement
c) Arya Samaj

d) Brahmo Samaj

Books Recommended :

1. Bose, N.K. (1967) : Culture and Society in India, Asia Publishing House, Bombay.
2. (1975) : Structure of Hindu Society, New Delhi.
3. Dube, S.C. (1990) : Society in India, National Book Trust, New Delhi.
4. (1995) : India Village, Routledge, London.
5. (1985) : India's Changing Villages, Routledge and Kegan Paul, London.
6. Karve, Iravati (1961) : Hindu-Society : An Interpretation, Deccan College, Pune.
7. Srinivas, M.N. (1963) : Social Change in Modern India Berkley, University of California Press, California.
8. Mandelfamm, D.G. (1970) : Society in India, Popular Prakashan, Bombay.
9. Singh, Yogendra (1973) : Modernisation of Indian Tradition, Thomson Press, Delhi.

SECOND UNIVERSITY EXAMINATION

Paper – III **Social Problems** **100 Marks**

Unit – I **Social Problem and Social Disorganisaiton**

a) Concept and inter relationships

b) Causes

c) Consequences

d) Remedial Measures

Unit – II **Unemployment**

a) Concept and types

b) Causes

c) Consequences

d) Remedial Measures

Unit – III **Corruption :**

a) Concept

b) Causes

c) Effects of Society

d) Governmental efforts to solve the problems

Unit – IV **Drug Addiction :**

a) Drug – addition : Causes

b) Alcoholism : Causes

c) Effects on Society

d) Remedial Measures

Unit – V **Juvenilc Delinquency :**

a) Delinquency – the concept

b) Crime and delinquency : differences

c) Causes and consequences

d) Remedial measures.

Books Recommended :

a) Ahuja Ram : Social Problems in India, Rawat, New Delhi-2002.

b) Chandra E. : Social Problems in India, Book Hire Pub., New Delhi-2004.

c) Madan, G.R. : Social Problems, Popular, Bombay-1986.

Paper – IV **Kinship, Marriage and Family** **100 Marks**

Unit – I **Kinship :**

a) Meaning and Definition

b) Types

c) Terminologies

d) Kinship Usages

Unit – II **Hindu Marriage System :**

a) Meaning and Aims

b) Eight forms of Hindu Marriage

c) Rules of Mate Selection

d) Changing aspects

Unit – III **Family :**

a) Meaning, definition and characteristics

b) Types

c) Functions

d) Changing aspects

Unit – IV **Marriage and Minorities :**

a) Tribal Marriage

b) Christian Marriage

c) Muslim Marriage

d) Divorce among Muslim

Unit – V **Contemporary Issues :**

a) Family disorganization

b) Divorce

c) Dowry

d) Domestic violence

Books Recommended :

1. Dube, Leela (1997) : Women and Kinship : Comparative Perspectives on Gender in South and South East Asia, Sage Publication, New Delhi.
2. Shah, A.M. (1998) : The Family in India : Critical Essays, Orient Longman, New Delhi.
3. Fox, Robin (1967) : Kinship and Marriage : An Anthropological Perspective, Penguin.
4. Kapadia, K.M. : Marriage and Family in India.
5. Madan, T.N. (1965) : Family and Kinship : A Study of the Pandits of Rural Kashmir, Asia Publishing House, Bombay.
6. Oberoi, Patrica (1993) : Family, Kinship and Marriage in India, Oxford University Press, New Delhi.

SOCIOLOGY (HONS.)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Introduction to Sociology	100 Marks 3 hrs.
Paper – II	Society in India	100 Marks 3 hrs.

SECOND UNIVERSITY EXAMINATION

Paper – III	Social Problems	100 Marks 3 hrs.
Paper – IV	Kinship, Marriage and Family	100 Marks 3 hrs.
Paper – V	Indian Society : Issues and Problems	100 Marks 3 hrs.
Paper – VI	Tribal and Rural Societies in India	100 Marks 3 hrs.

FINAL UNIVERSITY EXAMINATION

Paper – VII	Major Sociological Thinkers	100 Marks 3 hrs.
Paper – VIII	Dissertation	100 Marks 3 hrs.

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Introduction to Sociology** **100 Marks**

Same as Pass Paper-I (Introduction to Sociology)

Paper – II **Society in India** **100 Marks**

Same as Pass Paper-II (Society in India)

SECOND UNIVERSITY EXAMINATION

Paper – III **Social Problems** **100 Marks**

Same as Pass Paper-III (Social Problems)

Paper – IV **Kinship, Marriage and Family** **100 Marks**

Same as Pass Paper-IV (Kinship, Marriage and Family)

Paper – V **Indian Society : Issues and Problems** **100 Marks**

Unit – I **Poverty :**

a) The concept
b) Causes
c) Consequences
d) Strategies to tackle poverty

Unit – II **Communalism :**

a) The concept
b) Genesis
c) Present situation
d) Strategies to tackle Communalism

Unit – III **Regionalism :**

a) The concept
b) Background
c) Regional disparities
d) Strategies to tackle regionalism

Unit – IV **Casteism :**

a) The concept
b) Causes
c) Present trend
d) Strategies to tackle casteism

Unit – V **Problems of Aged :**

a) The concept
b) Biological aspect
c) Social aspect
d) Remedial measures

Books Recommended :

1. Kothari, Rajani (Ed) : Caste in Indian Politics.
2. Satya Murty, T.V. : Region, Religion, Caste, Gender and Culture in Contemporary India, OUP, New Delhi.
3. S.R. Mehta (Ed) : Population and Sustainable Development (Rawat, Jaipur).
4. Beteille, Andre : Social Inequality (OUP, New Delhi).
5. Berreman, G.D. : Caste and Other Inequaliteis (Folklore Institute, Meerut).
6. Thapar Romesh (Ed) : Tribal, Caste and Religion (Macmillan, India).

Paper – VI **Tribal and Rural Society in India** **100 Marks**

Unit – I **Tribe – Basic Concepts**

a) Definition of Tribe
b) Tribe and Caste
c) Characteristic features of tribal society
d) Racial composition and geographical distribution of Indian tribes

Unit – II **Communalism :**

a) Kinship System
b) Marriage
c) Religion
d) Tribal Economy

Unit – III **Rural Society – Basic concepts :**

a) Definition of Rural Society
b) Types of Rural Society
c) Characteristics of Rural Society
d) Rural Society Vs. Urban Society

Unit – IV **Rural Social Institutions :**

a) Role of Caste in Rural Society
b) Jajmani System
c) Rural Economic Structure
d) Rural Power Structure

Unit – V **Contemporary Issues :**

a) Rural Social Problems
b) Rural Development – Concept and Strategies

c) Tribal Problems – Poverty, Alienation, Exploitation etc.

d) Tribal Development – Issues and Strategies

Books Recommended :

1. Romesh Thaper (Ed). : Tribe, Caste and Religion in India (Macmillan India Ltd.).
2. Bose, N.K. : Culture and Society in India (Asia Pub. House).
3. Vidyarthi, L.P. & Rai : Tribal Culture of India (Concept Pub., New Delhi).
4. Singh, K.S. : Tribal Society (Manohar, New Delhi).
5. Singh, K.S. : Tribal Situation in India (Institute of Advance Study).
6. Desai, A.R. : Rural Sociology in India (Popular, Bombay).
7. Desai, A.R. : Rural India in Transition (Popular, Bombay).

FINAL UNIVERSITY EXAMINATION

Paper – VII **Major Sociological Thinkers** **100 Marks**

Unit – I **Auguste Comte**

a) Positivism

b) Law of Three Stages

c) Hierarchy of Science

d) Social Statics and Dynamics

Unit – II **Communalism :**

a) Rules of Sociological Method

b) Division of Labour in Society

c) Suicide

d) Religion

Unit – III **Spencer:**

a) Evolutionism

b) Organismic Analogy

c) Social Darwinism

d) Social Change

Unit – IV **Karl Marx :**

a) Historical Materialism

b) Dialectical Materialism

c) Capitalism

d) Class Struggle

Unit – V **Max Weber :**

a) Ideal Types

b) Social Action

c) Religion

d) bureaucracy

Essential Readings :

1. Aron, Raymond : Main Currents in Sociological Thought (Penguin).
2. Barnes, H.F. : Introduction to the History of Sociology (The University of Chicago Press).
3. Coser, Lewid A. : Masters of Sociological Thought (Har Court Bea Jovanovich, N.Y.).
4. Giddens, Anthony : Capitalism and Modern Social Theory (Cambridge Univ. Press).
5. Fletcher, Ronald : The Making of Sociology (Rawat).
6. Zeitlin, Irving : Rethinking Sociology (Rawat).

Paper – VIII Field Work and Dissertation 100 Marks

The students will be assigned a topic by the H.O.D. or his nominee to conduct a field work and prepare a Dissertation. The Dissertation shall be prepared under the guidance of the concerned supervising teacher. The Dissertation work shall be examined by an internal and an external examiners and of 100 marks.

STATISTICS (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Introduction to Sociology	75 Marks
	a) Probability Theory	45 Marks
	b) Matrices	15 Marks
	c) Numerical Analysis	15 Marks
Paper – II	Statistical Methods	75 Marks
Paper – III	Practical –I	50 Marks
	a) Practical	40 Marks
	b) Record and viva-voce	10 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Applied Statistics	75 Marks
	a) Design and Analysis of Experiments	30 Marks
	b) Sampling Techniques	30 Marks
	c) Vital Statistics	15 Marks

Paper – V	Statistical Inference, Time Series and Statistical Quality Control	75 Marks
	a) Statistical Inference	30 Marks
	b) Time Series	30 Marks
	c) Statistical Quality Control	15 Marks
Paper – VI	Practical –I	50 Marks
	a) Practical	40 Marks
	b) Record and viva-voce	10 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Probability, Matrices and Numerical Methods** **100 Marks**

(a) Probability Theory **45 Marks**

Unit – I Definition of probability, classical and axiomatic approach, laws and addition and multiplication of probability, conditional probability, independent events, pair wise independent.

Unit – II Random variable, Density function, mass function**,** distribution function, joint distribution of two variables, mathematical expectation, addition and multiplication theorem of expectation, moment generating function.

Unit – III Standard univariate distributions and properties.

Discrete : Uniform, Binominal and Poisson distribution and their properties.

Continuous : Normal distribution and its properties. Gamma and Beta distributions.

Books Recommended :

1. Fundamental of Mathematical Statistics : S.C. Gupta and V.K. Kapoor.

Books Reference :

1. Elementary Probability Theory with Stochastic Processes; Springer International Student Edn.; K.L. Chung.
2. Fundamental of Statistics – Vol. I (6^{th} Revised Edition, World Press), AM, Goon, M.K. Gupta and B. Dasgupta.

(b) Matrices **45 Marks**

Determinants : Its evaluation, matrices-operation, transpose and inverse, rank of matrices, solution of linear equations.

(c) Numerical Methods **15 Marks**

Unit – IV Finite difference : Operators E and their properties, factorial notation, separation of symbols, Newton's forward and backward formula. Divided differences, Lagrangen's formula.

Books Recommended :

1. Finite Differences and Numerical Analysis : by H.C. Saxena
2. Numerical Analysis : by B.S. Goel and S.K. Mittal
3. Theory of Matrices : B.S. Vatssa.

Paper – II Statistical Methods **75 Marks**

Unit – I Idea of population and sample, measures of central tendency, mean, median, mode, partition values, measures of dispersion, moments, skeweness and kurtosis.

Unit – II Bivariate distribution, scatter diagram, regression lines, regression coefficients, fitting of curves by least square principle, (Polynomial, Exponential and Logarithmic).

Unit – III Correlation coefficient, rank correlation, partial and multiple correlation, regression plane (three variables only). Theory of attributes : consistence of data, interdependence of at tributes, measures of association.

Unit – IV Basic concept of sampling distribution, large sample theory and small sample theory; point estimation of parameters, concepts of bias and standard errors of an estimate, standard errors of sample mean and sample proportion.

Unit – V Test of significance : Null and Alternative hypothesis level of significance, Type-I error and Type-II Error, Distributions of Chi-square, t and F statistics, (without derivations) test of mean and variance of normal population, test of equality of two means and test of equality of two variances of two normal populations, other uses of chi-square, t and F statistics, large sample tests.

Books Recommended :

1. Fundamental of Mathematical Statistics : V.K. Kapoor and S.C. Gupta.
2. Fundamental of Statistics, Vol. I (6^{th} edition, World Press, Calcutta) A.M. Goon, M.K. Gupta and B. Dasgupta.
3. A Course on Numerical Analysis : B.P. Acharya and R.N. Das.
4. Fundamental of Statistical Methods : C.B. Gupta.

Paper – III Practical **50 Marks**

(a)	Practical	40 Marks
(b)	Viva-voce & Records	10 Mark

SECTION - A

1. Construction of bivariate frequency distribution, simple correlation coefficient and regression coefficients and their interpretation.
2. Calculation of multiple and partial correlation and regression coefficients.
3. Fitting of polynomials, exponential and logarithmic curves.
4. Tests of significance based on normal distribution : Tests of significance based on (a) One Sample (b) Two sample (c) Paired sample.
5. Tests of significance based on chi-square, contingency table. Tests of significance for the equality of two variances.

SECTION - B

1. Fitting of Binomial, Poisson and Normal distributions.
2. Practical based on Determinants of Matrices.
3. Interpolation with equal and unequal intervals. Estimates of one or two missing values in equal intervals.

SECOND UNIVERSITY EXAMINATION

Paper – IV Applied Statistics 75 Marks

(a) Design and Analysis of Experiments 30 Marks

Unit – I Analysis of variance : One way and two way classification for one observation per cell and their analysis.

Unit – II Basic principle of design of experiments, Randomisation, replication and local control, C.R.D., R.B.D. L.S.D., Missing plot techniques in RBD and LSD, efficiency of the designs.

(b) Sampling Techniques 30 Marks

Unit – III Concepts of population and samples, need for sampling, complete survey and sample survey. Basic concepts of sampling, organizational aspect of survey sampling, sample selection and sample size, basic sampling methods, simple random sampling (SRS) with and without replacement.

Unit – IV Stratified random sampling, proportional and optimal allocation, systematic sampling.

(c) Vital Statistics 15 Marks

Unit – IV Vital Statistics : Vital rates and ratios, crude death rate, infant mortality rate, specific death rate, stadandardized death rates, crude and specific brith rates, general fertility

rate, total fertility rate, gross and net reproduction rates, elements of life table and uses.

Books Recommended :

1. Applied Statistics : S.C. Gupta and V.K. Kapoor.
2. Design of Experiments : M.N. Das and N.C. Giri.
3. Applied Statistics : Primal Mukhopadhyaya.
4. Sample Survey Methods and its Applications : P.V. Sukahatme and B.V. Sukahatme.
5. Basic Demographic Techniques and Applications : K. Srinivasan.

Paper – V Statistical Inference, Time Series Analysis and Quality Control 75 Marks

(a) Statistical Inference 30 Marks

Unit – I Estimation : Biased and unbiasedness, consistency of estimation, minimum variance, unbiased estimation, estimation by the method of moments, maximum likelihood estimation (procedures of finding out the estimators only).

Unit – II Test of Hypothesis : Simple and composite hypothesis, critical region, level of significance, power of the test, unbiased test, Neyman Pearson Lemma (for simple hypothesis against simple alternative), test of parameters in case of normal districution under Simple Hypothesis.

(b) Time Series Analysis 30 Marks

Unit – III Meaning and uses of time series, components of time series, measurement of trend-graphic method, method of semi-average, method of moving averages, method of least squares linear and parabolic trend merits and demerits of different methods of trend elimination.

Unit – IV Method of iterated averages. Approximation moving averages, measurement of seasonal indices – Methods of simple averages, ratio to trend and link relatioves, metho of trend elimination by fitting mathematical curves.

(c) Statistical Quality Control 15 Marks

Unit – V Basic concept of quality control, different types of control charts, control charts of variables, mean and range, mean and standard deviation, control chart for attributes : P-Chart, C-Chart. Producer and consumer risks, description of single and double sampling plants, OC and AOQ curves.

