SYLLABUS

FOR

B.A./B.Sc.

(12+3 SYSTEM OF EDUCATION)
(Semester–V)

Examinations: 2019–20

GURU NANAK DEV UNIVERSITY AMRITSAR

INDEX OF SEMESTER–V

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SEMESTER–V

POLITICAL SCIENCE

COMPARATIVE POLITICAL SYSTEMS (UK & USA)

Time: 3 Hours   **Max Marks: 100**

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

Unit–I
Theoretical Framework
1. Meaning and Scope of Comparative Government and Politics.
2. Comparative Method.
3. **Systems Approach:** David Easton and Almond and Powell.

Unit–II
1. Features of British Political System.
2. Features of US Political System.
3. Executive in US: President, Powers, Position and Role,
4. Executive in UK**:** Monarchy, PM, Powers, Positions and Role.

Unit–III
1. **Legislatures in US & UK: Functioning and Changing Role.**
2. Political Parties and Pressure Groups in US and UK.

Unit–IV
1. **Judicial System in USA and UK:** Judicial Review in USA and Rule of Law in   UK.
2. Unitary v/s Federal System, USA and UK.

Books Recommended:

1.   Rod Hague and Martin Harrop, *Comparative Government and Politics,* New Delhi, Palgrave Macmillan, 2007.

2.   G.A. Almond, G.B. Powell, K. Strom, R.J. Dalton, *Comparative Politics Today: A World View,* New Delhi, Pearsons, 2006.

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3. J.C. Johari, *New Comparative Government,* New Delhi, Lotus Press, 2006, 4263/3, Ansari Road, Daryaganj, New Delhi-110002.

4. A.C Kapur and K.K. Misra, *Selection Constitutions,* New Delhi, S. Chand, 2006 (Sixteenth Revised Edition).

5. A.C. Kapur and K.K. Misra, *Selection Constitutions,* New Delhi, S. Chand, 2006 (Sixteenth Revised Edition).

6. S.N. Ray, *Modern Comparative Politics: Approaches, Methods and Issues,* New Delhi,PHI, 1999.

7. M.V. Pylee, *Select Constitutions of the World,* New Delhi, Universal Law Publishers, 2006 (Revised).

8. Judith Bara And Mark Lennigton, *Comparative Politics*, Sage, 2009

9. William R. Clarks, Matt Golder and Sona Nadenichek, *Principals of Comparative Politics*, CQ Press, 2012

10. December Green and Lenra Luhrmann, *Comparative Politics of the Third World*, Viva 2004

11. Vishnoo Bhagwan and Vidhya Bhushan, *World Constitutions*, Sterling, 2002

12. Daniele Caramani, *Comparative Politics*, Oxford, 2008

13. Vidhya Bhushan, *Comparative Politics*, Atlantic, 2008

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SEMESTER–V

HISTORY
History of the World (C 1500-1956 AD)

Time: 3 Hours   **Max. Marks: 100**

Note: The question paper will consist of two sections as follows:-

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
1. **Emergence of the Modern World:** Renaissance and reformation; Causes, effects of Renaissance in Europe; Martin Luther's Protestantism;
2. **French Revolution**: Causes; National Assembly; National Convention, Nepoleon's rise to Power, Civil Works and Codes, Continental System, Downfall of Nepoleon, Vienna Settlement.

UNIT–II
3. **Rise of Imperialism and Nationalism in Europe:** Industrial Revolution; Unification of Italy, Unification of Germany.
4. **The World War-I**: Causes and Impact of the war, Treaty of Versailles; League of Nations.

UNIT–III
5. **Russian Revolution** : Causes, February Revolution, October Revolution; New Economic Policy.
6. **Rise of China and Japan** : The revolution of 1911; Rise of Communism in China; the Revolution of 1949; Opening up of Japan; Meiji restoration and the Modernization of Japan.

UNIT–IV
7. **Rise of USA as World Power** : Entry in the First World War; 14 points of President Wilson; New Deal of Roosevelt; 2nd World War and the USA.
8. **Towards World War II and its Aftermath** : Fascism in Italy; Nazism in Germany; Causes and Impact of the World War II; the UNO; the Cold War.

Suggested Reading

1. Lowe, Norman, *Mastering Modern World History,* Macmillan, New Delhi, 1997
2. Chakarbarti, Ranjan, *A History of the Modern World*, Ratan Sagar Private Limited. 2012
   3. Rao, B.V. , *History of Modern World*, Sterling Publication Pvt. Ltd. New Delhi, 2012

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SEMESTER–V

JOURNALISM AND MASS COMMUNICATION (VOCATIONAL)

ADVERTISING
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 80
Practical Marks: 20

Instructions for the Paper Setters:
Section–A shall consists of 10 questions carrying 2 marks for each question. All questions will be compulsory. Each question will carry 2 marks with the total weightage of section being 20 marks.
10x2=20
Section–B shall consists of 10 questions. Candidates will be required to attempt any 8 questions. Each question will carry 5 marks. The total weightage of this section being 40 marks. **8x5=40**
Section-C shall consists of 4 questions. Candidates will be required to attempt any 2 questions. Each question will carry 10 marks. The total weightage of this section being 20 marks. **10x2=20**

Definition, need, concept and role; Difference in Publicity, Advertising, Propaganda,Types of advertising, Ad agencies-Organisational setup and functions, Copy Writing, Parts of an advertisement, Attributes of an effective copy, types, design and layout. Advertising and its impact. Modes of advertising, Appeals. Advertising Code, Advertising in Various media.
Online advertising

(PRACTICAL)
(20 Marks)

Making 10 advertising portfolios

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SEMESTER–V

MASS COMMUNICATION & VIDEO PRODUCTION (VOCATIONAL)

VIDEO FOR COMMUNICATION

Time: 3 Hours   **Max. Marks: 100**
Theory Marks: 80
Practical Marks: 20

Instructions for the Paper Setters:

Section–A shall consists of 10 questions carrying 2 marks for each question. All questions will be compulsory. Each question will carry 2 marks with the total weightage of section being 20 marks.
10x2=20

Section–B shall consists of 10 questions. Candidates will be required to attempt any 8 questions. Each question will carry 5 marks. The total weightage of this section being 40 marks.   **8x5=40**

Section–C shall consists of 4 questions. Candidates will be required to attempt any 2 questions. Each question will carry 10 marks. The total weightage of this section being 20 marks.   **10x2=20**

Question paper will be set in English only but the medium of examination will be English, Punjabi and Hindi.

Video camera
   • Basic Design (Lens, Zoom, Aperture, Focal Length, Shutter)
   • Camera Angles, Movements, Shots & Mountings
   • Types of Cameras (VHS), Umatic, Betacam, High Eight, Video Eight)
Camera Crew (Director, Producer, Production Manager, Floor Manager, Art Director, Makeup Man, Dress Designer, Choreographer
Lighting (Types, Luminants, accessories, lamps, & lighting problems)
Programme Proposal
Budgeting
Location Survey
Shooting Script
Pre & Post Production Meeting
Single Camera & Multicamera Shooting
Indoor & Outdoor Shooting

PRACTICAL

Practical Marks: 20

   • Camera Handling
   • Script Writing
   • Making program proposal for any channel

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SEMESTER–V
SOCIOLOGY

SOCIAL THOUGHT

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper Setters:
Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.
Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
a) **Auguste Comte:** Law of three stages, Positivism
b) **Herbert Spencer:** Social Darwinism and types of Society.

UNIT–II
a) **Karl Marx:** Dialectical Materialism, Historical Materialism, class and class struggle, Alienation.

UNIT–III
a) **Max Weber:** Theory of Social Action, Types of Authority, Protestant Ethic and Spirit of Capitalism.

UNIT–IV
a) **Emile Durkheim:** Nature and Characterstics of Social facts, Division of Labour in Society, Theory of Suicide.