Books Recommended :

1. Applied Statistics : by V.K. Kapoor and S.C. Gupta.
2. Fundamentals of Mathematical Statistics : by S.C. Gupta and V.K. Kapoor.

Books for Reference :

1. Applied Statistics : by P. Mukhopadhyaya, Books and Allied (P) Ltd. Cal-9.

Paper – VI **Practical-III** **50 Marks**

a) Practical 40 Marks

b) Record and viva-voce 10 Marks

SECTION - A

1. Analysis of CRD, RBD and Latin Square Design.
2. Analysis of RBD and LSD with missing plots.
3. Drawing of simple random sample. Estimation of population total. Mean and proportion with standard error.
4. Allocation of sample in stratified sampling with proportional and optimum methods. Estimation of population means and total with standard error. Comparison of efficiency with simple random sampling.

SECTION - B

1. Calculation of different vital rates.
2. Construction of life tables.
3. Minimum variance unbiased estimator
4. Power curve for test of mean of normal distribution.
5. Control chart for number of defectives and for fractions defectives.
6. (x, R) and x, 0) charts.
7. O.C. curve and AOQ curve for single sampling Plan.
   O.C. curve and AOQ curve for double sampling plan.

STATISTICS (HONS.)

There shall be eight theoretical papers each of 75 marks and each of three hours duration and three practical papers out of which are of 50 marks 4 hours duration and an other is of 100 marks ad each of 6 hours duration.

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I Real Analysis, Numerical Analysis and Matrices 75 Marks

a) Real Analysis 30 Marks

b) Numerical Analysis 30 Marks

c) Matrices 15 Marks

Paper – II	Statistical Methods and Computer Programming	75 Marks
	a) Statistical Methods	30 Marks
Paper – III	Practical –I	50 Marks
	a) Practical	40 Marks
	b) Record and viva-voce	10 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Probability Theory	75 Marks
Paper – V	Probability and Sampling Distributions	75 Marks
Paper – VI	Practical –I	75 Marks
Paper – VI	Applied Statistics – I	75 Marks
	a) Design and Analysis of Experiments	45 Marks
	b) Vital Statistics	15 Marks
	c) Indian Official Statistics	15 Marks
Paper – VII	Applied Statistics – II	75 Marks
	a) Sampling Theory	45 Marks
	b) Time Series	10 Marks
Paper – VIII	Practical – II	100 Marks
	a) Practical	80 Marks
	b) Record and viva-voce	20 Marks

FINAL UNIVERSITY EXAMINATION

Paper – IX	**Statistical Interference**	**75 Marks**
(a)	Theory of Estimation	45 Marks
(b)	Testing of Hypothesis	30 Marks
Paper – X	**Applied Statistics - III**	**75 Marks**
(a)	Operation Research	30 Marks
(b)	Statistical Quality Control	30 Marks

(c) Non-Parametric Inference 15 Marks

Paper – XI Practical – III 50 Marks

(a) Practical 40 Marks

(b) Record and viva-voce 10 Marks

Detailed Course :

FINAL UNIVERSITY EXAMINATION

Paper – I Real Analysis, Numerical Analysis and Matrices 75 Marks

(a) Statistical Quality Control 30 Marks

Unit – I Basic concepts of sequences and series of real numbers, convergence, Cauchy condition and different tests of convergence (Comparison test, Ratio tests, Cauchy-Root test) Absolute convergence, continuity of function and elementary properties.

Unit – II Convergence of infinite and improper integrals, Beta and Gamma integrals, Definition and evaluation of double integrals.

(b) Numerical Analysis 30 Marks

Unit – III Use of operators E and Δ factorial notations and separation of symbols. Interpolation with equal intervals and unequal intervals. Divided difference formula, Lagrange's formulas, central difference formulae : Newton, Gauss, Sterling's and Bessel's formulae, Inverse interpolation by Lagrange's method.

Unit – IV Numerical differentiation, numerical integration – Simpson's Weddle's, solutions of equations by Newton-Raphson method, Bisection method and method of false position.

(c) Matrices 15 Marks

Unit – V Rank of Matrices, Elementary transformation of matrix. Solution of linear equations, characteristics and latent roots, quadratic forms, positive definite forms.

Books Recommended :

1. Mathematical Analysis : S.C Mallick
2. Real Analysis : G. Das and S. Pattanaik
3. Differential and Integral Calculus : B.C. Das & B.N. Mukherjee
4. Finite Differences and Numerical Analysis : H.C. Saxena
5. Numerical Analysis : B.S. Goel & S.K. Mittal
6. Theory of Matrices : B.S. Vatssa
7. A Course on Numerical Analysis : B.P Acharya & R.N. Das

Paper – II Statistical Methods and Computer Programming 75 Marks

(a) Statistical Methods 45 Marks

Unit – I Concept of statistical population and sample, Qualitative and Quantitative data, nominal, ordinal ad time series data, discrete and continuous data, measures of locations : mean, median, mode, partition values, measures of dispersion : moments, skewness and Kurtosis.

Unit – II Absolute moments and factorial moments, inequalities concerning moments, Sheppard's corrections, cumulants. Bivariate data : Scatter diagram, principles of least squares, Fitting of polynomial, Exponential and logarithmic curves.

Unit – III Correlation and Regression : Karl-Pearson's coefficient of correlation, coefficient of determination, line of regression, Separman's rank correlation coefficient, correlation ratio, multiple and partial correlation (three variables only). Regression plane (three variables only). Theory of attributes : Consistency of data, inter-dependence of attributes, measures of association.

(b) Computer Programming 30 Marks

Unit – IV Fortran-77, Fortran constants and variables, arithmetic algorithm, input and output statements, simple computer programs, control statements, subscripted variables, logical operators G.E., N.E., G.T., L.T.

Unit – V Computer Program : Mean, variance, correlation coefficient, regression coefficients, solution of linear equations.

Books Recommended :

1. Fundamentals of Mathematical Statistics : S.C.Gupta & V.K. Kapoor.
2. An Outline of Statistical Theory : Vol. I : A.M.Goon, M.K. Gupta & B. Dasgupta.
3. Programming with FORTRAN : Seymour Lipschutz, Arthur POR Schaum Outline Series.
4. Fortran-77 and Numerical Methods : C.XAVIER.

Paper – III Practical – I 50 Marks

(a) Practical 40 Marks

(b) Record and Viva-voce 10 Marks

SECTION - A

1. Interpretation with equal and unequal interval using Newton, Lagrange, Sterling and Bissel's formula and estimation of one or two missing values in equal interval.
2. Problems relating to inverse interpolation.

3. Numerical integration – use of Simpson's Weddle's and Euler-Maclaurin's summation formula.
4. Solution of equation by Newton-Raphson's Iteration Method.
5. Solution of linear equations.
6. Determination of characteristics roots.
7. Quadratic forms and reduction to canonical forms.

SECTION - B

1. Calculation of moments from grouped and ungrouped data with Sheppard's correction.
2. Various measures of dispersion, skewness and kurtosis.
3. Simple correlation coefficient from ungrouped data and from bivariate frequency table, computation of lines of regressions.
4. Multiple and partial correlation coefficient for trivariate data and plane and regression of three variables.
5. Fitting of polynomials and exponential curves by the methods of least squares.

SECOND UNIVERSITY EXAMINATION

Paper – IV **Probability Theory** **75 Marks**

Unit – I Random experiment, sample point and sample space, event, algebra of events, definition of probability : classical and axiomatic approach, merits and demerits of these approaches, theorems of probability, independent events, Baye's theorem ad its application.

Unit – II Random variables : Discrete and continues random variables, probability mass function, probability density function and c.d.f.; illustrations of random variables and its properties, expectation of random variables and its properties, moments and cumulants, m.g.f. and c.g.f. characteristics function and its properties.

Unit – III Standard univariate probability distributions : Binomial, Poisson, Geometric, Negative Bionomja, Hyper Geometric, Uniform (Discrete Distributions and the Properties).

Unit – IV Uniform (Continous) Normal, Beta and Gamma Distributions and their properties.

Unit – V Limit Laws : Convergence in probability, almost sure convergence, Convergence in mean square and convergence in distribution, cheby shev's inequality, weak law of large numbers and its applications. Basic concepts of Stochastic Processes, Random walk and Gamblers Ruin Problems.

Books Recommended :

1. Fundamentals of Mathematical Statistics : S.C. Gupta & V.K. Kapoor.

2. Introduction to Probability and Its Applications (Vol. I) : W. Feller.
3. Elementary Probability Theory with Stochastic Processes : Kai Lai Chung.
4. Probability Theory : B.V. Gnadenko

Paper – V **Probability and Sampling Distributions** **75 Marks**

Unit – I Bivariate probability distributions, marginal and conditional distribution, independence of variates (only general ideas to be given), expectation and conditional expectation.

Unit – II Sampling distributions, definition, of random sample, parameter and statistics, sampling distribution of a statistic, standard error of sample mean, sample proportion and sample moments, sampling distribution of sample mean and sample variance of normal distribution.

Unit – III Sampling distributions of Chi-squares, t and F statistics. Their properties and inter-relations.

Unit – IV Vivariate normal distribution and its properties, Marginal and conditional distribution of bivariate normal distribution, Distribution of sample correlation coefficient r when population correlation p = 0.

Unit – V Large sample test : Concept of test of hypothesis (Null and Alternate hypotheses). Test of single proportion and difference of proportions, single mean and difference of two means. Test of significance of variance. Small sample test : Related tests of significance based on t, F and Chi-square statistics.

Books Recommended :

1. Fundamental of Mathematical Statistics : S.C. Gupta & V.K. Kapoor.
2. Fundamental of Statistical, Vol. I : A.M. Goon, M.K. Gupta and B. Dasgupta.
3. An Outline of Statistical Theory – Vol. I : A.M. Goon, M.K. Gupta and B. Dasgupta.

Paper – III **Applied Statistics – I** **75 Marks**

(a) **Design and Analysis of Experiments** **45 Marks**

Unit – I Analysis of Variance : One way model and two way model, principles of experimentation : Randomisation, Replication and Local Control, Description and Analysis of completely randomized design and Randomised block design, Missing plot techniques in R.B.D. and its analysis (one observation only).

Unit – II Latin square design – description and analysis, missing plot analysis in L.S.D., Comparison of efficiency – CRD, RBD and LSD.

Unit – III Factorial experiment, Advantages of factorial experiment, analysis of 2^2 and 2^3 factorial experiments, confounding advantages and disadvantages, complete and partial confounded factorial experiment in 2^3 factorial design and its analysis.

(b) Vital Statistics **15 Marks**

Unit – IV Vital Statistics : Vital rates and ratios, crude death rate, infant mortality rate, specific death rate, standardized death rates, crude and specific birth rates, general fertility rate, total fertility rate, gross and net reproduction rates, elements of life table and uses.

(c) Indian Official Statistics **15 Marks**

Unit – V Present official statistical system in India, methods of collection of official statistics, their reliability and limitations and the principal publications containing such statistics on the topics : population, agriculture and industry.

Books Recommended :

1. Fundamentals of Applied Statistics : S.C. Gupta & V.K. Kapoor.
2. Design and Analysis of Experiment : M.N. Das & N.C. Giri.
3. Applied Statistics : Parimal Mukhapadhyaya.
4. Guide to Current Indian Official Statistics : Central Statistical Organization, Govt. of India, New Delhi.
5. Indian Official Statistical System.

Paper – VII Applied Statistics **75 Marks**

(a) Sampling Theory **45 Marks**

Unit – I Population and sample, sampling and census, steps involves in sample surveyors, random sampling and non-random sampling and non-sampling errors.

Unit – II Simple random sampling with and without replacement, methods of drawing simple random sample, stratified random sampling (proportional and optimum allocation).

Unit – III Systematic sampling : Estimation of population values with standard errors for the above methods. Ratio and regression methods of estimation, comparison of efficiency.

(b) Time Series Analysis **30 Marks**

Unit – IV Meaning and uses of time series, compoments of time series measurement of Trend-Graphic method, method of semi-average, method of moving averages, method of least

squares-linear and parabolic trend, variate difference method. Merits and Demerits methods of trend elimination.

Unit – V Method of iterated averages, approximation moving averages, Spencer's 15 point formulae. Measurement of seasonal indices – Methods of simple averages, Ratio to trend and link relatives, methods of trend elimination by fitting mathematical curves, determination of cyclical component.

Books Recommended :

1. Sampling Theory of Surveys with Application : P.V. Sukhatire and B.V. Sukhatire.
2. Sampling Techniques : W.G. Cochran. Fundamentals of Applied Statistics : S.C. Gupta and V.K. Kapoor.
3. Applied Statistics : Parimal Mukhopadhyay.

Paper – VIII **Practical** **75 Marks**

(a)	Statistical Inference	80 Marks
(b)	Record and viva-voce	20 Marks

1. Fitting of Binomial, Poisson and normal distributions with testing of goodness of fit.
2. Large sample tests : Test for single proportion, Test for single mean, Test for difference of proportions, Test for difference of mean, Test of standard deviation.
3. Test of significance based on :
   - (a) One sample
   - (b) Two sample
   - (c) Paired sample
   - (d) Significance of correlation coefficient.
4. Tests of significance based on Chi-square.
   - (a) Contingency table
   - (b) Significance of variance
5. Test of significance for :
   - (a) Equality of two variances
6. Analysis of variance – one way and two way classified data.
7. Analysis of CRD and RBD and Latin Square Designs.
8. Missing plot technique in RBD and LSD with analysis.
9. Analysis of 2^3, 2^4 factorial experiments.
10. Simple random sample : Estimation of population mean, total and proportion with standard errors.

11. Stratified random sampling : Estimation of population mean and total for proportional and optimum allocation with standard errors. Companies on efficiency with simple random sampling, estimation of gain due to stratification.
12. Systematic sampling : Drawing of a systematic sample, comparison of efficiency with SRS and stratified random sampling.
13. Calculation of mortality and testability and reproduction rates.
14. Construction of complete life table and abridged life table.
15. Measurement of secular trend by least squares and moving average method.
16. Measurement of seasonal variation by simple average, ration to trend, ration to moving average ad link-relative method.

FINAL UNIVERSITY EXAMINATION

Paper – IX Statistical Inference 75 Marks

(a) Statistical Inference 45 Marks

Unit – I Parameter space, sample space, point estimation, requirement of a good estimator. Unbiasedness, minimum variance unbiased estimators, Cramer-Rao inequality, sufficiency and completeness, Rao-Blackwall theorem and its use.

Unit – II Consistency and efficiency criteria of estimation, linear models, estimability and BLUE, method of least squares , Gauss-Markov theorem, Estimation by his method of moments.

Unit – III Method of maximum likelihood estimation, properties of maximum likelihood estimator (consistency and sufficiency only). Interval estimation : Confidence interval for the parameters of normal distribution.

(b) Statistical Testing of Hypothesis 30 Marks

Unit – IV Simple and composite statistical hypotheses, Null and Alternate hypotheses, critical region, two kinds of errors, level of significance and power of a test, Neyman Pearson Lemma, M.P. tests ad M.P. critical region (for simple hypotheses only).

Unit – V UMPU test and UMPU critical region (for simple hypothesis), concept of likelihood ratio test procedure and its application for normal parameters only.

Books Recommended :

1. Statistical Inference : H.C. Saxena & P.U. Surendran.
2. An Outline of Statistical Theory : Vol. II : A.M. Goon, M.K. Gupta & B. Dasgupta.
3. Fundamentals of Mathematical Statistics : S.C. Gupta & V.K. Kapoor.

Paper – X Applied Statistics - III 75 Marks

(a) Operational Research 30 Marks

Unit – I Linear programming problems : Mathematical formulation, method of graphical solution, general linear programming, problems, slack and surplus variables, reformulation and general LPP.

Unit – II Simplex method : Introduction, simplex algorithm and computational procedure, artificial variables, formulation LPP and solution by simplex method, unrestricted variables, solution of simultaneous linear equations using simplex method.

(b) Statistical Quality Control 30 Marks

Unit – III Meaning and uses of SOC, chance and assignable causes of variation, process and product control, natural tolerance limits and specification limits, 3-sigma control limits, control charts :

(i) For variables : Mean and range, Mean and standard deviation.

(ii) For attributes : p-chart, c-chart

Unit – IV Principles of acceptance sampling problem for lot acceptance, stipulation of good and bad lots, producer's and consumer risks, single and double sampling plans and their O.C. functions, concepts of AQL, LTPD, AOQL, average amount of inspectin and ASN function, rectifying inspection plans, Dodge and Roming tables.

Unit – V UMPU test and UMPU critical region (for simple hypothesis), concept of likelihood ratio test procedure and its application for normal parameters only.

(c) Non-Parametric Inference 15 Marks

Unit – IV Non-parametric Test : One sample and two sample sign tests, Wold-Wolfourtz runs tests, Run test for randomness, median test, Wilcoron-Mann-Whitney test.

Books Recommended :

1. Operation Research and Theory of Games : P.K. Gupta & Man Mohan, Sultan Chand & Sons.
2. Fundamental of Applied Statistics : S.C. Gupta & V.K. Kapoor, Sultan Chand & Sons.

Paper – VI Practical-III 50 Marks

a) Practical 40 Marks

b) Record and viva-voce 10 Marks

SECTION - A

a) Conversion of practical problem to the standard L.P. form and introduction of slack and surplus variables.

b) Solution of LPP by graphical and simpler method.

c) Control chart for number of defectives and for fractions defectives.

d) (x, R) and (x 0) charts.

e) O.C. curve and AOQ curve for double sampling plan.

SECTION - B

1. Non-parametric tests – based on sign, median and run test.
2. Minimum Variance Unbiased Estimators and Maximum Likelihood Estimators.
3. Calculation of power of a test of normal mean and known variance.

TELUGU (PASS)

FIRST UNIVERSITY EXAMINATION

Paper – I **100 Marks**

1. Prose : 20 Marks
   Sahitya Kaumudi by G. Seshendra Sarma Quality Publishers,
   Governor Street, Vijayawada-2
2. Poetry 20 Marks
   Karunasri by J. Papayya Sastri, Quality Publishers, Vijayawada-2
3. Poetry : 20 Marks
   Krishna Prakshamu by Derula Pali Krishna Sastry Pub.,
   Rajahama Pracharanalalu 9. Jagadambai Street, Madras-600007
4. History of Telugu Literature Andhra Vangmaya Charita by 20 Marks
   Prof. Venkatavabhani Andhra Saraswati Parisad, Tilsk Road.

Paper – II **Drama** **100 Marks 3 hrs.**

1. Abhigyana Sakuntalam by Kanduksri Veeraling 20 Marks
2. Aswattama, At Maruti Book Depot, Guntur 20 Marks
3. Kanvasulkam by G. Appa Rao 20 Marks
   M/s. Seshachalam & Co., Machilipatnam (A.P.)
4. Ratnavali 20 Marks
   By Prof. K.V.R. Narasimsham, Pub. Quality Publishers, Vijayawad-2
5. Nataka Lakshanam (from Prataparudriyam) 20 Marks
   M/s Maruti Book Depot, Guntu-2 (A.P.).

SECOND UNIVERSITY EXAMINATION

Paper – III **100 Marks**

1.	Poetry : (Ancient and Medieval)	
	(a) Manucharitra-III Canto by Peddna	20 Marks
	(b) Vijaya Sri by J. Papayya Sastri	20 Marks
	(c) Piradorsi by G. Jasuva, Maruti Book Depot, Guntur-2	20 Marks
2.	Kavya Lakshanamulu	20 Marks
	From Kavyalankara Sangraham by Sannidhanan Suryanarayan Sastry	
3.	Grammar : Karaka Purichhedamu	20 Marks

Paper – IV **100 Marks**

1.	Navala : Rajaraja Prasasti	20 Marks
	By D.S. Gangappa	
	Maruti Book Depot, 63, Main Road, Guntur-3	
2.	Prose :	40 Marks
	Neettichandrika by Chinnayya Suri	
	(Mitralabhaumu) Edited by D. Venkata Suffa Sastry	
	Balasaraswati Book Depot,	
	6-Sunkuramaseth, Deedhi, Madras-I	
3.	Critical Essays :	20 Marks
	Alohanamrutiam by Rama Mohan Ray Pub.	
	By Raveendra Publishing, House Hyderabad-500007	
4.	Grammar and Prosody	20 Marks
	(i) Sragdhara	
	(ii) Malini	
	(iii) Manini	
	(iv) Mattakokila	
	(v) Kavirajavirajitam	
	(vi) Madhyakkara	
	(vii) Tamvoja	
	(viii) Layagrahi	
	(ix) Mandakranta	
	(x) tarala	

Books for Reference :

Sulakshana Saramu :

M/s Kondarpalli Versaverkayya & Sons, Rajahmandry (A.P.).

Alankaramulru :

1) Parinama
2) Bharantimat
3) Sandeha
4) Rupakatisayokti
5) Tulyogita
6) Deepaka
7) Nidarsana
8) Drustanta
9) Kavyalinga
10) Samasokti

URDU (PASS)

Paper – I Poetry 100 Marks

Books Prescribed :

1. Bal-e-Jibreel – There shall be one long question carrying 25 marks with an alternative.
2. Majmua-e-Nazam Hali – There shall be one long question carrying 20 marks with an alternative.
3. Ashaar-e-Akbar – There shall be one long question carrying 20 marks with an alternative.
4. Explanation from each three books.
   (i) Bal-e-Jibrail
   (ii) Majuma-e-Nazam Hali
   (iii) Asaar-e-Akber

There shall be three explanations carrying 5 marks each with an alternative.

Books Prescribed :

(i) Bal-e-Jibrail – 1 to 5 Ghazals (modern Publishing House, 9, Gola Market).
Nazam-Masjide-Qartaba, Zaugo Shauq, Gadai, Shahin, Zamana.

(ii) Majumua-e-Nazam Hali : Edn. Book House Aligarh
Nazam : Jawan Mardi ka Kam, Barkharoot, Raham O Insaf.

(iii) Ashaar-e-Akbar – By Prof. Sayei Hasan Kitab Mazil, Sabzi Bagh, patha.

(iv) Limul Balghat : By Abdul Majid. (Tashbekh, Ishtayri, Meratun Nazir, Ibham).

Paper – II **100 Marks**

Books Prescribed :

1. Umra-o-Nane Aia : Maktaba Jamigi, New Delhi
2. Intekhab-e-Rashaile Shibli-Aiwane-Vrdu Pat No. 4.
3. Ina date salim – maktabe ibrahimiya, Hyd. Pieces to be studied : Mir hi Zobam, Talmihat.

There shall be one long question carrying 25 marks from the above with an alternative.

Short not to with an alternative carrying 12 1/2 from the following.

(I) Icbal (ii) Hali (iii) Mirza Hadi Rusha (iv) Shabli Noomani

SECOND UNIVERSITY EXAMINATION

Paper – III **100 Marks**

Books Prescribed :

1. Khana Jangi – Maktab Jamiya Ahgarh
2. Nagase Akhir – Modern Publishing House, New Delhi-110003
3. Shaad Azim abadi – do.
4. Dr. Nazir Ahmad – do.

Books Prescribed :

Khana Jangi : There shall be one long question carrying 20 marks with an alternative.

Nagas-e-Akhir : There shall be one long question carrying 20 marks with an alternative.

Shaad Azim Abadi : There shall be one long question carrying 20 marks with an alternative.

There shall be four explanations of poetries of Shaad Azim Abadi each carrying 5 marks with an alternative.

Dr. Nazir Ahmad : There shall be one long question carrying 20 marks with an alternative.

Paper – IV **100 Marks**

Books Prescribed :

1. Hasrat ki sahiree
2. Ashaar-e-Momin
3. Masnavi Mir Hasan

Books Prescribed :

Hasrat Shariee : There shall be one long question carrying 20 marks with an alternative.

Ashaare Momin : There shall be one long question carrying 20 marks with an alternative.

There shall be four explanations carrying 5 marks covering both the poets.

Masnavi Mir Hasan : There shall be one long question covering the life and style of the poet carrying and 20 marks with al alternative.

There shall be two explanations from the Masavi Mir Hasan each carrying 10 marks with an alternative.

VOCATIONAL COURSES :

STATISTICS (PASS)

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Introduction to Archaeology	75 Marks 3 hrs
Paper – II	Archaeology in Indian Perspective	75 Marks 3 hrs
Paper – III	Practical Training, Report Writing	50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Introduction to Museology	100 Marks 3 hrs
Paper – V	Indian Monuments and Antiquities	100 Marks 3 hrs.
Paper – VI	Practical Training, Report Writings and Viva-voce	50 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I **Introduction to Archaeology** **75 Marks**

Unit – I

A) 1. Definition, aim and scope of Archaeology its relation to other sciences.

2. Archaeology as a source of cultural studies.

B) History of Archeology in India.

(a) A. Cunningham (b) Sir John Marshall (c) Sir Mortimer Wheeler

(d) H.D. Sankalia (e) K.C. Panigrahi

Unit – II

A) Methods of Archaeological Explorations

B) Early Indian Potteries

Unit – III

A) Stratigraphy and Recording.

B) Methods of Dating

a) Relative Method

b) Scientific Method, Carbon Method, Thermolum Iniscence Method, Dendrochronology

Books Recommended :

1. R.J.C. Atkinson : Field Archaeology (2nd Edn.) London, 1953.
2. Phillip Barkoz : Understanding Archaeological Excavation, London, 1986.
3. V. Gazden Childe : Man Makes Himself.
4. V. Gazdan Childe : What Happened in History, Poregrim Books, 1985.
5. Sir Mortimor Wheelor : Archaeology from the Earth, London., 1956.
6. F.E. Zouner : Dating the Past, London, 1958.
7. K.M. Srivastav : New Era of Indian Archaeology.
8. K.V. Raman : Principle and Method of Archaeology.

Paper – II **Archaeology in Indian Perspective** **75 Marks**

Unit – I
A) 1. Stone tool technology
2. Palaeolithic Culture in India Early, Middle and Upper Palaeolithic Cultures
B) 1. Mesolithic Evidences in India with reference to Langhraj (Gujurat) and Bagor
2. Neolithic Cultures, Burzaham (Kashmir) Kuchai (Orissa)

Unit – II
A) Harappan Culture - Kalibangan
B) Chalcolithic Culture, Navdatoli, Golabai (Orissa) and Ahar

Unit – III
A) Early Historic Sites : Attranjkhera, Hastinapur, Sisupalgarh
B) Nature and Classification of South Indian Megaliths

Books Recommended :

1. D.P. Agrawalla : Archaeology of India, New Delhi, 1984.
2. D.P. Agrawalla and S. Kusumar : Pre-historic Chronology and Radiocarbon Dating in India, New Delhi, 1974.
3. Bridor and Raymond Allichin : The Rise of Civilization in India and Pakistan, New Delhi, 1983.
4. Francis Bozdes : The Old Stone Age (London, 1968).
5. M.C. Burkitt : The Old Stone Age (London, 1963).
6. V. Gordan Childe : What Happened in History Pelican Books, Harmond Swozth, 1948.
7. V. Gordan Childe : Man Making Himself (London, 1956).
8. J.G.D. Clark, World Pre-History A New Outline (Cambridge University Press, Cambridge, 1969).
9. V.D. Krishnaswami : Stone Age in Indian Ancient India No. 9 (1953).
10. H.D. Sankalia : Stone Age Tools, their Techniques, Names and probable functions. (Deccan College, Poona, 1964).

11. H.D. Sankalia : Pre-History and Proto-History of India and Pakistan, Poona, 1974.
12. H.D. Saankalia : Pre-History of India, Poona, 1971.
13. B. Subrarad : The Personality of India (Borada 1958).
14. Hallam L. Movius : Old World Pre-History : Palaeolithic and Anthropology Today.
15. D.P. Agrawalla : Copper Bronze Age in India, Delhi, 1971.
16. D.P. Agrawalla : The Archaeology of India, London, 1984.

Paper – III Practical Training, Report Writing and Viva-voce 50 Marks

The students are required to undergo practical training in the methods of Exploration and Excavation site for a duration of 4 weeks (2 weeks for Explorations and 2 weeks for Excavation). At the end of the Practical training they shall have to submit a detailed field about their Practical training on which Vice-voce will be conducted by an External Examiner.

30 marks for preparation of Report and 20 marks for Viva-voce.

SECOND UNIVERSITY EXAMINATION

Paper – IV Introduction to Museology (In Indian Perspective) 75 Marks

Unit – I A) Definition, Scope and Function of Museum, History of Museum, Kinds of Museum
B) Museum Administration and Security

Unit – II A) Collection and Documentation. Display and Exhibition
B) Conservation and Preservation of Museum objects

Unit – III A) Museum and Education – General, Museum and Research
B) Museums of India, Museums of Orissa

Books Recommended :

1. Museum Management, Accession, Indexing, Custody, Labelling and Verification of Objects : M. Zaheer
2. Museums Today : Grace Morley
3. Modern Museum : Smita J. Baxi and Vinod P. Dwivedi
4. Museum and Cultural Heritage : N.R. Bansyi
5. The Conservation of Antiquities and Works of Art : H.J. Plender Kith and A.E.A. Warner.
6. Care of Preservation of Museum Objects : O.P. Agrawal
7. Fundamentals of Museology : M.L. Nigam

Paper – V **Indian Monuments and Antiquities (in General Outline)** **75 Marks**

Unit – I
A) Indus Valley Town Planning, Sanchi Stupa, Caves of Khandagiri and Udayagiri
B) Temples : Paremeswara Temple, Mukteswar Temple, Lingaraj Temple and Kanderia Mahadev, Temples of Khajuraho
C) Mughal Monuments of Delhi and Agra

Unit – II
A) Archaeological sites, Lothal, Ratnagiri and Sisupalgarh
B) Important Inscriptions – Asokan Edicts, Hathigumpha, Inscriptions
C) Plates of Sumandala Copper Inscription

Unit – III
A) Sculptures : Indus Valley General Art Cave, Maurya Column, Gandhara Mathura
B) Paintings – Rock Paintings of Bhimbetka, Rock Painting of Orissa, General Outline Paintings of Ajanta, Mughal Paintings
C) Iconography – Vishnu, Siva, Durga, Buddha

Books Recommended :

1. Indian Architecture – Poetry Brown (Hindu and Buddhist Period) Vol. .
2. Indian Architecture – Poetry Brown Muslim Period – Vol. II.
3. Temples of North India – Krishnaden
4. The Temple Art of Orissa – T.E. Donaldson – Vol. I, II & III.
5. Temple of Orissa – D.R. Das
6. Coins – P.L. Gupta
7. The Development of Hindu Iconography – J.N. Banerjee
8. Indian Painting – Percy Brown
9. Survey of India sculptures – S.K. Saraswati
10. Bhubaneswar – Debala Mitra
11. Temples of South India – K.R. Srinivasan
12. Rock Art of Orissa – Dr. S. Pradhan
13. The History of Orissa – C.L. Febri

Paper – VI **Practical and Viva-voce** **50 Marks**

Unit – I
A) Practical Training in Museums for two week and submission of the report — 20 Marks
B) Visit of importance Monuments/Historical/Archaeological Sites and report — 15 Marks
C) Viva-voce Test — 15 Tests

FUNCTIONAL ENGLISH

COURSE STRUCTURE :

FIRST UNIVERSITY EXAMINATION

Paper – I	Theory – Speech Skills	75 Marks 3 hrs
Paper – II	Theory – Oral/Aural Communication Skills	75 Marks 3 hrs
Paper – III	Practical	50 Marks
		200 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV	Theory – Writing Communication Skills	75 Marks 3 hrs.
Paper – V	Theory – Study Skills	75 Marks 3 hrs.
Paper – VI	Practical	50 Marks
		200 Marks

DETAILED COURSE :

FIRST UNIVERSITY EXAMINATION

Paper – I Speech Skills 75 Marks

Objectives :

- To familiarize learners with the functioning of English sounds, through listening in the Language Lab.
- To enable learners to achieve accuracy in oral production by encouraging the use of the pronunciation dictionary.
- To enable learners to achieve an optimum level of intelligibility to and fluency in speech.