Books Recommended:-

1. Abraham, F and J.H Morgan., *Sociological Though*t. New Delhi: Trinity Press2014.
2. Abraham, M. Francis: *Contemporary Sociology,* Oxfrod University, New Delhi, 2006.
3. Aryon Raymond: *Main Currents in Sociological Thought,* Vols. I, II, Penguin, Harmondsworth, 1968.
4. Ashley, David, Orenstein, D.M.: *Sociological Theory,* Dorling Kindersly, Delhi, 2007.
5. Coser, Lewis A: *Master of Sociological Thought,* Harcourt Brace Jovanovich, New York, 1971.
6. Jammu I.S.: *Samajak Vigyan Pattar,* No.-26-28, Punjabi University, Patiala, 1998.
7. Judge, Paramjit Singh: *Foundations of Classical Sociological Theory*. New Delhi: Pearson. 2012.
8. Judge, Paramjit Singh: *Samaj Vigyanik Drishtikon te Sidhant,* Panjabi University, Patiala, 1997.
9. Kapila, S.: *Fundamentals of Sociology,* Vol. III, Panchkula, Kapila Publishers, 2006.
10. Kundu, Abhijit. *Sociological Theory*. New Delhi: Pearson. 2012.
11. Ritzer, George. *Classical Sociological Theory*. New Delhi: McGraw Hill. 2016.
12. Royce, Edward. *Classical Social Theory and Modern Society*. Jaipur: Rawat. 2015.

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SEMESTER–V

WOMEN EMPOWERMENT

WOMEN EMPOWERMENT AND LAWS

Time- 3Hrs.

Max. Marks-100

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT-I
Women and Social issues: relevant provisions:
1. Protection of Women from Domestic Violence Act, 2005
2. The sexual harassment of women at workplace Prevention, Prohibition and Redressal Act 2013

UNIT- II
Women and Labour Laws: Relevant Provisions:
1. Employees State Insurance Act 1948
2. Maternity Benefit Act 1961

UNIT-III
Women and Maintenance Laws
1. Married Women and Property Act 1874
2. Married Women Property (Extension Act) 1959
3. Istri Dhan and Alimony.

UNIT-IV
Women and Laws: Education and Politics
1. National Plan of Action for Girl Child (1991 to 2000)
2. Women and Constitutional Amendments 73rd, 108th, 110th, 112th.

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SEMESTER–V
PSYCHOLOGY

ABNORMAL PSYCHOLOGY–I
(THEORY)

Time: 3 Hours   **Max. Marks: 100**
Pass Marks: 35% of the subject   **Theory Marks: 75**
(Theory and Practical Separately)   **Practical Marks: 25**

Instructions for the Paper Setters:
The question paper will consist of three sections: A, B and C.

Section–A: It will consist of 10 very short answer type questions with answers to each question up to five lines in length. All questions will be compulsory. Each question will carry 1½ marks; total weightage of the section being 15 marks.

Section–B: It will consist of short answer type questions with answers to each question up to two pages in length. Six questions will be set by the examiner and four will be attempted by the candidates. Each question will carry 9 marks: total weightage of the section being 36 marks.

Section–C: will consist of essay type questions with answer to each question up to five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two; Each question will carry 12 marks. Total weightage of the section being 24 marks. The questions are to be set to judge the candidates' basic understanding of the concepts.

Note:
1. The use of Non-Programmable calculators and Statistical Tables are allowed in the examination.
2. Only one numerical question is to be set either of nine marks (from Section-B) or of twelve marks (from Section-C).

Abnormality: Concept and Criteria of Abnormality. Myth and Misconceptions regarding Abnormal Behaviour. DSM IV classification of Abnormal Behaviour- Advantages and disadvantages

Theoretical Perspectives of Psychopathology: Psychoanalytic, Cognitive Behavioural, Humanistic and Interpersonal (Sullivan).

Causes of Abnormal Behaviour: Primary, Predisposing, Precipitating reinforcing.
Biological Causes–(Genetic defects, constitutional liabilities, Brain dysfunction & Physical deprivation). Psycho-Social Causes–(Self-perception and cognitive maps, early deprivation, Inadequate parenting, pathogenic family structures, maladaptive peer relationship.
Socio-Cultural Causes–(Socio-Cultural Environment and Pathogenic societal influences).
Stress & Coping: Categories of Stressors, Factors Predisposing an individual to stress. Coping strategies.

Stress Related Disorders: Coronary Heart Disease (CHD), Hypertension Ulcers & Migraine Pain: Symptoms Causes and general treatment of stress related disorders.

Alcoholism: Misconception about Alcohol & Alcoholism, Clinical Picture, Causes, Treatment & Outcomes.

Drug Addiction: Clinical Picture, Causes and Treatment of Opium and its Derivatives, Sedatives (Barbiturates), Stimulants (Amphetamines & Cocaine): Hallucinogens (LSD & related drugs) Marijuana, Caffeine & Nicotine.

Readings:

1. Carson, R.C., Butcher, J.N. and Mineka, S. (1997), Abnormal Psychology and Modern Life, New York: Harper Collins.
2. Davison, G.C. and Neale, J.M. (1998), Abnormal Psychology, New York: John Wiley and Sons.
3. Sarason, I.G. and Sarason, B.R. (1996), Abnormal Psychology, New Delhi: Prentice Hall of India.
4. Singh, A. Asadharan Manovigyan, Punjabi University, Patiala.
5. Alloy, L.B., Riskind, J.H. & Manso, M.J. (2006), Abnormal Psychology Tata McGraw Hill Publishing Company, New Delhi.

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SEMESTER–V

PSYCHOLOGY

(PRACTICAL)

Marks: 25

Instructions for the Practical Examination:

Students are supposed to perform five practicals out of 6 mentioned in the syllabus. Practical examination will be of 3 hours duration. External examiner will conduct the practical examination. The students will perform one practical in the exam carrying 25 marks. Evaluation of the practical would be done on the basis of write-up of file book (5 Marks), performance and viva-voce (20 Marks) relating to the practicals. In case students have not completed 5 practicals, the examiner will deduct marks at the rate of 5 for each left practical out of total evaluation of the student. No reappear will be allowed in the practical examination. Fail in the practical will be considered fail overall in the subject.

Five Practicals have to be performed out of the following:

1. Word Association Test.
2. Adjustment Inventory.
3. Raven's Progressive Matrices/Cattell's Culture Fair Intelligence Test.
4. Measurement of Attitudes.
5. Measurement of Interests.
6. Locus of Control.

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SEMESTER–V
DEFENCE AND STRATEGIC STUDIES

NATIONAL SECURITY OF INDIA
(THEORY)

Time: 3 Hours   **Max .Marks: 100**
                                                           Theory Marks: 80
                                                           Practical Marks: 20

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 short answer type questions from the entire syllabus and the candidates will attempt 7 questions carrying 4 marks each. Answer to each question shall not exceed half of the page. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions from the entire syllabus–two from each Unit. The candidate shall attempt four questions, one from each Unit. Each question shall carry 13 marks. The total weightage of this Unit shall be 52 marks.

Note: *Practicals are only meant for the regular students. For the private students the two papers shall be of **100 marks each**. For the private students, each question in Section B will be of 18 marks.*

UNIT–I
i) National Security: **Conceptual Aspects.**
ii) Elements of National Security:
    a) Geography
    b) Mineral resources
    c) Social, Political and Economic factors
    d) Scientific and Technological Development
    e) Military preparedness
iii) India's Security Problems since Independence
    a) Geo-political effects of partition
    b) Security problems related to Pakistan
    c) Security problems related to China

UNIT–II
i) Indian Ocean and India's Security:
    a) Geo-strategic importance of the Indian Ocean
    b) India's Economic, Political and Security stakes in the Indian Ocean
    c) Role of Indian Navy & Coast Guards
ii) Nuclear Policy of India.

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UNIT–III

(i) Internal Dimension of India's Security:
    a) Militancy in Jammu & Kashmir
    b) Insurgency in North eastern states
    c) Naxalism in India
(ii) Disaster Management in India.

UNIT–IV

Planning for Natural Defence

(i)   Economic Mobilisation for national defence with reference to mobilization of Physical and Fiscal resources.
(ii)   Planning and Production for national defence.
(iii)   Major defence production Industries in India.

Suggested Readings:

1.   Buzan, Barry (1987)   :   People Fear and State: New Delhi, Transasia Publications.
2.   Bajpai, U.S. (1986)   :   India and its Neighbourhood: New Delhi, Lancer International.
3.   Baranwal, S.P.(l984)   :   Measures of Civil Defence in India: New Delhi, Guide Publications.
4.   Bobbing, Ross and Gordon, Sandy (eds.) (1992)   :   India's Strategic Future: Delhi, Oxford University Press.
5.   Chatterjee, R.K. (1978)   :   India's Land Borders–Problems and Challenges: New Delhi, Sterling Publishers.
6.   Chadhury, Rahul Roy (1995)   :   Sea Power and India's Security, London, Brassey's.
7.   Dass S.T. (1987)   :   National Security in Perspective: Delhi, Gian Publishers.
8.   Karnard, Bharat (1994)   :   Future Imperiled: New Delhi, Viking.
9.   Kavic, Lorne J. (1967)   :   India's Quest For Security: Defence Policies 1947- 1965: Los Angels, University of California Press.
10.   Khera, S.S. (1968)   :   India's Defence Problems: New Delhi.
11.   Menon, V.P. (1961)   :   The Story of the Integration of Indian States: New Delhi, Orient Longmans.
12.   Misra, R.N. (1986)   :   Indian Ocean and India's Security: Delhi, Mittal Publications.
13.   Nayar, V.K. (1992)   :   Threats From Within: New Delhi, Lancer Publications.
14.   Rao, Ramakrishna and Sharma, R.C. (ed) (1991)   :   India's Borders: New Delhi, Scholars' Publishing Forum
15.   Rao, P.V.R. (1970)   :   Defence Without Drift: Bombay, Popular Prakashan.
16.   Singh, Jaswant (l999)   :   Defending India: Bangalore, Macmillan India Ltd.
17.   Singh Nagendra (1974)   :   The Defence Mechanism and the Modern State: New Delhi, Asia Publishing House.
18.   Venkateshwaran (1967)   :   Defence Organisation in India: New Delhi, Ministry of Information and Broadcasting, Government of India.

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SEMESTER–V
DEFENCE AND STRATEGIC STUDIES

(PRACTICAL)

Time: 3 Hours   **Marks: 20**
Teaching Hours: 3 Periods a Week   **Written: 10**
Written: 1 Hour   **Discussion: 05**
                                                                                Record and Viva-Voce: 05

Note: The paper for written test is to be given by the external examiner on the spot. Internal examiner has to assist him in the conduct of the examination.

Group – A   **10 Marks**

1. Relief features and their representation on the Map.

2. Types of slopes and their representation on the Map.

3. Study of field craft with reference to the following:

      (a) Ground   (b) Cover   (c) Camouflage

      (d) Concealment   (e) Observation.

Group – B: Group Discussion (Topics)   **05 Marks**

      (a) India's Nuclear Policy.

      (b) Maritime Security of India.

      (c) Sino-India Relations

Group – C

Record and Viva–Voce   **05 Marks**

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SEMESTER–V
GEOGRAPHY

WORLD REGIONAL GEOGRAPHY–I
(THEORY)

Time: 3 Hours   **Max. Marks: 100**
                                                                           Theory Marks: 70
                                                                           Practical Marks: 30

Objectives:
To provide an understanding of:
* The geographic dimensions of the world regions in terms of their political and administrative characteristics.
* The physical and human resource base and their interface with economic development.
* Development problems and prospects.

Note: Instructions for the Paper Setters and Candidates
1. Question will be put on region(s) as a whole and not on individual country. The question should focus on regional perspective.
2. A compulsory question containing 15 short answer type questions will be set covering the whole syllabus. The students will attempt any 10 parts in about 40-50 words each. Each part will carry 3 marks. **(Total 30 marks)**
3. The whole syallbus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt four questions selecting one from each unit. This will be in addition to the compulsory question at note number 2. **(Total 40 marks).**
4. Stencil/outline maps and coloured pencils are allowed.

Course Contents:-
Study of the following regions of the world in terms of the aspects mentioned in each unit.
1. Anglo America
2. Middle East and North Africa

UNIT–I

a) Location   b) Physiographic divisions
c) Drainage & Climate   d) Soils and Natural Vegetation

UNIT–II

a) Major minerals   b) Agricultural crops & related occupations

UNIT–III

a) Industries

UNIT–IV

a) Demographic Characteristics
b) Trade and Transport
c) Problems and Prospects

Books Recommended:
Essential Readings:

1. Blij, Harm J.de Peter, O. Muller: *Geography: Realms, Regions and Concepts, 16th Edition,* John Wiley, New York, 2013.

2. English, Paul Ward & James, A. Miller: *World Regional Geography: A Question of Place,* John Wiley, New York, 1989.

3. Jackson, Richard H. & Lloyd E. Hudman: *World Regional Geography Issues for Today,* John Wiley, New York, 1991.

4. Kromm, D.E.: *World Regional Geography,* Saunders Publishing, New York, 1981.

Further Readings:

1. Don R. Hoy (Ed.): *Essentials of Geography and Development,* Macmillan, New York, 1984.

2. Mankoo, Darshan Singh: *A Regional Geography of the World,* Kalyani Publishers, Ludhiana, Reprint 2015.

3. Singh, Malkiat : *World Regional Geography,* Rasmeet Prakashan, Jalandhar, (Pb.), Reprint 2015

4. Trikha, R.N. and Bali P.K. and Sekhon, M.S.: *World Regional Geography,* New Academic Publishers, 2002.

Pedagogy

Teaching should involve maximum use of detailed maps of the countries, Students should be encouraged to use atlas in classrooms. Video shows about culture, physiography and economy of these countries may be arranged if possible.

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SEMESTER–V
GEOGRAPHY

MAP PROJECTIONS
(PRACTICAL)

Time: 3 Hours   **Max. Marks: 30**
Written Paper of 3 Hours: 15 Marks
Practical Record (File): 08 Marks
Viva: 07 Marks

Objective:
- To provide an analytical understanding of constructions, properties, limitations and use of cylindrical and conical map projections.

UNIT–I
General introduction and classification of projections, constructions, properties, limitations and use of projections.
Construction, properties and limitations of following map projections:
Cylindricals: Plate Caree, Equal-Area and Mercator's.

UNIT–II
Construction, properties and limitations of following map projections:
Conicals: One Standard Conic, Two Standard Conic, Bonne's, Polyconic and International.

Note:

1. A compulsory question containing 10 short answer type questions will be set covering the whole syllabus. The students will attempt 6 short answer type questions in about 25–30 words each. Each short answer type question will carry ½ mark (Total 3 marks).
2. The whole syllabus will be divided into 2 UNITs. Eight questions will be set out of the whole syllabus, four from each UNIT. The students will be required to attempt two questions from each UNIT. Each question will carry 3 marks. These will be in addition to the compulsory question at serial number 1. (Total 12 marks)
3. Evaluation of Practical record will be done at the time of viva–voce examination.
4. In case the candidate has applied for the improvement, he/she should be required to make a fresh practical note book.
5. For practical classes, the number of students in one group shall not exceed fifteen.

Books Recommended:
1. Kellaway, George P.: *Map Projections,* Methue and Co., London.
2. Singh, Gopal: *Mapwork and Practical Geography,* Surjeet Book Depot, Delhi, 1993.
3. Singh, Malkiat: Cartography, Rasmeet Prakashan, Jalandhar, **Reprint 2014**.
4. Singh, L.R: *Practical Geography,* Chaitanya, Publishing House, Allahabad

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SEMESTER–V
PUBLIC ADMINISTRATION

LOCAL GOVERNMENT (WITH SPECIAL REFERENCE TO PUNJAB)

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper Setters
The question paper will consist of two sections as per following pattern:

Section–A: The examiner shall set 10 short answer type questions covering entire syllabus and the candidates will have to attempt 8 questions of 2 marks each. Answer to each question shall be approximately of 50 words. The total weightage of this section shall be 16 marks.

Section–B: The examiner shall set 8 questions, by selecting 2 questions out of each unit. The candidate shall attempt any 6 questions in all by selecting atleast one question from each unit. Each question shall carry 14 marks. The total weightage of this section shall be 84 marks.

UNIT–I
Introduction:
Meaning and Significance of Local Government. History of Local Government in India. Main Features of 73rd and 74th Constitutional Amendments, State-Local Government Relations; Role of State Finance Commission.

UNIT–II
Urban Local Government:

Main features of Urban Local Government in Punjab, Types of Urban Local Bodies, Municipal Corporation, Organisation and Functions, Municipal Commissioner, Mayor, Provincialisation of Municipal Services.

Municipal Council: Organisation and Functions; President, Executive Officer.

UNIT–III
Rural Local Government:

Main features of Panchayati Raj System in Punjab; Gram Sabha. Village Panchayats-Structure, Finance and Functions. Recommendations of Punjab Finance Commission. Panchayat Samitis-Structure, Finance and Functions. Zila Parishads-Structure, Finance and functions.

UNIT–IV

State Control:

Organisation of Department of Local Government in Punjab. Relation of Local Government Institutions with District Administration. State control over Panchayati Raj Institutions and Urban Local Government.