Course Content :

Unit – I : The Phonology of English – Phonetic Symbols for Consonants, Vowels and Diphthongs – Consonant Clusters

Unit –II : The Syllable

Unit – III : Weak Forms and Contractions

Unit – IV : Word Stress

Unit – V : Sentence Stress – Pause and Juncture

Unit – VI : Intonation : Patterns of Intonation in Simple Sentence Types

Suggestions for Teaching :

1. Lists of minimal pairs may be used (eg. Cot-court, ship-sheep, etc.) for practice in listening and speaking.
2. Emphasis is to be placed on the use of spoken language rather than on theory. Once the learners are familiar with the speech sounds, patterns of stress and intonation, they must be given intensive practice in these areas.
3. It must be made clear that the model of pronunciation is not strictly R.P., Learners should follow the dictionary as closely as possible but wherever there are difference between RP and the sounds used in Indian English, these differences can be accepted if they do not interfere with intelligibility and clarity of speech.
   (Teachers may not insist on a perfect articulation of RP sounds).

N.B. Questions are to be set to test the ability of learners in giving correct phonetic symbols for consonants (10 marks), Vowels – monohpthongs (5 marks) and diphthongs (5 marks), and consonant clusters (5 marks). For each of the other Units a maximum of 10 marks be allotted. No theoretical questions should be asked.

Mode of Examination :

Written : 75 Marks

Written : Giving symbols for sounds, breaking words into syllables, marking stress in words and sentences, etc.

Bibligraphy :

Allen, W.S. : Living English Speech, Orient Longman, London, 1968.

Balasubramanian, T. : A Textbook of English Phonetics for Indian Students, Macmillan India Ltd., Madras, 1981.

Bansal, R.K. : An Outline of General Phonetics, Oxford University Press, Oxford, 1971.

D. Souza, Rosy : A Workshop for University Students, Sterling Publishers, New Delhi, 1973.

Gimson, A.D. (1989) : An Introduction to the Pronunciation of English, ELBS, London, 1980.

Hornby, A.S. : Advanced Learner Dictionary, Fifth Edition, Oxford University Press, Oxford, 1996.

Jones, Danial : English Pronouncing Dictionary, 14 Ed. University Book Stall, New Delhi, 1991.

Jones, Daniel : An Outline of English Phonetics, Ludhiana, Kalyani Publishers, 1979.

Krishnaswami, N. & T. Sriraman (Ed.) : Teaching Spoken English and Communication Skill (Resources Books for Teacher Series).

O'Conner, J.D. : Better English Pronunciation, Oxford University Press, Oxford, 1991.

Roach, Peter (Ed.) : English Phonetics and Phonology, Oxford University, Oxford, 1991.

Sethi, J. & P.V. Dhamija : A Course in Phonetics and Spoken English, Prentice Hall, New Delhi, 1992.

Sethi, J. & D.V. Jindal : Handbook of Pronunciation of English Words, Prentice Hall, New Delhi, 1994.

For Oral Practice Exercises in Spoken English Parts, I, II, & II (OUP) along with 6 cassettes (available with the CIEFL Hyderabad) should be used.

Paper – II **Oral/Aural Communication Skills** **75 Marks**

Objectives :

- To enhance learners ability of communicating in the spoken mode with accuracy and fluency for various functions.
- To enable learners learn the register and acquire the style required for different purposes.

Course Content :

Unit – I : Language and Society – Register & Style

Unit –II : Integral Elements of Speaking – Features and Sub-skills : Linguistic and Discoursal (pronunciation, variation in tone and manner, register, structure, situation, content, style, organization etc. (Unit – I & II not be tested).

Unit – III : Greetings/Introduction/Leave taking

Unit – IV : Making Requests/Granting Requests/Refusing Requests/Thanking

Unit – V : Making Enquiries/Giving Information/Giving Directions/Withholding Information.

Unit – VI : Describing People, Process, Procedures, Objects/Narrating Events

Unit –VII : Extending Invitation/Accepting and Declining Invitation

Unit –VIII : Making Complaints and Suggestions/Apologizing/Offering Excuses

Unit – IX : Negotiating and Persuading People/Expressing Dissent and Caution

Unit – X : Offering Emotional Support/Motivating People/Expressing Condolence

Unit – XI : Warning/Expressing Disapprovals and Displeasure

Unit – XII : Making Announcements/Public Addressing

Suggestions for Teaching :

1. Units 1 & 2 not to be tested.
2. Use two situations for each Unit.
3. Use one of the Modes : Face to Face or Telephone or Interaction with Public for each Unit.
4. Use Styles : Informal and Formal for each Unit.
5. Listening Comprehension should be given due emphasis and should be tested.

Mode of Examination : Written : 75 Marks

Bibligraphy :

Ahuja, Pramilla : How to Listen Better, Sterling Publishers, New Delhi, 1990.

Brown, G. : Listening to Spoken English, Longman, London, 1990.

Jones, Leo : Notions in English, Cambridge University Press, Cambridge, 1979.

Jones, Leo : Functions of English Students Books, Cambridge University Press, Cambridge, 1981.

Jones, Leo : Functions of English Teachers Book, Cambridge University Press, Cambridge, 1981.

Klippel, Friederike : Keep Talking : Communication Fluency Activities for Language Teaching, Cambridge University Press, Cambridge, 1984.

Lynch, T. : Study Listening, Cambridge University Press, Cambridge, 1983.

Paul, R. Timm ciff : Lend me your Ears, New Jersey, 1980.

Wolvin, A.D. : Listening, Cambridge University Press, Cambridge, 1987.

Paper – II Practical 50 Marks

Questions should be based on Paper – I & Paper – II

SECOND UNIVERSITY EXAMINATION

Paper – IV Writing Communication Skills 75 Marks

Objectives of the Course :

This paper seeks to enhance the learner's ability of communicating in the written mode and to familiarize them with different types of paragraph : Descriptive, Narrative, Informative, Argumentative, etc. The learners should be trained in the use of specific formats of written discourse.

Course Content :

Unit – I : Integral Elements of Writing : Features and Sub-skills : Linguistic and Discoursal (mechanics, structures, diction, idioms and phrases, figures of speech, cohesion, coherence, style, format, text-type, context and content, aesthetic functions of language, linguistic inventiveness).

Unit –II : Paragraph Writing : Types, Formats and Structural Organization of a Paragraph

Unit – III : Letter Writing : Formal and Informal

Unit – IV : Transcoding Information

- Dialogue to Paragraph
- Paragraph to Dialogue
- Diagrams to Paragraph

Unit – V : Decoding Information :

- Audio Recording to Paragraph/Dialogue
- Video Recording to Paragraph/Dialouge

Unit – VI : Report Writing

Suggestions for Teaching :

Unit – I

1) This course should highlight the general features of good and bad texts which students may be asked to read and analyze for familiarization with linguistic and discoursal features.
2) All linguistic and discoursal items mentioned within the Unit are to be integrated with tasks assigned for Units II, III, IV, V & VI and not treated as discrete items for teaching.
3) Remedial measures may be taken in respect of weak areas once they are identified.
4) No theoretical questions to test Unit I. Only its application is to be tested.

Unit – II

1) This Course aims at familiarizing learners with different types of paragraphs Informative, Descriptive, Narrative, Argumentation.

- a press report/release, a public notice, a précis/summary etc.)
- the format for each type (a legal notice – a press report)
- the structural organization of a paragraph (topic, sentence, support sentences, introduction, development, conclusion, cohesive devices, coherence of ideas etc…)
- the importance of specific-lexical and grammatical items in specific types of paragraphs.

Unit – III

1) This is a general course in Letter Writing : Features of formal and informal letters are to be highlighted with no particular area in mind.
2) In case of formal letters or personal letters lexical inventiveness, use of imaginative features and aesthetic functions may be encouraged. Excepts from books displaying such features may be used as teaching materials.

Unit – IV This unit aims at familiarizing learners with the skills of transferring information from one mode to another and thus to prepare them to tasks to be assigned in the area of Office. Communication for Business and Media only. The basics are to be treated.

Unit – V Reports are to be restricted to simple day to day activities of the learner/the college/the class (canteen/campus interviews/tutorials/diary entries).

Mode of Examination :

Written : 75 Marks

Bibligraphy :

Byrne, D. : Teaching Writing Skills, Longman London, 1989.

Dean, Michael : Write it, Cambridge University Press, Cambridge, 1968.

Frank, O'Hare : Writer's Work : A Guide to Effective Composition, Prentice Hall, N. Delhi, 1976.

Graham, S. : Writing Craft, Prentice Hall, New Delhi, 1976.

Hedge, Tricia : Writing, O.U.P., Oxford, 1988.

Kane, T.S. : The Oxford Guide to Writing, Oxford University Press, Oxford, 1983.

Krishnaswami, N. & I. Sriram : Current English for colleges, Macmillan, 1990.

Kroll, Barbara : Second Language Writing, Cambridge University Press, Cambridge, 1990.

Little, Peter : Oral and Written Communication, Longman Group, London, 1973.

Narayanaswamy, V.R. : Strength you Writing, Orient Longman, London, 1987.

Paulson, C.B. : Writing Communicative Activities in English, New Jersey, 1983.

Sashi Kumar, Jaya and Champa Tickoo : Writing with a Purpose, Oxford University Press, Oxford, 1990.

Scale, Barbara : Writing Efficiently, Prentice Hall, New Delhi, 1978.

White, R. : Teaching Written English, Heinemann, London, 1980.

A Communication Grammar of English Language : A Longman, G.N. Bucu and Jan Svartviu

University Grammar of English : Longman, R. Quirk and S. Granbaum.

Paper – IV Office Communication for Business 75 Marks

Objectives:

To equip learners with techniques of written communication in business situations.

To expand vocabulary and develop reading comprehension of material related to business.

Course Content :

Unit – I : Business Correspondence :

The format of business letters and Faxes : Different types of formats, address, opening and closing, subject, heading, sub-heading, numbering etc.

Scanning letters and faxes for specific information, acquiring familiarity with abbreviations and phrases commonly used in business correspondence writing letters of application with curriculum vitae/resume; letters of invitation, reply to invitation, enquiry, reference, arrangements, announcing forthcoming events, products, visits, making bookings and arrangements for conferences, trade fairs etc. complaints and replies to complaints, apologies, thanks. Writing office memos and notes.

Unit –II : Business Meetings :

Writing notices, agendas, resolutions, minutesfor business meetings, preparing notes for a meeting.

Unit – III : Letter Writing : Formal and Informal

Independent reading of reports from business and finance papers, reports on company performance, market surveys, project reports, reports of achievements in the world of business by well known business personalities, comparative progress of various enterprises etc.

Basics of Report Writing :

Organizing information, Structuring the report

Suggestion for teaching :

A wide range of business texts and correspondence may be taken from books on business English as well as from companies, offices, newspapers ad magazines.

Mode of Examination :

Written : 75 Marks

Bibligraphy :

Bjelland, H. : Business Writing : The Modular Way. Amacon American Management Association, 135 West 50th Street, New York 10020, 1992.

Doherty, M. Knapp L. & Switt : Write for Business Skills for Effective Report Writing in English, London, 1997.

Jasmin S. and S. Bright : Business Letter writing, Universal, New Delhi, 1984.

King F.W. & Dannerjee : Modern English Business Letters Commercial Correspondence for Foreign Students, Longman Grp, London, 1993.

Land, Geoffrey : Business Reading, Longman, London, 1987.

Stanton, F.L. & P. Wood : Longman Commercial Communication, Longman, London, 1989.

Paper – VI Practical Oral Test 50 Marks

Practical

Questions should be based on Paper – IV & Paper – V

COMPUTER APPLICATION (Vocational)

FIRST UNIVERSITY EXAMINATION

Paper – I C-Programming and Data Structure 75 Marks

Overview of C, constants, variables and data wpe operators and expressions, Managing I/O operations, Decision making and branching; looping, arrays, character strings, user defined functions, structure and union, pointers, file management in C, dynamic memory allocation and linked list, stacks, lists and tree.

Books Recommended :

1. E. Balaguruswamy : Programming in ANSIC – Chapter – 1-13.
2. V. Rajaraman : Computer Programming in C- chapter – 15, 18.

Paper – II Operating System (DOS & UNIX) 75 Marks

1. Introduction to DOS : Operating System Concept, Introduction to DOS, Booting, DOS files and File names, coiled cards, file extension, DOS internal and external commands.
2. Basic DOS Commands : CLS, VER, REN, DEL, LABLE, CHKDSK, VOL, BOKP, DISKCOMP, DISKCOPY, PROMPT.
3. DOS Files and Subdirectories : Directory, Sub-Directory, Root Directory MKDIR, CHOIR, RMDIR, TREE, PATH APPEND.
4. Input, Output, Redirection : Standard 1/0 , Redirection commands, Piping filters, DOS 1/0, MORE, FIND, SORT .
5. Batch Processing : Batch files and process, Batch commands, Parameters, AUTOEXECBAT files.
6. EDLIN DOS Editor
7. Disk BACKUP & Restore
8. DOS common messages
9. Advanced DOS commands, ASSIGN, ATTRIB, EXIT, JOIN, EXIT, RECOVER, SYS, XCOPY, REPLACE, SET, SUBSET, CTTY etc.
10. Working DOS.

Books Recommended :

1. DOS made simple : Subash Mehta (Galgotia Pub.) UNIX – Files in UNIX Systems, Directory, hierarchy, creating, removing, changing and keeping track of directories, file access permissions, sending mail, copying, printing, renaming deleting and editing files, VI editor commands.
2. UNIX in easy steps – Mohammad Azam – Chapter 1 to 7.

Paper – III Practical (C, DOS & UNIX) 50 Marks

SECOND UNIVERSITY EXAMINATION

Paper – IV Object Oriented Programming with C++ 75 Marks

Principles of Object Oriented Programming, Beginning with C++, Tokens, Expressions and control structures, functions in C++, classes and objects, constructors and destructors, operator overloading and type conversions, inheritance, pointers, virtual functions and polymorphism, managing console I/O operations, working with files.

Books Recommended :

Object Oriented Programming with C++ by E. Balaguruswamy, Chapter – 1-11.

Paper – V Database Management System (DBMS) 75 Marks

Database Management Systems.

Categorization of DBMS.

Network Model : Typical structure, explanation of DBTG set, links, owner, member, virtual fields, chains, DDL, statements, Navigation in database for retrieval, insertion, updating and deletion.

Rational Model : Explanation of domain, Tubbs, Attributes, Relations Normalisation keys, Primary, Alternate candidate, Integrity rules, Navigation in database for retrieval, insertion, updating and deletion.

Hierarchical Model : Explanation of root segment, dependent segment, level of dependent segment, finks, pointers, navigation in database for retrieval, insertion updating and deletion.

RDEVIS Package – FOXPRO – creation and maintenance of database file, editing, browsing, listing, searching of records of dbf. Custom built screen report generation, printing reports, sorting and indexing a dbf. Creating prg files.

Books Recommended :

Database Management System by D. Desai FOXPRO 2.5 by Taxali.

Paper – VI Practical C++ and FOXPRO 50 Marks

(C) ELECTIVE COURSES INDIAN POLITY

100 MARKS

Paper – I

(a) Growth of Indian Nationalism

(b) Freedom Movement in India

(c) Non-Co-operation Movement

(d) Civil Disobedience Movement

(e) Quit India Movement

(f) Cabinet Movement

(g) Partition of India

(h) Role of Gandhiji in Freedom Struggle

(i) Indian Independence Act

(j) Constituent Assembly – Framing of the Constitution of India

(k) Highlights of the Constitution of India

Bibliography :

1. G.N. Singh : Landmarks in National and Constitutional Development in India.
2. Bipan-Chandra : India's Struggle for Independence.
3. A Seal : Emergence of Indian Nationalities.
4. Granvile Austin : Indian Constitution – Comer Stone of a Nation.
5. P.B. Gajendra Gadkar : The Constitution of India : Its Philosophy and Basic Postulates.
6. D.C. Gupta : Indian Government and Politics.