Suggested Readings:

1. Dubey V.P., Urban Development and Administration, Deep & Deep Publication Pvt. Ltd., 1990.
2. Goel S.L., Urban Administration in India, New Delhi, Deep & Deep Publication Pvt. Ltd., 2003.
3. Hoshiar Singh, Theory and Practice of Local Government, Allahabad, Kitab Mahal, 1999.
4. Maheshwari S.R., Local Government in India, Agra, Lakshmi Narain Aggarwal, 2005.
5. Sachdeva Pardeep, Urban Local Government in India, Allahabad, Kitab Mahal, 2002.
6. Sahib Singh and Swinder Singh, Local Government in India, Jalandhar, New Academic Publishing Co., 2005.
7. Sachdeva D.R., Sathanak Sarkar: Punjab De Sandarbh Vich, Publications Bureau, Patiala, 2003.

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SEMESTER–V

ECONOMICS

ECONOMICS OF DEVELOPMENT

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:
(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Economic Development: Meaning and Measurement, Economic and Non-Economic Factors, Nature of Underdevelopment, Characteristics of Undeveloped Countries. Human Development Index, Concept of Sustainable Development.
Dualism: Social and Technological Dualism, Lewis Model of Unlimited Supply of Labour, Problems of Unemployment and Disguised Unemployment.

UNIT–II
Models of Growth: Classical, Marxian, Schumpeter's, Harrod-Domar and Solow's Growth Models.

UNIT–III
Rostow's Stage Theory, Strategies of Economic Development-Balanced vs. Unbalanced Growth; Theory of Big Push; Libenstrein's Critical Minimum Efforts Thesis, Export Promotion and Import Substitution.

UNIT–IV
Capital Formation – Meaning and Sources. Choice of Technique, Role of Planning in Under Developed Countries, Need, Objective, Strategy, Types and Problems of Planning.

Suggested Readings:

1. Rostow W.W.: Stages of Growth
2. G.M. Meier: Leading Issues in Economic Development.
3. Micheal Todaro: Economic Development in the Third World.
4. Higgins: Economic Development: Theory and Politics.
5. Meier, G.M.: Leading Issues in Economic Development, Oxford University Press, New Delhi, 1995.
6. Thirlwall, A.P.: Growth and Development, Macmillan, London, 1999.
7. Todaro, M.P.: Economic Development in Third World, Oxford University, London.
8. Yotopoulous, P.A. and Nugent, J.: Economics of Development, Harper and Row, New York.

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SEMESTER–V
INDUSTRIAL ECONOMICS

INDUSTRIAL ECONOMICS–V

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:
(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Pattern and Rationale of Industrialisation in Developing Economy Like India; Factors Promoting and Inhibiting Industrialisation.

Industrialisation in India—Evolution of Modern Industry, Evolution of Industrial Policy—1948, 1951, 1956, 1991 and onwards.

UNIT–II

Role of Public Sector; Recent Trends in Indian Industrial Growth—Liberalization and Privatization; Small Scale Industry in India.

UNIT–III

Regional Industrial Growth in India; Industrial Concentration: Meaning, Measurement and Remedial Measures.

Issues in Industrial Proliferation and Environmental Preservation; Pollution Control Policies.

UNIT–IV

Institutional Industrial Finance: IDBI, ICICI, SFC, SIDC and Commercial Banks

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Recommended Readings:

1. Sutcliffe, R.B.: Industry and Under-development, Addison Wesley, London.

2. Kuchhal, S.C: The Industrial Economy of India chaitanya, Allahabad, 1969.

3. Gadgil, D.R.: The Industrial Evolution of India in recent time 1860-1939, Oxford University Press, Delhi, 1979.

4. Ahluwalia, I.J.: Industrial Growth in India Stagnation Since mid 1960's.

5. Goyal S.K.: Monopoly Capital Public Policy, Allied, New Delhi, 1979.

6. Chadha, V. and G.S. Bhalla: Indian Industrial Development: The Post Reform Scene.

7. Brahmananda, P.R. and V.R. Panchmukhi: The Development Process of the Indian Economy, Vikas Publications, New Delhi, 1979.

8. Datta, B.: Indian Planning at the Crossroads.

9. Savdesara, T.C.: Industrial Policy and Planning–1947-91: Tendencies, Interpretation and Issues.

10. Kelkar, V.C. and V.V. Bhanoji Rao: Indian Development Policy Imperatives.

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SEMESTER–V
QUANTITATIVE TECHNIQUES

QUANTITATIVE TECHNIQUES–V

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:
(i)   First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I

Statistical Inference: Point & Interval Estimation; Properties of a Good Estimator, Maximum Likelihood Method of Estimation, its applications for Binomial, Poisson and Normal distributions. Basic Concepts of Null and Alternative Hypotheses, Types of Errors; One Tailed and Two Tailed Tests, Power of Test, Critical Region.

UNIT–II

Sampling Distributions: Derivation of properties of Z, T, Chi Square and F distributions.

UNIT–III

Tests of significance based upon distribution of Z, t, F and Chi-square.

UNIT–IV

Analysis of Variance: Introduction, Assumptions, Techniques of Analyzing Variance, Analysis of Variance of one-way and two-way classification.

Books Recommended:

1. Sukhatme, P.V. and Sukhatme, B.V.: Sampling Theory of Surveys with Applications, Lowa State University Press, Ames, Lowa (1970).
2. Goon, Gupta and Dass Gupta:An Outlines of Statistical Theory, Dass Gupta Vol. 1(1977).
3. Kapur and Gupta: Fundamentals of Mathematical Statistics, Sultan Chand, New Delhi.
4. Murry, R. Spiegal Statistics: Theory & Practical (1972), McGraw Hill, New York.

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SEMESTER–V
AGRICULTURAL ECONOMICS AND MARKETING

AGRICULTURAL ECONOMICS–III

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:
(i) First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I
Mobilisation and Determinants of Agricultural Surpluses; Terms of trade between Agriculture and Industry. Farmers terms of trade with special reference to Punjab and their implication for development.

UNIT–II
Income and Price Elasticities of Agricultural Commodities, Cobb-Webb Model. Price Expectations and Uncertainties, Market Risk, Price Stabilization Measures.

UNIT–III
Food System and Food Safety, Food and Nutritional Security, Food Security Nets, Foodgrain losses at different stages. Measures to contain foodgrain losses. Food Subsidies, Global Environmental Change and Food Security.

UNIT–IV
Marketable and Marketed Surplus, Supply Response of Marketed surplus to prices, size distribution of marketable surplus. Backward bending supply curve. Price expectations and uncertainties, market risk, price stabilization measures.

Recommended Readings:

1. Mamoria, C.B., Agricultural Problems of India, Kitab Mahal,1985.
2. Kaur, Rajbans, Agricultural Pricing Policies in Developing Countries, Kalyani Publishers, 1984.
3. Chand, Mahesh and Srivastava, A.K., Economics Analysis and Management in Agriculture, Oriented Publishers, 1978.
4. Kainth, G.S., Foodgrain Marketing System in India, Associated Publishing House, 1982.

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SEMESTER–V
RURAL DEVELOPMENT

RURAL DEVELOPMENT–V

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper-Setters/Examiners:
(i)   First question consisting of 10 short answer type based upon the entire syllabus, (Each Carrying 2 Marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

UNIT–I
Rural industries: Meaning and Importance; Problems and Difficulties, Measures for Development; Government Policy.
Agro-Industries: Meaning and features; Importance and Present status; Problems and Remedies.

UNIT–II
The nature of agricultural and industries production system and their relationships; Public and Private delivery system and their importance.

UNIT–III
Delivery system for supplies of inputs like seeds, fertilizers, insecticides etc. Agricultural supply chains, Public Distribution System.

UNIT–IV
Rural Poverty: Problems and Magnitude; Causes and Remedies; Government Policies.
Role of irrigation and power in rural development; Forests and Forestry Development; Major Problems; Lines of Development; Government Policy.

Suggested Readings:

1. Aggarwal, A.N. and Kundan Lal: Rural Economy of India.
2. Mukerjee, K.B.: Community Development in India.
3. Desai, A.R.: Rural Sociology in India.
4. Jammu, P.S. (ed) Pendu Punjab vich Samajak Parvartan (special issue of Samajik Vigyan Pattar) Punjabi University, Patiala.
5. Jammu, P.S. Hindustan Vich Samuda Vikas, Punjabi University, Patiala.
6. Bhattacharya, S.N.: Rural Industrialization in India.
7. Dhesi, A.S. and Gurmail Singh: Rural Development in Punjab, A success story going astray, Routledge, New Delhi, 2008 (Edited book).

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SEMESTER–V

OFFICE MANAGEMENT AND SECRETARIAL PRACTICE
(VOCATIONAL)

OFFICE PRACTICE
(THEORY)

Time: 3 Hours

Max. Marks: 100
Theory Marks: 60
Practical Marks: 40

Note: The candidates are allowed to use simple (Non-Scientific) calculators.

Section–A: The examiner will set 8 short questions from the entire syllabus. The candidate will have to attempt 6 questions out of 8 questions. Each question carrying 2 marks

(6x2=12 Marks)

Section–B: The examiner will set 8 long questions in four parts, 2 questions from each unit. The candidate will have to attempt 4 questions selecting at least one from each unit. Each question carrying 12 marks.

(4x12=48Marks)

UNIT–I

Office Stationery: Types of papers and envelopes, control of consumption of papers, ink typewriting ribbons, carbon papers, pins, clips, erasers etc. issue thereof, stock and stock record.

UNIT–II

Duplication Methods:
Photocopying
Meeting: Notice, agenda, physical facilities, quorum, providing secretarial assistance.

UNIT–III
Using Information:
Using knowledge of making use of Information from different sources. Telephone Directory, Post Office Guide, Railway Time Table, Teleprinter, Telex, Fascimile Telegraphy.

UNIT–IV

Making Travel Arrangement: Preparing tour programme, railways and air reservation, booking hotel accommodation, filling of form for tour advance, preparing T.A. Bills.

(PRACTICAL)

1. **Practice on Operating the following machines:-**
   - Duplicator   6 hours
   - Photocopier   6 hours
   - Wood Processor   20 hours
   - Scanner   8 hours

2. **Working in the Office:**
   - Maintenance of Register
   - Preparation of notice, agenda, resolutions

3. **Telephone Handling**

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SEMESTER–V
TRAVEL & TOURISM

WORLD TRAVEL GEOGRAPHY

Time: 3 Hrs.   **Max. Marks: 100**
Instructions for the Paper Setters:

The Theory paper consists of two Parts A and B (short questions and long questions).

Part–A: The examiner will set 12 short questions, 3 questions from each section of 02 marks each.
The candidate will have to attempt 10 questions out of 12 questions.
                                                                (10x02=20 Marks)
Part–B: The examiner will set 8 long questions, 2 questions from each section of 20 marks each.
The candidate will have to attempt 4 questions out of 8 question.   **(04x20=80 Marks)**

UNIT–I
Chapter 1. Fundamentals of Geography
Importance of Geography in tourism,
Climatic variations, climatic regions of world

Chapter 2. Study of Maps
Longitude & latitude,
International Date Line,
Time variations and time difference

UNIT–II
Chapter 3. Popular Destinations-1
United States of America and Europe
African Wildlife

Chapter 4. Popular Destinations-2
Islamic Middle East
South East Asia and Australia

UNIT–III
Chapter 5. Seven Wonder of the World
Great Pyramid of Giza, Hanging Gardens of Babylon,
Statue of Zeus at Olympia, Temple of Artemis at
Ephesus, Mausoleum of Maussollos at Halicarnassus,
Colossus of Rhodes, Lighthouse of Alexandria.

Chapter 6. Modern Wonders
Great Wall of China, Petra (Jordan). Christ the
Redeemer (Brazil), Machu Picchu (Peru), Chichen
Itza (Mexico), Roman Colosseum (Italy), Taj Mahal (India).

UNIT–IV

Chapter 7. Globalisation and Tourism
Globalisation and Tourism in India,
Incredible India campaign

Chapter 8. Heritage and Challenges to Growth of Tourism
What is Heritage and why should it be conserved
World Heritage Monuments of India
Reasons for slow growth rate of Tourism in Inida.

Suggested Readings:

1. Allchin, B. Allchin, F.R. et al. (1989) Conservation of Indian Heritage, Cosmo Publishers, New Delhi.

2. Ashworth, G.T. (2000), The Tourist Historic City. Retrospect and Prospect of Managing the Heritage City, Pergamon, Oxford.

3. Dixit, M. Tourism Products, Royal Publishers.

4. Hall, CM and Page, SJ. The Geography of Tourism and Recreation, Routledge.

5. New Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach (1991) VNR, New York.

6. Pearce, D.G. and Butler, R.W. Contemporary issues in tousiom development, Routledge.

7. UNESCO-IUCN (1992) Eds. Masterworks of Man and Nature, Pantoga, Australia.

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SEMESTER–V

TOURISM AND HOTEL MANAGEMENT
(THEORY)

Time: 3 Hours.   **Max. Marks: 100**
Theory Marks: 80
On the Job Training Marks: 20

Instructions for the Paper Setter:

The following pattern of setting of question paper shall be observed. The question paper covering the entire course shall be divided into three sections as follows:

Section–A: This section will consist of 7 very short answer type questions with answers to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being **14 marks.**

Section–B: This section will consist of short answer type questions with answers to each question upto two pages. Nine questions will be set by the examiner and the candidates will be expected to attempt six questions. Each question will carry six marks; total weightage of the section being **36 marks.**

Section–C: This section will consist of essay type questions with answer to each question upto 5 pages. Four questions will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 15 marks, total weightage of the section being **30 marks.**

UNIT–I

Front Office
I.   Front office as an operational department.
II. Job description of front office assistant.
III. Lobby:
       - Duties & responsibilities of lobby manager.
       - Organization of bell desk and functions.
       - Left luggage handling.
       - Guest errand cards.
       - Mail Message handling.
       - Wakeup call procedure.
IV. Check in-Check out procedure, Guest folio, safety locker management.
V. Processing housekeeping discrepancy.

UNIT–II

Housekeeping

I. Housekeeping department-recruitment & selection.
II. Floor linen room
- Type of linen and use.
- Par stock, safety stock, lead time quantity, Max. Qty, Min. Qty.
- Inventory control.
- Exchange of linen and uniforms.
III. Interior Decoration, color, furniture, fixture and lighting in hotel.
IV. Laundry Service.
V. Housekeeping Practice.
- Lost & found procedure.
- Pest control.
- Turn down service.
- Key Control.

UNIT–III

Food and Beverage Production:

I. Work Method in food preparation.
II. Different type of soups.
III. Curry powder used in Indian Cookery:
- Gram masala, Pulao masala, Sambar masala, Rasam powder, Chaat masala, Meat masala.
IV. Vegetables and salads.
V. Meat (lamb, beaf, pork) Poultry.
VI. Basic Indian Gravies :
- Yellow gravy.
- White gravy.
- Butter gravy.
- Onion tomato masala.

UNIT–IV

Food and Beverage Service:

I. Organization structure of F & B Service Deptt.
II. Preparation for Service:
- Mise-en-essance
- Mise-en-place
- Side board
III. Type of Services:
- English service.
- French service.
- Russian service.
- American service.
- Room service.
- Geuridon service.

IV. Briefing and check point for supervisor.

V. Beverages (alcoholic, Non-alcoholic)
- Procedure for serving table wine.
VI. Cheese

Students has to go for two months of specialized industrial training in a travel agency or in a hotel.
Specialized Industrial Training of 8 weeks
The final year students are supposed to undertake practical training either in a hotel or a travel agency for at least two month. The project report will be submitted to college before examination and will be evaluated by external examiner.
The internal assessment shall be based on periodical tests, written assignment and behaviour in the class.

Suggested Readings:

1   Andrew Sudhir, *Food and Beverage Sersvice,* Tata McGrew Hill Publications, New Delhi, 38th Edition, 1991.

2   Andrew Sudhir, *Front Office Training Mannul,* Tata McGrew Hill Publications, New Delhi.

3   Koontz, H. Wandrich *Essentails of Management,* Tata McGraw Hill, Publishers, New Delhi, 1990.

4   Sudhir Andrew, *Hotal House Keeping,* Tata McGraw Hill Publishing Co. Ltd.

5   Negi Jagmohan *Hotels for Tourism Development,* Metropolitan, New Delhi, 2nd Edition, 1997.

6   Arora, Krishna, *Victory of Cookery,* Frank Bros. & Co. Publishers Ltd.

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SEMESTER–V

TAX PROCEDURES AND PRACTICE (VOCATIONAL)

GOODS AND SERVICES TAX (GST)

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:
The following pattern of setting of question paper shall be observed:
The question paper covering the entire course shall be divided into three sections as follows:-

Section–A: This section will consist of 8 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being **16 marks**.
Section–B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry eight marks, total weightage of the section being **48 marks.**
Section–C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions, will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 18 marks; total weightage of the section being **36 marks.**

Part–I
GST Act 2017: Overview, Constitutional aspects, Implementation, Liability of Tax Payer, GST Council, Brief Introduction to IGST, CGST, SGST and UGST. Levy and collection.
Exemption from GST: Introduction, Composition Scheme and remission of Tax.
Registration: Introduction, Registration Procedure, Special Persons, Amendments / Cancellation.