INDIAN ECONOMY

Paper – I **100 Marks**

1. Pre-British Period : Indian Economy in the Pre-British Period – Structure and Organization of Villages, Towns, Industries and Handicrafts.
2. Economic Consequences of the British Rule, General Overall Impact : Colonial Exploitation – Forms and consequences, Case for protection of Indian Industries. The Theory of drains – its pros and cons.
3. Indian Economy at the time of Independence – Colonial Economy; Semi-feudal economy, Backward Economy, Stagnant Economy, Planning Exercises in Indian-National Planning Committee, Bombay Plan, People's Plan, Gandhian Plan, The Planning Commission.
4. Structure of the Indian Economy – Basic Features : Natural resources-land water and forest resources. Broad demographic features – population size and growth-rates, sex composition, rural-urban migration, occupational distribution, problems of over population, population policy, infrastructural development, National income.
5. Planning in India-Objectives, Strategy, Broad achievements and failures, current five-year plan-objectives, allocation and targets.

6. Important areas of concern of title Indian Economy-Poverty and inequalities, unemployment, rising prices, balance of payment crisis.

References :

1. Duttn R.C. (1960) : The Economic History of India under Early British Rule, Low Price Publications, Delhi.
2. Kumar, D, (Ed.) (1982) : The Cambridge Economic History of India, Vol. II, 1957-1970, Orient Longman Ltd., Hyderabad.
3. Dhingra, I.C. (2001) : The Indian Economy-Environment and Policy, Sultan & Sons, New Delhi.
4. Singh , V.B. (Ed.) (1965) : Economic History of India, 1857-1956, Allied Publishers Private Ltd, Bombay.
5. Naroji, D. (1962) : Poverty and British Rule in India, Low Price Publications, Delhi.
6. Planning Commission (1999) Ninth Five Year Plan, Govt. of India, New Delhi.

Paper – II **100 Marks**

1. Agriculture – Nature and Importance – Trends in agricultural production and productivity, factors determination productivity, land reforms, new agricultural strategy and Green Revolution. Rural credit and agricultural marketing.
2. Industry-Industrial development during the planning period, Industrial Policy of 1948, 1956, 1977 and 1991. Industrial Licensing Policy – MRTP Act, FERA and FEMA, Growth and problems of small scale industries, Role of Public Sector Enterprises in India's Industrialization.
3. External Sector – Role of foreign trade, trends in export and imports. Composition and direction of India's foreign trade, BOP crisis, export promotion Vs., importsuastitution-Export promotion measures and the new trade policies. Foreign Capital – FDI, Aid and MNCs.
4. Money Market – Money supply, money market and banking structure, the RBI and Monetary policy, Indian Stock Market and SEBI.
5. Finance – India's fiscal policy, Union budget, Centre-=State financial relations, Finance Commission and Planning Commission.
6. New Economic Reforms in India after 90's – Fiscal Reforms, Monetary Reforms ad Trade Reforms – TRIPS & TRIMs, Globalisation and Privatisation.

References :

1. Dutta, R. & K.P.M. Sundaram (2001) : Indian Economy, S. Chanda & Company Ltd., New Delhi.
2. Ahluwalia, I.J. and IMD Little (Eds) (1999) : India's Economic Reforms and Developments, Oxford University Press, New Delhi.
3. Jalan, B. (1992) : The Indian Economy : Problems of Prospects, Viking, New Delhi.
4. Jalan, B. (1996) : India's Economic Policy – preparing to the 21st Century, Viking, New Delhi.
5. Uma Kapila : Indian Economy.
6. Parikh K.S. (1999) : India Development Report-1999, 2000, Oxford University Press, New Delhi.
7. Dhingra, I.C. (2001) : The Indian Economy-Environment and Policy, Sultan Chand and Sons, New Delhi.
8. Dutta, R. (Ed.) (2001) : Second Generation Economic Reforms in India, Deep and Deep Publications, New Delhi.

GEOGRAPHY OF INDIA

Paper – I **Physical Aspects** **100 Marks**

Unit – I :
1. (a) Introduction Unity in Diversity, India's relations in space, India and oriental world, our neighbour.
   (b) Physical features.
   (c) Drainage Systems
      (i) Himalayan river
      (ii) Peninsular river

Unit – II :
1. (a) Climate :
      (i) Factors influencing the climate
      (ii) Mechanism of Indian Monsoon
      (iii) Seasons
2. Soil, Classification, Characteristics and Distribution, Boil Conservation
3. Natural vegetation
      (i) Types and distribution of natural vegetation
      (ii) Forestry and Foreign management

Unit – III :
1. Irrigation and Agriculture

(a) (i) Sources of irrigation

(ii) Special pattern of development of irrigation

(b) Agriculture

(i) Cropping intensity, crop rotation and crop combination.

(ii) Distribution and production of major crop rice, wheat, cotton, tea, sugar cane, jowar bajra.

(iii) Problems of Indian agriculture

(iv) Agro-climate regions

Paper – II **Human and Economics Geography of India** **100 Marks**

Unit – I (i) Human diversity in Indian Races and Tribes. Their Types, Charactristics and Spatial distribution in India.

(ii) Population growth and migrations – Growth of population spetial patterns, Density and distribution of population sex composition, Age structure, Trend and pattern of migration, Population problems, Population resources and environment. Effect of rural migration on cities.

Settlement :

Rural and urban settlement pattern in India, Problems of rural urban fringe, problems of small towns, housing problems within the cities, problems of slum areas trend of urbanization in India.

Unit – III **Transport :**

1) Railways, Roadways, Inland Water Ways, Airways.

2) Role of Transport in the regional development, Region to be emphasized are Northern Plain Forth East region, Peninsular India.

Books Prescribed :

1. Geography of India Resource and Regional Development NCERT Publication.
2. India on the move NCERT Publication.
3. General Geography of India Moomrs Ranjan NCET, New Delhi, 1978.
4. Physical Geography of India : A Study of Regional Earth Science Saroj K. Pal. Crient Longman Ltd. New Delhi, 1998.
5. Economics and Commercial Geography of India, C.B. Mamoria.

LANDMARKS IN INDIANN HISTORY

Paper – I **100 Marks**

(Forces shaping the course of Indian History)

Topics :

Unit – I :
1. Geographical Background – Physiography, Land, People and Environment.
2. First urbanization in India
   - (a) Distribution and extent
   - (b) Material culture
   - (c) Settlement pattern

Unit – II :
1. Vedic Culture
   - (a) Society
   - (b) Religion
2. Religious Reform Movements
   - (a) Buddhism
   - (b) Jainism

Unit – III :
1. Janapada and Ascendancy of Magadha, Sixteen Mahajanapadas, Bimbisara, Ajatasatru and Mahapadmananda.
2. Mauryan Empire
   - (a) Kautilya's Arthasastra (i) State (ii) Economy
   - (b) Asoka's Dharma

Unit – IV :
1. Advent of foreign powers and their assimilation – Indo Greeks and Kushanas.
2. (i) Trade and Commerce
   (ii) Art and Architecture :
      - (a) Trade routes
      - (b) Internal trade and external trade
      - (c) Medium of exchange and currency
      - (d) Sanchi Stupa
      - (e) Gandhara School and
      - (f) Mathura School

Unit – V :
1. Gupta Empire and Political Consolidation
   - (a) Chandragupta-I
   - (b) Samudragupta
   - (c) Chandragupta-II

2. Renaissance during Gupta role :

(i) Literature

(ii) Religion

(iii) Art and Temple Architecture Ajanta Paintings

(iv) Foreign Contacts

Paper – II **100 Marks**

Unit – I (1) Advent of Islam and Establishment of the Sultanate. Arab Invasion of Sindh, Iltutmish and Ala-ud-din Khilji.

(2) Early Medieval, Social structure, Urbanisation and Religious Movements (Sufism and Bhakti).

Unit – II (1) Establishment and decline of the Mughal Empire

(i) Babur

(ii) Akbar

(iii) Aurangzeb

(2) (i) Mughal Administration

(ii) Art Architecture

(iii) Impact of Islam

Unit – III (1) Rise of Regional Powers – Bengal, Mysore, Maratha.

(2) Advent of Europeans and Establishment of British Rule :

(i) Emergence of French, Dutch and British East India Company and war for supremacy

(ii) Battle of Plassey, Battle of Buxar; Anglo-Mysore and Anglo-Marathas Wars.

Unit – IV (1) Indian Naturalism – British Economic Impacts, Industry, Trade and Commerce and Communication.

(2) Indian Nationalism – Social Impact, Brahmo Samaj, Arya Samaj ad Ramakrishna and Theosophical Society.

Unit – V : 1. Indian Freedom Movement

(a) First War of Independence and British Crown

(b) Indian National Congress and Mahatma Gandhi Indian National Army and Subash Chandra Bose

2. Partition and Independence :

(a) Rise of Muslim Separatism

(b) Indian Independence Act and 1947

Books Prescribed :

"Land Mark in Indian History"

1. By Prof. P.K. Mishra
2. By Dr. S.P. Nanda

SCIENCE AND TECHNOLOGY

There shall be two theory papers each of three hours duration carrying 100 marks.

Details of theory are not required for scientific topics.

Paper – I **100 Marks**

Topics :

Unit – I :

(a) Science as a Human Endeavour : History of Science, The Institution of Science, The Methods, Tradition and Social Function of Science.

(b) Science in the Ancient World : (i) Primitive Human Society (Stone Age), (ii) The Origin of Agriculture and Civilization and Technical Achievements of Bronze Age, (iii) Indus Valley Civilization.

(c) Iron Age : Science in Iron Age India and Greece, Atomic Theory in Antiquity, Decline of European Science.

Unit –II :

(a) The Golden Age of Science in India, Introduction, Second Urban Civilization in India, the Gupta Period, Age of Conflict.

(b) Science in the Medieval Times : Introduction, The Arab Renaissance, Science and Technology in Medieval India, Impediments to the Growth of Science in India.

(c) Renaissance, The Industrial Revolution and After : Science and Techniques in Medieval Europe, The Renaissance (1440-1540), Science in the Renaissance Period ()1540-1760), The Industrial Revolution (1760-1830) and After.

Unit –III :

(a) Science in Colonial and Modern India.

(b) The method of science and the nature of scientific knowledge : Science – it's many facets, the nature of scientific knowledge, Scientific Approach to Problem solving

(c) Universe as a System : Introduction, Historical Perspective, The Physical Universe, Exploring the Universe, Probing the Universe, Understanding the Universe.

Unit – IV : (a) The Solar Systems : Introduction, The Solar System – a general survey, The Sun a Model Star, The Plantes; Asteroids ad Comets, The Earth – a most familiar Planet, Formation of the Solar System.

(b) Origin and Evolution of Life and Man : Introduction, Origin of Life on the Earth, Biological Evolution, Systems Views of Life, Extra-terrestrial life, Theory and Evidences of Evolution of Man.

Unit – V : Environment and Resources :

(a) Ecosystem : Introduction, Ecology and Environment, Ecosystems, Cycling of material in the ecosystem, Interaction in the Earth Ecosystem.

(b) Environment : Introduction, The Ocean, The Atmosphere due to Noise and Radiations, Impact of Technology and Population increase on Environment.

(c) Resources : Natural resources and it's uses, Energy-A Non-Conventional Renewable Resource. Exploration of Resources, Recycling of Used Resources and Waste, Resource Planning and Management, Conservation of Natural Resources.

Books Recommended :

1. The Story of Civilization, Vol. 1 & 2, Arjun Dev, NCERT, 1987.
2. A Concise History of Science in India. Edited by D.M. Bose, S.N. Sen and B.V. Subbryappa, Indian National Science Academy, 1971.
3. Science and Society in Ancient India, D.P. Chattopadhyaya, research India Publication, Calcutta, 1979.
4. Science and Society – An Anthology, Compiled and Edited by A.K. Jalaluddin, U. Malik and R.P. Bhatia, Rajkamal Prakashan Pvt. Ltd., 1987.
5. Science, Non-science and Paranomal. Edited by Dr. H. Narasimhaiah, Bangalore Science Forum, 1987.
6. Cosmos, Carl Saga, Ballantine Books, New York, 1985.
7. The Ascent of Man, J. Boonowski, BBC, London, 1976.
8. New Guide to Science, by Issac Asimov, Penguin, 1987.
9. General Geography of India, Part I & II, NCERT Pub.
10. The State of India's Environment. The first and second citizen's report, Centre for Science and Environment.

Paper – II **100 Marks**

Unit – I (a) Food and Agriculture, Agriculture in India, Basic resources for Agriculture, The Plant and Animal Wealth in India, Scientific and Technological Advancement in

Agriculture, Agro techniques, Livestocks, Poultry, Fisheries, Biotechnology in Agriculture.

(b) Food and Nutrition : Importance of Nutrition, Nutrient Groups and their functions, Essential Nutrients, Foods as fuel, Balance Diet, Food fads and allergies, Adulteration of Food, Malnutrition and Ill Health.

(c) Health and Diseases : Good Health, Diseases, Infactious diseases, Transmission and Prevention of diseases, Health Care in India.

Unit – II (a) Mid and Body : Mind – Body question, Neurons, Central Nervous System (CNS), Peripheral Nervous System (PNS), Hormonal System.

(b) Psychological Aspects of Behaviour : Learning Intelligence Quotient, Creativity, Adolescence, Aspirations, Conflicts and Frustrations, Aggression, Experiments with Man in Space.

(c) Information and Communication : Communication in creating awareness. In promoting education, and in cultural understanding, Mass Communication, Technological advances in communication, Social and economics impact of modern communication technology, New World Information and Communication Order.

Unit – III (a) Science and Technology in Industry : The Indian Context, Technology in Industry, Economic Development and Self Reliance, Research and Development in Industry.

(b) Technology and Economic Development, Technology Policy, Technology Transfer, Current Technological Developments, Limited Accesses to Technology.

Unit – IV (a) Modern Developments in science and Technology – LASER – putting light to work, fibre optics, space technology, Fission and Fusion Energies, 'Biotechnology'.

(b) Modern Developments in Science and Technology – II : Semiconductors, Computer technology, Robotics Material Science and Technology, Technology fibre casting.

Unit – V (a) Perceptions and Aspirations : Science and Society interactions, Need for a system approach, Relevance of Past to Present, New Perceptions and Aspirations.

(b) Science – The Road to Development : Quest of Prosperity to all (technology, as a tool for domination), New International Economic Order, Exploded Myths, Self-reliance, Science and Technology for National Development.

Books Recommenced :

1. A History of Agriculture in India. Vol. I & II, M.S. Randhawa ICAR, 1980.
2. Handbook of Food and Nutrition. M.S. Swaminathan, Abappco Publication.
3. Nutritive Values of Indian Foods. C. Gopalan, B.V. Ramasastri and S.C. Balasubramanian, National Institute of Nutrition, ICMR, New Delhi.
4. New Guide to Science, Issac Asimov, Penguin, 1987.
5. Textbook of Child Behaviour and Development. P. Kuppuswamy, Vani Educational Books, 1984.
6. Communication Media – Yesterday, Today and Tomorrow. P.N. Malhan, Publication Division, Ministry of Information and Broadcasting, Govt. of India, 1985. Modern Developments in Science and Technology.

MATHEMATICS

(Students having Mathematics at the 2+ stage are only eligible to take major elective)

Paper – I **100 Marks**

Unit – I : **Differential Calculas :** **20 Marks**

Partial Differentiation, Maxima, Minima, Singularities, Tracing of Curve, Curvature.

Unit – II : **Integral Calculas :** **20 Marks**

Definite Integral, Area, Length, Solution of differential equation of 1^{st} and 2^{nd} order by method of separation of variables and substitution method.

Unit – III : **Linear Algebra :** **20 Marks**

Solution of linear equation, Homogeneous and Non-homogeneous equation by Gauss method, Matrix, Or thogonality, Rank Eigen value.

Unit – IV : **Probability :** **20 Marks**

Elementary concept of probability distribution, distribution function finding the expectation, variance, standard deviation with special emphasis on Binomial, Poisson and Normal Distribution.

Unit – V : **Statistics Methods :** **20 Marks**

Collection and Representation of Data, frequency distribution, measures of tendency, measures of dispersions, Co-relation and regression analysis, index number, time series analysis.

Books Recommended :

1. Text Book of Differential Calculus by Gorakh Prasad, Pothisala Pvt. Ltd. Allahabad.
2. Text Book of Integral Calculas by Gorakh Prasad, Pothisala Pvt. Ltd. Allhabad.

3. Elements of Probability Theory by D. Pratihari and S.P. Mohanty, Kalyani Publishers, New Delhi.

4. Introduction to Numerical and Statistical Methods by P. Mukherjee and K.Chatterjee, Somnath Prakashan, Calcutta.

Paper – II **100 Marks**

Unit – I : **Algebra :** **20 Marks**

Group Theory : Definition of a Group, Some examples of group, sub-groups and normal sub-groups, Homomorphism, Ring Theory : Definition and examples of Ring. Some special classes of rings, Homomorphism.

Unit – II : **Programming in FORTRAN :** **20 Marks**

Algorithm and Flow Chart, Constants, Variables, Expression in FORTRAN, Control Statements, Programming of simple problems.

Unit – III : **Numerical Methods :** **20 Marks**

Approximation of numbers and errors, finite differences interpolation, numerical integration, solution of system of linear equations.

Unit – IV : **Operation Research :** **20 Marks**

Solution of Linear Programming problem by graphical and simplex method.

Unit – V : **Mathematical Methods :** **20 Marks**

Integral Transforms : Laplace Transforms and Fourier Transforms.

Books Recommended :

1. Topics in Algebra by L.N. Herstein, Vikash Publ. Pvt. Ltd. Chapter – 2 (2.1-2.4, 2.6, 2.7), Chapter – 3 (3.1-3.3).

2. Programming in FORTRAN 77 by V. Rajaraman, PHI, New Delhi.

3. Introduction to Numerical and Statistical Methods by P. Mukherjee and K. Chatterjee, Somanath Prakashan, Calcutta. Chapters – 1, 2, 3, 5, 7.

4. Operation. Research by B.S. Goel and K.S. Mittal, Pragati Prakashini, Meerut.

5. Advanced Engineering Mathematics by E. Kreysizic, Wiley Eastern Ltd. ND.

6. Advanced Engineering Mathematics by B.S. Grewal, Kanha Publishers, ND.

STATISTICS

There shall be two theoretical papers each carrying 100 marks and each of 3 hours duration.

Paper – I **100 Marks**

a)	Probability Theory	20 Marks
b)	Statistical Methods	60 Marks
c)	Time Series	20 Marks

Paper – II **100 Marks**

a)	Design and Analysis of Experiments	30 Marks
b)	Sampling Techniques	30 Marks
c)	Vital Statistics	20 Marks
d)	Statistical Quality Control	20 Marks

DETAILED SYLLABUS :

Paper – I **100 Marks**

(a) Probability Theory **20 Marks**

Unit – I Definition of probability, classical and axiomatic approach, laws of addition and multiplication of probability, conditional probability, independent events, pair wise independence. Random variable, distribution function, mathematical expectation, addition and multiplication theorem of expectation, moment generating function – Standard univariate distributions and properties. Discrete : Binomial and poisson distribution and their properties. Continuous : Normal distribution and its properties.

Books Recommended :

1. Fundamental of Mathematical Statistics : S.C. Gupta and V.K. Kapoor.
2. Elementary Probability Theory with Stochastic Processes; Springer International Students Edn.; K.L. Chung.

(b) Statistical Methods **60 Marks**

Unit – II Idea of population and sample, measures of central tendency mean, median, mode, partition values, measures of dispersion, moments, skewness and kurtosis. Bivariate distribution, scatter diagram, regression lines, regression coefficients, fitting of curves by feast principle, (Polynomial, Exponential and Logarithmic).

Unit – III Correlation coefficient, rank correlation, correlation ratio, intradass correlation coefficient, partial and multiple correlations, Regression plane (three variables only).

Theory of attributes : consistency of data, interdependence of attributes measures of association.

Unit – IV Test of significance : Null and Alternative Hypotheses, level of significance Type-I error and Type-II error. Description of chi-square, t ad F statistics, test of mean and variance of normal population, test of equality of two means and test of equality of two variances of two normal populations, other uses of chi-square, t and F statistics, large sample tests.

Books Recommended :

1. Fundamental of Mathematical Statistics V.K. Kapoor and S.C. Gupta.
2. Fundamental of Statistical Method by C.B. Gupta.

(c) Time Series Analysis **20 Marks**

Unit – V Meaning and uses of time series, components of time series, measurement of trend-graphic method, method of semi-average, method of moving averages, method of least squares-linear and parabolic trend, variate difference method. Merits and Demerits of different methods for trend elimination. Method of iterated averages, Approximation moving averages, Measurement of seasonal indices – Methods of simple averages, Ratio to trend and link relatives, method of trend elimination by fitting mathematical curves, determination of cyclical component.

Books Recommended :

1. Applied Statistics : Parimal Mukhopadhyay.
2. Applied Statistics : S.C. Guta and V.K. Kappor.

Paper – II **100 Marks**

(a) Design and Analysis of Experiments **20 Marks**

Unit – I Analysis of variance : one way and two way classification for one observation per cell and more than one observation per cell for fixed effect model analysis.

Unit – II Basic principle of design of experiments Randomisation, replication and local control, CRD, RBD, LSD, missing plot technique in RBD and LSD, efficiency of the designs.

(b) Sampling Techniques **30 Marks**

Unit – III Concepts of population and samples, need for sampling, complete survey and sample survey, Basic concepts of sampling, organisational aspect of survey sampling, samples selection and sample size, basic sampling methods, simple random sampling (SRS) with and without replacement.

Unit – IV Stratified random sampling, proportional and optimal allocation, systematic sampling.

(c) Vital Statistics **20 Marks**

Unit – V Vital statistics : Vital rates and ratios, crude death rate, infant mortality, specific death rate, standardized death rates, crude and specific birth rates, general fertility rate, total fertility rate, gross and net reproduction rates, elements of life table and uses.

(d) Statistical Quality Control **20 Marks**

Unit – V Basic concept of quality control, different types of control charts, control charts of variables, mean and range, mean and standard deviation, control chart for attributes : P.-Chart, C-Chart. Producer and consumer risks, Description of single and double sampling plans OC and AOQ curves.

Books Recommended :

1. Applied Statistics : S.C. Guta and V.K. Kappor.
2. Design of Experiments : M.N. Das and N.C. Giri.
3. Applied Statistics : Parimal Mukhopadhyay.
4. Sample Surveys Methods and its Applications : P.V. Sukhatme and B.V. Sukhatme.
5. Basic Demographic Techniques and Applications : K. Srinivasan.

HOME SCIENCE

There shall be two theory papers each carrying 100 marks.

Paper – I Theory Food and Nutrition **100 Marks**

Paper – II **Theory Home Management** **100 Marks**

Instructions to the Paper Setter :

1. Questions shall be set unit wise with minimum two questions from each unit (Total 10 questions). The students shall be asked to answer one question from each unit (total 5 questions).
2. Maximum 60% of the questions shall be long answered type and 40% shall be short answered and/or objective types.

Paper – I **100 Marks**

(i) Probability Theory

Unit – I Food : Constituents of food, classification of nutrients, their function, source, composition, properties. Recommended allowances for man, woman and children and deficiency of protein, carbohydrates, lipids, minerals, vitamins, roughages and water.

Unit – II Nutritive Value of Foods : Nutritive value of cereals, pulses, nuts, oilseeds, green vegetables, roots and tubers, fruits, milk and milk product, sugar, jiggery, spices and condiments, fleshy foods (meat and fish) eggs, Food Groups : A balanced diet, basic food groups.

Unit – III Utilization of Nutrients : Metabolism of proteins, carbohydrates and fats. Factors influencing basal metabolism. Measuring and determining energy content of food consumption.

Unit – IV Meal Planning : Definition and factors considered in meal planning, Reviewing recommended nutritional requirement for balanced diet and planning diet in case of pregnancy, lactation, heavy working, moderate working man and women, infants, children adolescents (boys and girls), old man and woman.

Unit – V Food Processing : Methods of food preparation, changes in food during preparation, effect of preparation on nutritive value, causes and factors of food spoilage. Importance and principles of food preservation, Houwehold and commercial methods of food preservation, Food adulteration and food poisoning.

Books Recommended :

1. Human Nutrition and Dietetics – Davidson and Passmore
2. Food and Nutrition – Educational Planning Group
3. Essential of Food Nutrition, Vol. I & II – M.S. Swaminathan
4. Normal and Therapeutic Nutrition – Robinson, Oxford and HIB
5. Food Science - Shrilakshmi
6. Food Microbiology – M.R. Adams and M.O. Moss
7. All Publications of NIN
8. Principles of Nutrition – Psher and Fuqua
9. Nutrition – F.P. Antia
10. Text Book of Human Nutrition – M.S. Bamji, N.P. Rao & V. Reddy
11. Nutrition : An Integrated Approach by Pike and Brown

Paper – II **Home Management** **100 Marks**

Unit – I Introduction to Home Management : The home, its role and function, the role of women, values, goals and standards. The Management Process : Steps of management process planning, organising, assembling resources, implementation and evaluation. Decision making in home management. The quality of a good home maker.

Unit – II Management of Resources : Types of resources, Management of time : Steps in making daily, weekly time plan, evaluation of time plan. Management of energy : Efforts used in home making activities, energy requirements in different tasks.

Fatigue - Forms of fatigue, how to reduce fatigue, techniques of work simplification.

Unit – III Management of Money : Types of income, management of income, planning a budget, steps in the preparation of budget, Engel's law of consumption, keeping records and accounts, means to supplement income, savings as investment.

Unit – IV Housing : Selection of sites, planning of houses for different income levels. Different types of building materials for low, middle and high income group at different geographical areas and climates. Housing problems, different types of housing schemes by government and non-government agencies, Interior decoration : Basic principles and elements of design, organization of space, arrangement of different rooms of different purposes.

Unit – V Colour : Importance of colour in interior decoration, planning colour schemes and colour combination for interior decoration.

Flower Arrangement : Types of flower arrangement, Equipments needed for flower arrangement, rules to be followed and placement of flower arrangement.

Books Recommended :

1. Home Management by Educational Planning Group
2. Home Management by M.K. Mann
3. Management of Family Living by Nickell and Dorsey
4. Management in Family Living by Gross and Crandall
5. Interior Decoration – A do it yourself by Pramilla Mehra
6. Home Furnishing by A.H. Rutt
7. The Art of Flower and Foliage Arrangement by A.H. Rutt
8. Designing for Living by K.M. Ford & A. Crighton Rinehart
9. How to Colour – Tune your Home by Louis Cheskin
10. The House by Agan

EDUCATION

Paper – I **Principles of Education** **100 Marks**

Unit – I :
(i) Education – its meaning and definitions
(ii) Aims and Education
(iii) Functions of Education

Unit –II :
(i) Agencies of Education – Formal and Informal, Active and Passive

(ii) School of Home as Agencies of Education

(iii) Value Education – Meaning, Needs of Value Education, Curriculum and value Education

Unit –III : (i) Constitutional Provisions for Education

(ii) Universalisation of Primary Education

(iii) Education of the deprived groups (SC, ST and Women)

(iv) National Policy on Education, 1986

Unit – IV : Thinkers of Education

(i) Mahatma Gandhi

(ii) Rabindranath Tagore

(iii) Rousseau

(iv) John Dewey

Unit –III : (i) Education and Society

(ii) Education as an Instrument of Social Change and Social Control

(iii) Role of Education in Promotion of National Integration and International Understanding

Paper – II **Learner and Learning Process** **100 Marks**

Unit – I (i) Educational Psychology – Meaning, Nature and Scope

(ii) How does Educational Psychology help in the teachers?

Unit – II (i) Human Growth and Development

(ii) Principles of Growth and Development

(iii) Stages of Development – Infancy, Childhood and Adolescence

(iv) Physical, Mental, Social and Emotional Development during Infancy, Childhood and Adolescence

Unit – III (i) Learning – Meaning, Nature and Characteristics

(ii) Early Theories of Learning – Trial and Error, Conditioning

(iii) Laws of Learning

Unit – IV (i) Intelligence – Meaning, Nature and its measurement

(ii) Creativity : Meaning, Stages of Creativity, Role of Teachers in promoting creativity among learners.

Unit – V (i) Evaluation of learning outcomes, Concept of measurement and evaluation, Defects in present system of examination, Continuous and Comprehensive evaluation.

(ii) Elementary Educational Statistics – Mean, Median and Mode. Their computation and use in educational data.

PHILOSOPHY

Paper – I **Contemporary Indian Philosophy** **100 Marks**

1. Characteristics of Contemporary Indian Philosophy
2. Swami Vivekananda – Karma Yoga, Jnana Yoga, Religion
3. Rabindranath Tagore – Concept of God (Reality and God, proof for the existence of God, Creation, Doctrine of Meya), Nature of Man, Humanism.
4. M.K. Gandhi – Truth, Non-violence, Philosophy of End and Means.
5. Sri Aurobindo – The Philosophical Background, Concept of Satchitananda Super Mind.
6. Dr. S. Radhakrishnan – Theory of Religion, Intuition

Books Recommended :

1. Contemporary Indian Philosophy – B.K. Lal.
2. Contemporary Indian Philosophy – T.M.P.M. Mahadevan & G.V. Saroja.
3. Contemporary Indian Philosophy – S.S. Barlingey.
4. Modern India Thought – D.R. Bali.

Paper – II **History of Western Philosophy** **100 Marks**

1. Francis Bacon – Theory of Idola, Theory of Knowledge.
2. Rene Descartes – Cogito-Ergo-Sum, Existence of God, Mind-Body Relation.
3. Benedict de Spinoza – Substance, Attributes and Modes.
4. Leibnitz – Theory of Monads, Pre-establish harmony.
5. John Locke – Refutation of Innate Ideas, Theory of Knowledge.
6. David Hume – Theory of Knowledge, Scepticism.
7. Immanuel Kant – Reconciliation between Empiricism and Rationalism.

Books Recommenced :

1. History of Modern European Philosophy – Ratnakar Pati.
2. A Critical History of Western Philosophy – Y. Masshi.
3. History of Modern Philosophy – R. Falkenberg.
4. A History of Philosophy – Frank Thilly.

PHYCHOLOGY

Paper – I	Industrial Psychology	100 Marks
Paper – II	Psychology of Violence and Crime	100 Marks

Paper – I **Industrial Psychology** **100 Marks**

Unit – I (1) Concept of Organisational and Industrial Psychology

Unit – II (2) Scientific Management and Hawthorn Studies

Unit – III (3) Industrial Incentives : Financial and Non-financial

(4) Industrial morale : Meaning, methods of improving morale

Unit – IV (5) Work environment : Air, Illumination and Noise

(6) Fatigue : Causes and reduction of Industrial fatigue

Unit – V (7) Industrial Accidents : Causes and prevention, Accident proneness, Tests to measure accident proneness.

(8) Selection and Training of Personnel.

Books Recommended :

1. Berry, L.M. : Psychology at Work; An Introduction to Industrial and Orgnisational Psychology. McGraw Hill, New York.
2. Blum & Naylor : Industrial Psychology, CBS Publishers.
3. Ghiselli & Brown : Personnel and Industrial Psychology.
4. Luthans : Organisational Behaviour, McGraw Hill, New York.
5. Mohanty, G.B. : Industrial Psychology and Organisational Behaviour, Kalyani Publishers, New Delhi.
6. Tiffin and McCormick : Industrial Psychology, Prentice Hall of India, New Delhi.
7. Viteles : Industrial Psychology.