Supply: Concept, including composite supply, mixed supply, interstate supply, intra-state supply, supply in territorial waters, place and time of supply.

Part–II
Input Tax Credit: Introduction, Tax Invoice Credit & Debit notes, e-way bill.

Computation of GST Liability and Payment including time, method of making payment, challan generation, CPIN, TDS &TCS. Reverse charge.

Returns: various returns to be filed by the assesses.
GST Portal: Introduction, GST Eco-system, GST Suvidha Provider (GSP), Uploading Invoices

Suggested Readings:-

1. Taxmann: Taxmann's GST Manual 2017. Taxman, Publications (P) Ltd.
2. Datey V.S., Taxmann's GST Ready Reckoner Taxman, Publications (P) Ltd.
3. Gupta S.S., GST-How to meet your obligations 2017. Taxman, Publications (P) Ltd.
4. www.cbec.gov.in

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SEMESTER–V

ADVERTISING, SALES PROMOTION AND SALES MANAGEMENT (VOCATIONAL)

MANAGEMENT OF THE SALES FORCE

Time: 3 Hours **Max. Marks: 100**

The following pattern of setting of question paper shall be observed.

Instructions for the Paper Setters:

Section–A: This section will consist of 8 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 16 marks.

Section–B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry eight marks, total weightage of the section being 48 marks.

Section–C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 18 marks; total weightage of the section being 36 marks.

UNIT–I

Importance of the sales force and its management

Functions of Sales Manager

Recruitment and Selection

UNIT–II

Training and Direction

Motivation and Compensation

Appraisal of Performance

UNIT–III

Sales force size, organisation of the sales department: Geographic, Product Wise, Market based. Sales Planning and Central: Market analysis and Sales for Casting. Methods of forecasting sales.

Sales Budget: Importance, Process of sales budget, uses of sales budget.

UNIT–IV

Sales territory: Considerations in allocation of sales territory.

Sales quota: Objectives, principles of selling sales quota administration of sales quota. Uses of Sales quota.

Sales and cost analysis: Uses and Methods.

Suggested Readings:

1. Johnston, Mark W. & Greg W. Marshall, Sales Force Management, McGraw Hill, 2008. (Richard   D. Irwin).

2. Kotler, Philip, K.L. Keller, Abraham Koshy & Mithileshwar- Jha, Marketing Management PHI, 13th ed., 2007.

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SEMESTER–V

COMMERCE

ANY ONE OF THE FOLLOWING OPTIONS:-

OPT. (I) COMPUTER AIDED ACCOUNTING
OPT. (II) MATERIALS MANAGEMENT
OPT. (III) TYPING AND SHORTHAND

OPTION (I): COMPUTER AIDED ACCOUNTING

Time: 3 Hours   **Max. Marks: 100**

Note: i) The candidates are allowed to use simple (Non-Scientific) Calculators.
   ii) Each question paper will consist of three sections as follows:-

Section–A: It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 2 marks; total weightage of the section being **20 marks.**

Section–B: It will consist of short answer questions with answer to each question upto two pages in length. Twelve questions will be set by the Examiner and eight will be attempted by the candidates. Each question will carry 6 marks. The total weightage of the section being **48 marks.**

Section–C: It will consist of essay type questions with answer to each question upto five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will be carry 16 marks; total weightage of the section being   **32 marks.**

UNIT–I

Introduction to Computers: Early developments, Computer generations; information representation and storage; basic concepts of Boolean algebra; Binary arithmetic operations; hardware and software; Concepts of data and information; fields, records, files.

UNIT–II

Definition of data processing, types of data processing; data processing cycle; common data processing operations; data capture and validation; data validation techniques; introduction to data storage devices.

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UNIT–III

Problem Solving basic Programming
Problem solving on computers: Algorithms and flowcharts; programming languages and BASIC: Introduction to BASIC language; constants, variables and expressions; Communication with the computer.

UNIT–IV

Program control, Commands; repetitive computations, arrays and subscripted variables; functions and subroutines; string data manipulation, graphics commands.

Software Lab: Accounting Problems based on the above syllabus. The students are required to develop programmes for various accounting problems.

Suggested Readings:

1. Martin and Seymour: Data Processing (Schaum Series, McGraw Hill, 1984).

2. Gotterfried: Programming with BASIC (Schaum Series, McGraw Hill, 1986).

3. Pradeep K. Sinha, Priti Sinha: Computer Fundamentals, BPB Publications, 2005.

4. Grover: Programming in BASIC (Allied Publishers, New Delhi, 1987).

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SEMESTER–V

COMMERCE

OPTION (II): MATERIALS MANAGEMENT

Time: 3 Hours **Marks: 100**
Teaching Hours: 80
Period of 45 minutes each
Note: i) The Candidates are allowed to use simple (Non-Scientific) Calculators.
   ii) Each question paper will consist of three sections as follows:-

Section–A: It will consist of 10 very short-answer questions with answers to each question upto Five lines in length. All questions will be compulsory. Each question will carry two marks; Total weightage of the section being **20 marks.**

Section–B: It will consist of short answer questions with answer to each question upto two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidates. Each question will carry 6 marks: total weightage of the section being **48 marks.**

Section–C: It will consist of essay type questions with answer to each question upto five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry 16 marks; total weightage of the section being **32 marks.**

UNIT–I

Nature and scope of materials management, objectives and functions of materials management; organization of materials management, interdepartmental relationships

Purchasing Management Introduction, Objectives and functions organisation for purchasing, responsibilities of purchase department, determination of purchase, requirements. Purchase procedures inviting tenders and quotations selecting a source, placing an order and follow up; purchasing records and their maintenance; purchasing through approved sources and through D.G.S. and T.D.

UNIT–II

Stores Management : Identification of stores, classification and codification of materials on alphabetical, nemonic, numerical, alpha-numerical and column making systems, advantage of classification and codification; stores organisation; receiving section layout and location system, substores, material handling and storage equipment, store accounting.

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UNIT–III

Inventory Management: Definition scope and objectives of inventory control, ABC analysis, factors requirement of an item, lead time, carrying or holding costs, set up or ordering , costs, shortage or stock out costs re-order point, safety stock, economic order quantity (without shortages), EOQ for price discounts.

UNIT–IV

Distribution Management: Definition of physical distribution, factors affecting distribution, elements of transport system, pros and cons of various modes of transportation, transportation and non transportation costs. Inter-state tariffs documentation, carrier and consigners liabilities, packing and package costs, packaging fragile, perishable and dangerous goods.

Recommended/Suggested Books:

1. Gopalkrishnan, "Handbook of Material Management", Prientice Hall of India, 2007.

2. Menon K.S. "Stores Management", Mac Millan of India Ltd., 2007.

3. Arnold and Ramkrishnan, "Introduction to Materials Management", Pearson Education, 2007.

4. Nair N.K., "Purchasing and Materials Management", Vikas Publications, 2007.

5. Goyal B.C., "Production Management", Pragati Prakashan, 2007.

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SEMESTER–V

COMMERCE
OPTION (III): TYPING AND SHORTHAND

Time: 3 Hours   **Max. Marks: 100**
                                                        Theory Marks: 70
                                                        Practical Marks: 30

Note: The question paper covering the entire course shall be divided into three sections as follows:-
Section–A: It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 1½ marks; Total weightage of the section being **15 marks.**
Section–B: It will consist of short answer questions with answer to each question upto two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidates. Each question will carry 4 marks. The total weightage of the section being **32 marks**
Section–C: It will consist of essay type questions with answer to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will be carry 11½ marks; total weightage of the section being **23 marks**

Theory	**Practical**

UNIT–I

1. Nature, Scope and importance of typewriting. Sitting posture, introduction of basic principles, knowledge of essential parts of a typewriter and their usage.

Satisfy the curiosity of the students by making him sit on the typewriter in a required manner by inserting and removing the paper and by observing the action of keys when pressed.

2. Manipulation of fingers on key board– Introduction of basic lesson (all the four rows) including operation of side shift keys.

Mastery of key-board, practice of basic lesson on all the four rows. Practice of "quick brown fox jumps straight over the lazy dog" lesson.