Paper – II **Psychology of Violence and Crime** **100 Marks**

Unit – I (1) Introduction : Concepts and operational definitions of aggression, violence and crime.

Unit – II (2) Theories of Aggression : Instinct theories of aggression; Frustration – Aggression hypothesis, Social learning theory.

Unit – III (3) Crime – Psychological, social and economic factors of crime, control of crime.

(4) Juvenile delinquency : Causes and prevention.

(5) Gender discrimination : crimes against women and its prevention.

Unit – IV (6) Role of the electronic and print media in the facilitation and control of violence and crime Cybercrimes.

Unit – V (7) Counselling individuals and groups are prevention of crimes. Rehabilitation of the victims of crime, Moral education, Yoga and Transedendental meditation, Non-aggression.

Books Recommenced :

1. Bakowitz, L. : Aggression : A Social Psychology Analysis, McGraw Hill, New York.
2. Baron, R.A. : Psychology, Prentice Hall of India, New Delhi.
3. Baron, R.A. and Richardson, D. : Human Aggression Plenum, New York.
4. Bass, A.H. : The Psychology of Aggression, Willey, New York.
5. Brammer, L.M. and Shostram, E.K. : Therapeutic Psychology : Fundamentals of Counselling and Psychology, Prentice Hall, New Jersy.
6. Goldstein, J.H. : Aggression, Crime and Violence, Oxford University Press.
7. Hetherington, E. ; Mavis, E. and Parke, E. : Child Psychology : A Contemporary Viewpoint, McGraw Hill.
8. Pande, J. : Psychology in India Revisited – Developments in the Discipline (Vol. II), Sage Publication, New Delhi.

ENGLISH

There shall be 2 papers carrying 100 marks each.

Elective English – I

The paper shall consist of 2 novels and 6 short stories. There shall be 2 essay type questions with alternatives as each novel carrying 18 marks each. In addition, 4 short answer type questions on the novels (to be answered within 200 words each) shall be set, each carrying 8 marks.

On short stories there shall be 4 short answer type questions (to be answered within 200 words each) each carrying 8 marks.

Tests :

1. (Novels : I) Shirshendu Mukhopadhyay-6 Woodwork (Macmillan-Modern Indian Novels in Translation).
2. Scott Fitzerlad – The Great Gatsby Short Stories : Jatin Mohanty (ed) Ten Short Stories (Universities Press)

   The following stories are prescribed :

   Tolstoy : What Men Live by

   O'Henry : The Romance of a Busy Broker

   Mansfield : A Cup of Tea

   Cheko : The Best

Hemingway : A Canary for One

Narayan : Lawley Road

Elective English – II

The paper shall consist of 7 poems and a play. There shall be 2 essay type questions with alternatives on the poems, carrying 20 marks each. In addition, two annotations from prescribed poems shall be set, carrying 10 marks each.

There shall be one essay type question with alternative on the play carrying 20 marks. In addition, 4 short answer types questions (to be answered within 150 words each) from the play shall be set, carrying 5 marks.

	Texts	:	The following poems shall be studied :
	Blake	:	The Tiger
	Keats	:	To Autumn
	Arnold	:	Dever Beach
	Eliot	:	Preludes
	Yeats	:	Easter 1916
	Ted Hughes	:	Hawk Roasting
	A.K. Ramanujan	:	A River
(ii)	Ibsen	:	The Pillars of Society (Macmillan)

FUNCTION ENGLISH

This subject comprises two papers, each carrying 100 marks of theory only – no practical or oral examination is allowed.

Paper – I (Oral Communication Skills in English) **100 Marks**

(i) to familiarize learners with the functioning of English Sounds, through listening to audio cassettes.

(ii) to enable learners to achieve accuracy in oral production by encouraging the use of the pronunciation dictionary.

(iii) to enable learners to achieve on optimum level of intelligibility and fluency in speech.

Unit – I Phonetic Symbols for Consonants, Individual Symbiosis 15 marks to be identified from orthographic representations (that is from written words)

Unit – II Monopthongs and Dipthongs (to be identified from 15 marks written words as above in Unit-I)

Unit – III Orthographic Consonant Clusters (e.g. CCVCV, CCCVCV, CVCCV etc.) – 10 marks

Unit – IV Division of worlds into Syllabus – 15 marks

Unit – V Word Stress (Stressed Syllabus to be identified in disyllabic and trisyllabic words) – 15 marks

Unit – VI Weak forms and contractions in sentences (5 sentences, each carrying 2 marks) – 10 marks

Unit – VII Sentences Stress – Pause and Juncture (5 sentences, each carrying 2 marks) – 10 marks

Unit – VIII Intonation Patterns – Rising Tone and Falling Tone (Learners should also know the use if Falling-Rising Tones) – 10 marks

(Situations to be sued : Greeting, Farewell, Introduction Thanks Giving, Begging Apology, Expressing Regret, Conveying Congratulations, Condolences, Making offers, Enquiries, Leave taking, Drawing attention, etc. Learners are to be taught how to say each of the above in single sentences forms using falling or rising or sometimes using falling-rising tones).

Bibliography :

1. Bansal, R.K. and Harrison, H.B. – Spoken English for India, Orient Longman.
2. Klippel, F. Keep Talking, CUP, Cambridge, 1984.
3. O' Connor, J.D. – Better English Pronunciation UBS, 1992.
4. Srearalson, M.C. – Spoken English, Vikash, 2001. A Course in Spoken English, CIEEL, Hyderabad – A set of 21 Cassettes/A set of 8 Cassettes also available – Enquires to be made for CDs).

Paper – II **Written Communication Skills** **100 Marks**

Objectives :

(i) To enhance learners ability to communicate in written English effectively.

(ii) To enable learners to master the register and acquire the style required for the variety of purposes for which they use English.

(iii) To enable the learners to interact with others in English with confidence and clarity.

Unit – I Introduction to Language and Linguistics in general what is register-varieties of register-what is formal style and informal style-when to use them 5+5 = 10 marks

Unit – II Language functions – descriptions expressive and social - 5 marks

Unit – III Differences among Verbal, non-verbal and written communications – 5 marks

Unit – IV How to use bias-free non-insuiting or non-offending words in English, How to use plain English instead of hyperboles. – 10 marks

Unit – V Greetings/Introduction/Leave taking – 10 marks

Unit – VI Making Requests/Granting requests/Refusing Requests – 10 marks

a) Thanking

b) Extending Invitation/accepting end declining invitation

Unit – VII Making Enquiries/Giving Information/Giving Directions/Asking for Directions – 10 marks

Unit – VIII Describing People/Objects/Processes/Procedures – 10 marks

(Situations to be sued : Greeting, Farewell, Introduction Thanks Giving, Begging Apology, Expressing Regret, Conveying Congratulations, Condolences, Making offers, Enquiries, Leave taking, Drawing attention, etc. Learners are to be taught how to say each of the above in single sentences forms using falling or rising or sometimes using falling-rising tones).

Unit – IX Narrating Events/Eye/Witness accounts – 10 marks

Unit – X Making Complaints/Suggestion/Apologizing Offering Excuses – 10 marks

Unit – XI Offering Emptional Support /Motivating People Expressing Condolences – 10 marks

Unit – VIII How to do things with words (Use of performative verbs). To instruct, command, request, accept, opening refuse, prohibit, persuade, promise, opening an event or programme, arresting some one etc.) – 2x5 = 10 marks

(Learners are to give five different examples).

Bibliography :

1. Jones, Lao – Functions of English :
   (i) Teacher's Book (1981)
   (ii) Students Book (1981)
2. Jones, Leo – Notions of English, CUP, Cambridge, 1979.
3. Leech, G.N. and Svartvik, J.A. – Communicative Grammar of English, Longman, 1981.
4. Sealey, John – Oxford Guide to Writing and Speaking OUP, 1998.

ARCHAEOLOGY AND MUSEOLOGY

Paper – I **Introduction to Archaeology and Archaeology in Indian Perspective** **100 Marks**

Group – A :

1. Definition, Aim and Scope of Archaeology : Its relation with other disciplines
2. Methods of Archaeological explorations
3. Methods of Archaeological explorations

   (a) Vertical and (b) Ecrizental methods

4. Stratigraphy
5. Methods of Dating the past :
   (a) Relative method, (b) Absolute scientific method carbon method, Tehermolominiscence method and dendrocheronology.
6. Ministry of Archaeology in India
7. Palaecithic Culture in India, A general background
8. Mesolothic evidence in India
9. Neolithic Culture in India
10. Harappan Culture with reference to urbanization
11. Chalcolithic Culture in India
12. Easy Historic Archaeology – Sisupalgarh Excavation

Books Recommended :

1. K.M. Srivastav : New Era of Indian Archaeology
2. D.P. Agarwalla : Archaeology of India, New Delhi.
3. B. & R. allehin : The Rise of Civilization in India and Pakistan, New Delhi, 1983.
4. Frencis Bordes : The Old Stone Age, London, 1963.
5. H.D. Sankalia : Prehistory and Protohistory of India and Pakistan, Poona, 1974.
6. D.P. Agarwalla and Sila Kusumgar : Pre-historic Chronology and Radiacorbon dating in India, New Delhi.
7. V. Gordon Childe : What happened in History, Pelican Books, 1948.

Paper – II Introduction to Museology and Indian Art and Antiquities 100 Marks

Group – A :

1. Definition, Aim and Scope of Museulogy.
2. Museum as a centre of cultural studies and history museum movement in India.
3. Different Kinds of Museums : Archaeological, Industrial and Natural.
4. Methods of Acquisition of Museum Objects : Registration, Cataloguing, Indexing and Exhibition.
5. Preservation of Museum Objects : Palmleaf Manuscript paper, textile, stone, metal, clay and wooden objects.
6. Select Indian Coins : Punch-marked coins, Gupta coins.
7. Select Inscriptions : Asokan Edicts, Hathigumpha Inscription Allahabad Pillar Inscription.
8. Select Monument : Stupa at Sanchi, Rock Cut Caves at Khandagiri and Udayagiri and Ajanta, Sun Temple at Konark.
9. Temples of Bhubaneswar : Parasurameswar, Lingaraj.

10. Temples of Western Orissa, Simaleswar Temple at Huma, Samaleswari Temple at Sambalpur and Kapileswr at Charda.

Books :

1. Indian Architecture – Percy Brown (Hindu and Buddhists) Vol. I
2. India Architecture – Percy Brown (Muslim Period) Vol. II
3. Temples of North India – Krishnadan
4. Antiquities of Orissa – R.L. Mitra
5. Bhubaneswar ASI Publication – Debala Mitra
6. Konarka
7. The Indian Paintings – Percy Brown
8. The Indian Painting – Percy Brown
9. Coins – P.L. Gupta
10. The Temple Art of Orissa – Vol. I, Vol. II & Vol. III by T.E. Donaldson
11. Temples of South India –K.R. Srinivasan

COMPUTER APPLICATION

Paper – I **Theory** **100 Marks**

(i) Logic gates, Principles of Boolean Algebra, SR and JK Flip Flops, Half address and Full address, Register Counter.

(ii) Binary, Octal, Hexadecimal number systems, Binary codes octal and Binary coded Hexa decimal, Addition substraction, multiplication and division and Binary numbers, conversion of one number system to another system.

(iii) Computer fundamentals, characteristics, generation, classification and general applications commonly used in computer oriented methods.

(iv) Basic ideas about integrated circuits, microprocessor; elements of computer – Input/Output/CPU/ALU, ideas about software and hardware.

(v) Computer languages – General characteristics of higher level programme language and writing programmes on small and fundamental problems.

Paper – II **100 Marks**

(i) Operating systems : MS DOS latest version, Principles of Disc operating system, Commands, Directory and File Management Commands, Copy and Edit Commands, Simple idea about UNIX.

(ii) Window 98 – General Features, My Computer, Recycle Bin, Title, Menu Option, Mouse and Key Boards.

(iii) MS Word – Word Processing, general features, creating table, file open and storage, copy, editing process, spell check and ideas about their provisions. MS-Excel – Introduction, Drawing of graph and figure, Functions of MS-Excel, Charts.

(iv) Machine Language, Assembly language, Data processing, General features of Foxpro : DBMS, Data structure idea only.

(v) Application of Computer : Virus, Internet, E-Commerce.

SANSKRIT

Syllabus for Effective Courses in Sanskrit.

There shall be two papers consisting of 100 marks each. The duration of examination of the paper of 3 hours. A students of Sanskrit (Hons.) and Pass shall not be allowed to offer Sanskrit as elective papers.

Paper – I **100 Marks**

1.	Abhijnya-nasakuntam – Kalidasa	70 Marks
2.	Selected Alankaras from Sahitya Darpana	30 Marks

Paper – II **100 Marks**

1.	Meghadutam (Purvpmegha) – Kalidasa	30 Marks
2.	Srimad Bhagavadgita (Ch. 15^{th})	30 Marks
3.	History of Sanskrit Literature (Selected Portions)	30 Marks
4.	Translation from Sanskrit to Oriya/English	10 Marks

Detailed of the Papers :

Paper – I Abhijnyanasakuntam by

(1) Dr. Gopinath Mohapatra

(2) Dr. Harekrushna Satapathy or of any Standard Publication

Alankaras : Anuprasa, Yamaka, Vakrokti, Upama Slesa, Utpreksa, Rupaka, Visesokati, Vibhavana, Arthantaranvasa, Apanhukti, vyatireka, Atisovakti, Kavyalinga, Bharantiman.

Prescribed Book :

Chhend & Alankara – By Dr. Niranjan Pati

Paper – II **100 Marks**

1. Definition, Aim and Scope of Museulogy.
   (1) Dr. Gopinath Mohapatra
   (2) Dr. Gopalkrushna Dash
2. Srimad Bhagabadgita – (15th Ch. – Purusottam Yasa) – by
   (1) Dr. Sujata Das & dr. N. Pati
   (2) By Dr. Gopinath Mohapatra
3. History of Sanskrit Literature – (Topics to be covered).
   The Epic – The Ramayana and the Mahabharata.
   Hints of the following great poets and Dramatists, Bhasa, Asvaghosa, Kalidasa, Bharavi, Magha, Sriharsa, Dandin, Banabhatta, Subandu, Bhartruhari, Jayadeva, Shudraka, Visakhadatta.
4. Translation from Sanskrit Passage to Oriya/English.

SOCIOLOGY

Paper – I **Introduction to Sociology** **100 Marks**

Unit – I : Meaning and Nature of Sociology

(a) Emergence of Sociology
(b) Meaning, Nature and Scope of Sociology
(c) Sociology and its relationship with other Social Science – Political Science, Economics, History
(d) Sociology and Social Psychology, Sociology and Social Anthropology

Unit – II : Basic Concerts :

(a) Society and Community
(b) Institution and Association
(c) Social Group – Primary, Secondary, References Groups
(d) Status and Role

Unit – III : Individual and Society :

(a) Relation between Individual and Society
(b) Culture and Personality
(c) Socialization – Types
(d) Theories of Socialization – Frend and Mead

Unit – IV : Social Stratification and Mobility :

(a) Meaning and Nature of Social Stratification

(b) Forms of Social Stratification

(c) Theories (Functionalist and Marxist)

(d) Social Mobility – Meaning and Forms.

Unit – V : Social Change :

(a) Definition and Nature

(b) Technology and Social Change

(c) Education and Social Change

(d) Economic Developmental and Social Change

Books Recommended :

1. Bottomore, T.B. (1972) : Sociology : A Guide to Problems and Literature, George Allen & Urwin, Bombay.
2. Haralambos, M. (1998) : Sociology : Thomas and Perspectives, Oxford University Press, New Delhi.
3. Inkeles, Alex (1987) : What is Sociology, Prentice Hall of India, New Delhi.
4. Jayaram, N. (1988) : Introductory Sociology, Macmillan India, Madras.
5. Johnson, H.M. (1995) : Sociology : A Systematic Introduction, Allied Publishers, New Delhi.
6. Schaefer, R.T. & Robert, P.L. (1999) : Sociology, Tata McGraw Hill, New Delhi.