UNIT–II

3. Speed development importance of accuracy over speed.

Introduction and manipulation of side shift keys and their use.

4. Care and upkeep of typewriter. Typewriting accessories, change of ribbon, use of punctuation signs and space to be left after punctuation marks carbon manifolding.

Practice from exercises, after completion of basic lessons to attain speed @ 15 w.p.m.

UNIT–III

5. Instructions for stencil cutting. Use of correcting fluid.

Practice from book exercises @ 15 w.p.m. daily for atleast five minutes and practice in cutting stencils.

6. Display of tabulation work and balance sheets.

Typing in printed forms, telegrams and tabulated statements etc.

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UNIT–IV

7. How to type printed forms, telegrams, minutes notices and legal matters.

   Development of speed @ 25 w.p.m. with daily practice.

8. Revision of theory.

Note: There would be one paragraph of 125 words to be typed @ 25 w.p. m. for 5 minutes carrying 10 marks and their would be 5 marks for sessional work. (The candidate is required to maintain his file through out the year.)

Books Recommended: (Typewriting Theory)

1. Typewriting made easy.
2. General instructions regarding typewriting and stencil cutting.
3. A handbook of type writing.

Typewriting Practical:

1. Speed and accuracy.
2. Comprehensive course in touch typewriting.
3. Weekly test papers.
4. Any other book suitable to students.

THEORY	PRACTICAL
1. Nature, scope, importance of shorthand (this includes basic instructions and introduction).	Teacher would be required to teach students basic principles of shorthand and practice of constant and vowels (initial lessons.)
2. Explanation of consonant and vowel sounds, their indication and their use in shorthand.	Practice from books and reading back at initial Speed it will be required for the whole of the year.
3. Gramalogues–explanation and thier usage in shorthand.	Dictation and reading back from further exercises,. Transcription from writen shorthand would start from this stage.
4. Explanation of diphthongs hooks (initial and final) halving and doubling principles.	
5. Diphones, medial semicircles and compound words-general contractions.	Practice from book exercise, reading back and Transcription. 5 minutes para dictation and transcription at nominal speed till last examination.

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6. Intersections, advanced phraseography and special constractions including legal phraseography.

    Dictation from seen and unseen passage (from shorthand book) reading back and transcriptions at normal speed.

7. Quick revision of theory note making techniques–common errors in shorthand of English words.

    Dictation from any exercise of shorthand book. Reading of printed shorthand outlines from Shorthand book.

–   Introduction of new and advance shorthand outlines.

    The candidate would be required to attain speed @ 60 w.p.m. and transcribe the same @ 12 w.p.m.

8. Dictation from instructor exercises and preparation for examination.

Note: There would be one paragraph of 5 minutes of 300 words to be dictated @ 60 w.p.m. and to be typed @ 12 w.p.m. carrying 15 marks.

'Shorthand Instructor' is required to give practical knowledge of all the exercises of the book to the learners. Questions for theory would be from the prescribed syllabus but practical (shorthand test) would be from the whole of the book.

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SEMESTER–V

TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)

EMERGING CONCEPTS FOR EFFECTIVE TOURISM DEVELOPMENT

Time: 3 Hours   **Max. Marks: 100**

Internal assessment will be based on Periodical test, Presentations, Assignments, Group discussions, and Grooming skills
Instructions for the Paper Setters:

Section–A: It will consist of 15 questions from the entire syllabus of the paper with answer to each question should up to 50 words. Students will be required to attempt any 10 questions.   Each question will carry 2 marks. This section will be of 20 marks
Section–B: It will consist of 8 essay type questions, 2 from each unit with answer to each question should up to 5pages. Students will be required to attempt any 4 questions. Each question will carry 20 marks. This section will be of 80 marks.
Note:– The candidates are allowed to use simple (Non–Scientific) Calculators.

Part–I
 Relevant concepts and approaches for effective tourism development.
- National Development Council Report on Tourism Development.
- National Action Plan, 1992.
- New Policies on Tourism and Civil Aviation.
- Tourism traffic and its Improvisations
- Destination development.
- Sustainable development.

Part–II
- Man Power Development Needs.
- Management Strategies.
- Tourism Policy Analysis.
- Tourism Legislation a Necessity.

Suggested Readings:

1.   National Development Council Report.
2.   National Action Plan, 1992.
3.   Reports of World Tourism Organisation.
4.   Report Workshop on Tourism Legislation - August 10-11, 1987 IITTM, New Delhi.
5.   Report Workshop on Tourism Legislation - February 23, IITTM, New Delhi.

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SEMESTER–V
MATHEMATICS

PAPER–I: DYNAMICS

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:
1. Syllabus of this paper is split into two Parts: Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

Section–A

Rectilinear motion in a starlight line with uniform acceleration, Newton's laws of motion. Motion of two particles connected by a string. Motion along a smooth inclined plane. Variable acceleration. Simple Harmonic Motion.

Section–B

Curvilinear motion of particle in a plane, Definition of velocity and acceleration, projectiles. Oscillations: Free Vibrations, Simple Pendulum, Conical Pendulum. Work, Power and Energy: Kinetic and Potential energy, Conservative forces. Theorem of conservation of energy. Work done against gravity.

Books Recommended:

1. S.R.Gupta: A text book of Dynamics
2. F. Chorlton: Dynamics.
3. S.L. Loney: An Elementary Treatise on the Dynamics of a Practice and of Rigid Bodies, Cambridge University Press, 1956.

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SEMESTER–V
MATHEMATICS

PAPER–II: NUMBER THEORY

Time: 3 Hours   **Marks: 50**

Instructions for the Paper Setters:
1.   Syllabus of this paper is split into two Parts: Section–A and Section–B. Five questions will be set from each Section.
2.   The student will attempt five questions in all selecting at least two questions from each section.
3.   Teaching time for Mathematics would be six periods per week for each paper.

Section–A
The division algorithm, The greatest common divisor, least common multiple, The Euclidean alogrithm, The Diophantine equation $ax + by = c$ Prime numbers and their distribution, The fundamental theorem of arithmetic, Basic properties of congruences, Linear congruences, Special divisibility tests.

Section–B
Chinese remainder theorem, The Fermat's theorem, Wilson's theorem, ‡ and † functions, Mobius Inversion formula, Greatest integer function, Euler's Phi function, Euler's theorem, some properties of the Phi Function.

Books Recommended:

1.   D. Burton: Elementary Number Theory, Sixth Edition, McGraw-Hill.
      (Scope inChapters 2-5, 7-12)., 2005

2.   Niven and Zuckerman: An Introduction to Number Theory, Wiley 1972.

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SEMESTER–V

STATISTICS

PAPER–I: LINEAR MODELS AND DESIGN OF EXPERIMENTS

Time: 3 Hours   **Marks: 35**

Instructions for the Paper Setters:
1. Question paper will consist of two sections, Section A and Section B. Each section will consist of five questions, carrying equal marks each, set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time would be six periods per week for this paper.
4. The candidates are allowed to use Non–Programmable calculators.

Section–A
Linear models, the fixed effect models, the distribution of minimum error sum of squares and the conditional minimum error sum of squares, tests of general linear hypotheses.
Analysis of one way classified data under the fixed effect model. Analysis of two way classified data with one observation per cell under the fixed effect models, Analysis of two way classified data with multiple but equal observation in cell under the fixed effect models, expectations of various mean sum of squares in one way and two way classified data.

Section–B
Terminologies in experimental designs, basic principles of design of experiment: randomization, replication and local control, completely randomized design, randomized block design and the latin square design, balanced incomplete block design and their advantages, disadvantages and analysis. Factorial experiments, the concept of main effects and interactions in 2^2 and 2^3 factorial experiments and the sum of squares due to them. Yates method of computing the sum of squares due to the main effects and interactions in 2^2 and 2^3 factorial designs, statistical analysis of these experiments (excluding confounding).

Books Recommended:

1. Goon, A.M., Gupta, M.K. and Dasgupta, B. Fundamentals of Statistics, Vol. II, World Press, 2005.
2. Das, M.N. and Giri, N.C. Design and Analysis of Experiment, New Age International Publisher, 2003.

   Gupta, S.C. and Kapoor, V.K,. Applied Statistics, Sultan Chand and Company, 2007.

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SEMESTER–V

STATISTICS

PAPER–II: THEORY OF SAMPLE SURVEYS

Time: 3 Hours **Marks: 35**

Instructions for the Paper Setters:
1. Question paper will consist of two sections, Section A and Section B. Each section will consist of five questions, carrying equal marks each, set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time would be six periods per week for this paper.
4. The candidates are allowed to use Non–Programmable calculators.