Paper – II **Social Research Methods** **100 Marks**

Unit – I : Scientific Study of Social Phenomena :

(a) Scientific Method

(b) Objectivity in Social Science

(c) Application of Scientific Method to Social Phenomena : The Concept of Values

(d) Major Steps in Social Research

Unit – II : Hypothesis :

(a) Objectives

(b) Types

(c) Sources

(d) Role of Hypotheses

Unit – III : Tools of Data Collection :

(a) Observation

(b) Questionnaire

(c) Interview

(d) Case Study

Unit – IV : Sampling

(a) Objectives

(b) Types

(c) Criteria of a good sampling

(d) Advantages and Limitations

Unit – V : Measures of Central Tendencies :

(a) Meaning and Objective

(b) Mean

(c) Median

(d) mode

Books Recommenced :

1. Kothari, C.R. (1989) : Research Methodology : Methods and Techniques, Wiley Eastern, Bangalore.
2. Young, P.V. (1988) : Scientific Social Surveys and Research, Research, Prentice Hall, New Delhi.
3. Punch, Keith (1996) : Introduction to Social Research, Sage, London.
4. Bijaj * Gupta (1972) : Elements of Statistics, R. Chand & Co., New Delhi.
5. Bryman, Alen (1988) : Quality and Quantity in Social Research, Urwin Hyman, London.
6. Jayaram, N. (1989) : Sociology – Methods and Theory, Macmillan, Madras.
7. Srinivas, M.N. & Shah, A.M. (1979) : Fieldworker and the Field, Oxford, New Delhi.

N.S.S. (ELECTIVE)

There shall be two papers each per carrying 100 marks

Paper – I **100 Marks (20 x 5)**

Unit – I Philosophy and Objective of N.S.S. Background and History behind NSS and its growth Motto, SYMBOL, Badge of NSS Objectives of NSS.

Unit – II Concept of Volunteers : Definition of a Volunteer Student Volunteer/Non-Student Volunteer an NSS Volunteer, Duties and Responsibilities of the NSS Volunteer, Need for developing leadership qualities.

Unit – III N.S.S. Programmes and Activities, Activities/Programme inside the Campus Activities/Programmes outside the Campus Activities with other NGO/GO. Need for the adoption of Village/Slum. Survey of Village/Slum for identification of problems and developing activities on the basis of survey, objectives of special camping programme. Organising special camping programmes in adopted villages slums and other places.

Unit – IV Academic Community Relationship, Need for developing relationship of the Volunteer Programme Officer with the community conducting awareness programmes related to health, education, environment, pollution and other social evils.

Unit – V Project Work : 20 Marks

Candidate will prepare a project related to the problems of the adopted Village/Slum and deposit the project in the college under the guidance of Programme Officer of respective college. The Project Report will be evaluated by the Internal Examiner (P.O.) and marks will be submitted to the Principal which will be forwarded to the Controller of Examination, Sambalpur University after completion of the examination.

Paper – II **100 Marks (20 x 5)**

Unit – I Implementation of NSS Programmes : Organisation and Administration of NSS Unit Duties and responsibilities of NSS functionaries supervision and monitoring the Programme/Activities, Role of college level advisory committee. Methods of organising field programmes.

Unit – II N.S.S. – National Level Organisation : Structure of NSS at Centre, State, University and College level.

Unit – III Allied activities : First aid, Home nursing, Resource conservation and Management operation, rescue operation.

Unit – IV NSS and Natural Calamity : Role of NSS in Disaster Management during flood, drought, cyclone, earthquake etc.

Unit – V NSS and Social issue : Unemployment, Poverty, Crime, Casteism, Human Rights, Terrorism, Communication National Integration etc.

Reference :

National Service Scheme Manual Published by Govt. of India Ministry of Human Resource Development Deptt. of Youth Affairs and Sports, New Dwlhi-1997, Edn.

Bibliography :

1. Madan, G.R. Indian Social Problem, Vol. II (Social Work), Allied Publishers, Bombay, 1967.
2. Prakash, Bhagbah, "Achieving Special Reliance through NSS" in Samaj Seva, Silver Jubilee Issue, TORC, Kolcota, 1995, Pp. 1425.
3. Thakur, R.N. & Chandra, S.K. Evaluation of NSS Programme and Organisational Structure in All India basis, IIPA, New Delhi, 1996-97 (Unpublished Report).
4. Saiyidian, K.G. National Service Scheme – A Report, Ministry of Education, Govt. of India, 1961.
5. Ministry of Education, National Policy on Education, 1986.
6. Shaha, A.K. Extension Education – The Third Dimension Needs and Aspiration of Indian Youth, Unpublished paper presented in the National Level Symposium on Youth in Academic Institution, January 1977, at Mysore University.
7. Mahakud, N.K. and Std. 2003, NSS – The Third Dimension of Education, Its Relevants in the New Millennium, Journal of Social Science I (4).

Corrigendum

Detail Syllabus for Paper – VI

GUIDANCE AND COUNSELLING

For +3 Arts Psychology Hons. Course – I

(The detail syllabus given below shall replace the detail syllabus for the paper mentioned in Page No. _____)

Chapter – I **Guidance and Counselling :** Definitions, Nature, Scope, Needs and Functions.

Unit – II

a) **Areas of Guiding and Counselling :**

Education, Vocation, Avocation, Social, Health Moral and Personal.

b) **Guidance Service as a joint effort of the :**

(i) Administrator, (ii) Dean, (iii) Counselling Office, (iv) Teacher, (v) Warden, (vi) Physical Education Teacher, (vii) Librarian and Parents.

Unit – III (a) **Types of Counselling :**

Individual Counselling and Group Counselling

(b) **Stages of Counselling Process :**

Initial Indepta exploration and commitment to action and termination

Unit – IV (a) **Tools & Techniques of Guidance & Counselling :**

Tools : Psychological Tests and Clinical Observation

Techniques : Counsellor Centered Client Centered Ecelectic Counselling

(b) **Characteristics as an Effective Counsellor :**

Personal Characteristic Educational Qualities & Professional specialities

Unit – V (a) **School Guidance Counselling :**

Elementary School, Middle School and Secondary School Counselling and Guidance.

(b) **Some specific Guidance and Counselling :**

Vocational Guidance and Career Counselling Marriage and Family Counselling. Counselling people who have HIV/AIDS, Counselling to girls and women substance abuse counseling.

Books Recommended :

1. The counseling process by Hewis Peterson and Elizabeth (Woodworth Publication).
2. Guidance and Counselling by S.K. Kochhar (Sterling Publication).
3. Guidance and Counselling by Indira Madhuka
4. Encyclopaedia of Guidance and Counselling by K.S. Lakshmi (Mittal Publication).

N.S.S.

(There shall be two papers each per carrying 100 marks)

Paper – I **100 Marks (20 x 5)**

Unit – I **Philosophy and Objective of N.S.S.**

Background and History behind NSS and its growth Motto, SYMBOL, Badge of NSS Objectives of NSS.

Unit – II **Concept of Volunteers :**

Definition of a Volunteer, Student Volunteer/Non-Student Volunteers, Fundamental qualities of on NSS Volunteer, Duties and Responsibilities of the NSS Volunteer, Need for developing leadership qualities.

Unit – III **N.S.S. Programmes and Activities :**

Activities/Programme inside the Campus. Activities/Programmes outside the Campus Activities with other NGO/GO. Need for the adoption of Village/Slum. Survey of Village/Slum for identification of problems and developing activities on the basis of survey, objectives of special camping programme. Organising special camping programmes in adopted villages slums and other places.

Unit – IV **Academic Community Relationship :**

Need for developing relationship of the Volunteer Programme Officer with the community

Conducting awareness programmes related to health, education, environment, pollution and other social evils.

Unit – V **Project Work :** **20 Marks**

Candidate will prepare a project related to the problems of the adopted Village/Slum and deposit the project in the college under the guidance of Programme Officer of respective college. The Project Report will be evaluated by the Internal Examiner (P.O.) and marks will be submitted to the Principal which will be forwarded to the Controller of Examination, Sambalpur University after completion of the examination.

Paper – II **100 Marks (20 x 5)**

Unit – I **Implementation of NSS Programmes :**

Organisation and Administration of NSS Unit

Duties and responsibilities of NSS functionaries

Supervision and monitoring the Programme/Activities,

Role of college level advisory committee.

Methods of organising field programmes.

Unit – II **N.S.S. – National Level Organisation :**

Structure of NSS at Centre, State, University and College level.

Unit – III **Allied activities :**

First aid, Home nursing, Resource conservation and Management operation, rescue operation.

Unit – IV **NSS and Natural Calamity :**

Role of NSS in Disaster Management during flood, drought, cyclone, earthquake etc.

Unit – V **NSS and Social issue :**

Unemployment, Poverty, Crime, Casteism, Human Rights, Terrorism, Communication National Integration etc.

Reference :

National Service Scheme Manual Published by Govt. of India Ministry of Human Resource Development Deptt. of Youth Affairs and Sports, New Dwlhi-1997, Edn.

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1. Madan, G.R. Indian Social Problem, Vol. II (Social Work), Allied Publishers, Bombay, 1967.
2. Prakash, Bhagbah, "Achieving Special Reliance through NSS" in Samaj Seva, Silver Jubilee Issue, TORC, Kolcota, 1995, Pp. 1425.
3. Thakur, R.N. & Chandra, S.K. Evaluation of NSS Programme and Organisational Structure in All India basis, IIPA, New Delhi, 1996-97 (Unpublished Report).
4. Saiyidian, K.G. National Service Scheme – A Report, Ministry of Education, Govt. of India, 1961.
5. Ministry of Education, National Policy on Education, 1986.
6. Shaha, A.K. Extension Education – The Third Dimension Needs and Aspiration of Indian Youth, Unpublished paper presented in the National Level Symposium on Youth in Academic Institution, January 1977, at Mysore University.
7. Mahakud, N.K. and Std. 2003, NSS – The Third Dimension of Education, Its Relevants in the New Millennium, Journal of Social Science I (4).

PHYSICAL EDUCATION (ELECTIVE)

Syllabus for the Physical Education as an elective subject in +3 Arts (Pass and Hons.) course to be effective from the academic session 2010-11.

Paper – I **100 Marks**

(Scientific Foundation and Management in Physical Education and Sports)

Unit – I

(1) Nature and scope of physical education, definition of terms – education, physical education, physical training, sports, recreation, games, dance.

(2) Aim and objectives of physical education, changing concepts of physical education.

(3) Development of physical education and sports in india (a) pro-independence (b) post-independence.

(4) Sports schemes in India.

(5) Olympic movement – ancient and modern Olympic games,

(6) Importance of yoga in human life, meaning, types and healing aspects of yoga

Unit – II

(1) Psychophysical unit of human organization.

(2) Personality development through physical education and sports.

(3) Physical education and sports as a socializing force.

(4) Role of heredity and environment for the development of a sports person.

(5) Motivation in physical education and sports.

(6) Career development in physical education and sports.

Unit – III

(1) Management of games and sports in schools, colleges and universities.

(2) Types of Tournament – knock-out, league and combination system.

(3) Layout of play fields and basic rules of – kabadi, kho-kho, volleyball, football, cricket, basketball, hockey, badminton and track and field events.

(4) Intramural and extramural competitions.

(5) Budget making in sports.

Unit – IV

(1) Meaning of sports training, conditioning, warming up and cooling down.

(2) Components of physical fitness components – speed, strength, endurance, agility and flexibility.

(3) Training methods – circuit training, internal training, farttek training and weight training.

(4) Introduction of mechanical principles in sports – low of motion law of leverage, equilibrium force.

(5) Sports skill tests in volleyball, football, track and field and cricket.

(6) Modern facilities in fitness training, gymnasiums, health clubs, fitness centres.

Reference Books :

1. Principles and History of Physical Education – Dr. M.L. Kamlesh, Dr. M.S. Sangral.
2. Foundation of Physical Education and Sports – Charles A. Bucher.
3. General Training Methods in Teaching – Dr. Hardayal Singh.
4. Sports Management – Dr. Samiran Chakravorty.
5. Methods in Physical Education – Kamlesh and Sanyal.
6. Principles of Physical Education – J.F. Williams.

Paper – II **100 Marks**

(Body Management, Health and Safety Education)

Unit – I

(1) Cell structure and function.

(2) Skeletal system – Bones and joints.

(3) Muscular system – Types of muscle, effect of exercise on muscles.

(4) Circulatory system – Structure and function of heart, effect of exercise on heart.

(5) Respiratory system – Organs and mechanism of respiration, vital capacity.

(6) Nervous system – Structure and function of brain and spinal cord, reflect action.

(7) Postural defects and remedial – Flat foot, knock knee, kyphosis, lodosis and scoliosis.

Unit – II

(1) Meaning and scope of health education.

(2) Health service in institutions – Daily health inspections, medical inspections, medical examination and clinics.

(3) Mental health – Problems of maladjustments, juvenile delinquency and adjustment through sports.

(4) Fatigue and remedial measures.

Unit – III

(1) Environmental pollutions affecting health and their remedial air, water, soil noise.

(2) Prevention and control of communicable diseases, malaria, cholera, AIDS, flue and chicken fox.

(3) Effect of drugs and narcotics on health and sports performances.

(4) Doping in sports.

(5) First aid and safety during sports and physical activities – sprain, muscle pull, dislocations, fracture, minor injuries, bleeding, artificial respiration, dehydration.

Unit – IV

(1) Basic nutrients and their need for human body, protein, carbohydrates, fats, minerals and water and their sources.

(2) Balanced diet, athletic diet, diet for different age groups.

(3) Importance of hygiene – Personal hygiene, institutional hygiene, environmental hygiene.

(4) Method of lighting, ventilation, water supply and disposal of garbages.

Reference Books :

1. Anatomy Physiology for Nurses – E. Velyn C. Pears.
2. Health, Physical Education and Recreation – Muralidhar Das.
3. Health Education – Dr. K.K. Das and K. Das.
4. First Aid – Johnson Ambulance Booklets.
5. Essentials of Exercise Physiology – L.G. Shaver.

Note : Each unit will carry 25 marks.

One long question - 10 Marks

Three short questions - 5+5+5 = 15 Marks

All questions will be asked with alternative choices.

APPENDIX – C

Minor Changes in syllabi of Physics (Hons.), Physics (Pass)

(to be effective from academic session 2010-1)

1. +3 First Examination Physics (Pass)

   Paper – III (Waves and Oscilation)

   (i) Co-opposition of SHM to be replaced by composition of SHM.

   (ii) Velocity of elastic and transverse wave to be replaced by velocity of elastic wave and velocity of transverse vibration of strong.

2. +3 Second Examination Physics (Pass)

   Paper – IV (Electricity and Magnetism)

   Preparation of magnetic materials to be replaced by properties of dia, para and ferro magnetic materials.

   Paper – V (Atomic and Modern Physics)

   Rutherford alpha-scattering formula to be replaced by consequence of Rutherford alpha scattering experiment.

3. +3 First Examination Physics (Hons.)

   Paper – I (Sound)

   (i) Velocity of longitudinal waves in and elastic medium to be replaced by velocity of longitudinal wavers in elastic medium and velocity of transverse vibration in strongs.

   (ii) Superposition of wave to be replaced by superposition of SHM, Lissajous figures.

4. +3 Second Examination Physics (Hons.)

   Paper – IV (Geometrica Optica)

   Velocity of light to be replaced by Velocity of light by Fizeau's method.

5. +3 Final Examination Physics (Hons.)

Paper – VII

(i) Zoeman's effect to be replaced by Normal Zeeman's effect.

(ii) Moseley law to be replaced by Moseley Law and Compton scattering.