Section–A
Introduction to design of sample surveys, census and sample surveys, basic principles of sample surveys, planning a sample survey, sampling and non sampling errors.
Simple random sampling (WR and WOR) and its results, estimation of mean: its mean and variance and its estimate, and estimation of proportion: its mean and variance, stratified random sample (WOR): estimation of mean: its mean and variance and its estimate (under WOR), proportional. Neyman and optimum allocations.

Section–B
Ratio, product and regression estimates of population mean: their approximated (under large sample) expected values and variances under SRSWOR, comparisons with mean per unit estimate (under SRSWOR)

Books Recommended:

1. Goon, A.M., Gupta, M.K. and Dasgupta, B. Fundamentals of Statistics, Vol. II, World Press, 2005.

2. Singh, D. and Chaudhary, F.S., Theory and Analysis of sample survey design, New Age International Publisher, 2002.

3. Mukhopadhyar, P., Theory and Methods of Survey Sampling, Prentice Hall, 2000.

4. Gupta, S.C. and Kapoor, V.K,. Applied Statistics, Sultan Chand and Company, 2007.

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SEMESTER–V

STATISTICS

PAPER-III: - Practical based on PAPER–I: LINEAR MODELS AND DESIGN OF EXPERIMENTS

Time: 2 Hours   **Marks: 30**

Teaching time for practical paper would be one hour per week.

List of Practicals Exercises

1. Exercises on analysis of variance for one way classified data and Completely Randomized design
2. Exercises on analysis of variance for two way classified data with one observation per cell and Randomized Complete Block design
3. Exercises on analysis of variance for two way classified data with multiple but equal observations per cell
4. Exercises on analysis of variance for Latin Square design
5. Exercises on analysis of variance for Balanced Incomplete Block design
6. Exercises on analysis of variance for 2^2 and 2^3 factorial experiments

Students are required to prepare a practical note book with at least 15 exercises based upon the above list. At the end of semester, there is a practical examination jointly conducted by two examiners (one is internal and other one is external). External examiner is appointed by the university and the internal examiner is appointed by the principal of the concerned college. This practical examination will cover a written test followed by a viva-voce to test the practical knowledge of students about the contents. The candidates are allowed to use Non–Programmable calculators. The distribution of marks is as under:

1. Practical Note book: 05
2. Viva – voce: 10
3. Exercises: 15

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SEMESTER–V

CHEMISTRY (INORGANIC CHEMISTRY–A)
(THEORY)

Time: 3 Hrs   **Marks: 35**
45 Hrs. (3 Hrs./week)
The question paper shall consist of two parts as detailed below:-

Part-A :- (Compulsory)

It shall consist of 8 very short answer type questions (Q. Nos. 1 to 8) from the entire syllabus and the maximum length of each question may not exceed $1/3^{rd}$ the page. Each question will be carrying one mark.   **8 x 1 = 8 Marks**

Part-B :-

It shall consist of three sections (Section 1, II & III). It shall consist of 9 questions (Q. Nos. 9 to 17) from the entire syllabus. Each question will consist of 3 questions from each Unit of syllabus. The maximum length of each question may not exceed 5 pages. The candidate will attempt two questions from each section. Each question will be carrying 4½ marks.

6 x 4½ = 27 Marks

Section–I

1. Metal-ligand Bonding in Transition Metal Complexes   **(10 Hrs)**
Limitations of valence bond theory, an elementary idea of crystal-field theory, crystal field splitting in octahedral, tetrahedral and square planar complexes, factors affecting the crystal-field parameters.

2. Magnetic Properties of Transition Metal Complexes   **(5 Hrs)**
Types of magnetic behaviour, methods of determining magnetic susceptibility, spin-only formula. L-S coupling, correlation of μs and μeff values, orbital contribution to magnetic moments, application of magnetic moment data for characterization of 3d-metal complexes.

Section–II

3. Thermodynamic and Kinetic Aspects of Metal Complexes   **(5 Hrs.)**
A brief outline of thermodynamic stability of metal complexes and factors affecting the stability, substitution reactions of square planar complexes.

4. Electronic Spectra of Transition Metal Complexes   **(10 Hrs)**
Term Symbols for p^2 & d^2 systems, spectroscopic ground states for d^1-d^{10} electronic configurations. Types of electronic transitions, selection rules for d-d transitions, spectroscopic ground states, Orgel diagram for d^1-d^5.

Section–III

5. Organometallic Compounds: **(15 Hrs)**

Definition, nomenclature and classification of organometallic compounds. EAN rule, Preparation, properties, and applications of alkyls aryls of lithium and aluminium, Bonding in metal-ethylenic complexes, Mechanism of homogeneous hydrogenation reactions.

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Books Suggested:-

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 3rd edition, Pubs: John Wiley Sons. 1995.

2. Lee, J.D., Concise Inorganic Chemistry; 4th edition, Pubs: Chapman Hall Ltd., 1991.

3. Shriver, D.E., Alkins, P.W., Langford, C.H., Inorganic Chemistry; 4th edition, Oxford Publisher: Oxford University Press, 2006.

4. Douglas, B. McDamiel, D., Alexander, J., Concepts and Models of Inorganic Chemistry; 3rd edition, Pubs: John Wiley and Sons Inc., 1994.

5. Porterfield, W.W., Wesley, A., Inorganic Chemistry; Pubs: Addison-Wesley Publishing Company, 1984.

6. Miessler, G.L., Larr, D.A., Inorganic Chemistry; 3rd edition, Pubs: Pearson Education Inc., 2004.

7. Jolly, W.L., Modern Inorganic Chemistry; 2nd edition, Pubs: McGraw-Hill Publishing Company Limited, 1991.

8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B. Saunders Company, 1977.

9. Puri, B.R., Sharma, L.R., Kalia, K.C., Principles of Inorganic Chemistry; 30th edition, Pubs: Milestones Publisher, 2006-07.

10. Inorganic Chemistry, W.W. Porterfield Addison-Wesley.

11. Inorganic Chemistry, A.G. Sharpe, ELBS.

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SEMESTER–V
CHEMISTRY (PHYSICAL CHEMISTRY–B)
(THEORY)

Time: 3 Hrs   **Marks: 35**
45 Hrs. (3 Hrs./week)
The question paper shall consist of two parts as detailed below:-

Part-A :- (Compulsory)
It shall consist of 8 very short answer type questions (Q. Nos. 1 to 8) from the entire syllabus and the maximum length of each question may not exceed $1/3^{rd}$ the page. Each question will be carrying one mark.   **8 X 1 = 8 marks**
Part-B :-
It shall consist of three sections (Section 1, II & III). It shall consist of 9 questions (Q. Nos. 9 to 17) from the entire syllabus. Each question will consist of 3 questions from each Unit of syllabus. The maximum length of each question may not exceed 5 pages. The candidate will attempt two questions from each section. Each question will be carrying 4½ marks.

                                        6 X 4½ = 27 Marks
Section – I

1. Electrochemistry-I   **(7 hrs.)**

Electrical transport-conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of equivalent and specific conductance with dilution. Migration of ions and Kohlrausch law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law, its uses and limitations. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf method and moving boundary method. Applications of conductivity measurements: determination of degree of dissociation, determination of Ka of acids, determination of solubility product of a sparingly soluble salt, conductometric titrations.

2. Electrochemistry – II (8 hrs.)
Types of reversible electrodes-gas metal ion, metal ion, metal insolblue salt-anion and redox electrodes. Electrode reactions. Nernst equation, derivation of cell E.M.F. and Single electrode potential, standard hydrogen electrode, reference electrodes, standard electrode potential, sign conventions, electrochemical series and its significance. Electrolytic and Galvanic cells-reversible and irreverisible cells, conventional representation of electrochemi cells.

EMF of a cell and its measurements. Computation of cell. EMF, Calculation of thermodynamic quantities of cell reactions (G H and K), polarization, over potential and hydrogen overvoltage. Concentration cells with and without transport, liquid junction potential, application
of concentration cells, valency of ions, solubility product and activity coefficient, potentiometric titrations.

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Definition of pH and pKa, determination of pH using hydrogen, quinhydrone and glass electrodes, by potentiometric methods. Buffers-mechanism of buffer action, Henderson-Hazel equation, Hydrolysis of salts. Corrosion-types, theories and methods of combating it.

Section–II
3. Nuclear Chemistry   (15 Hrs.)
Introduction: Radioactivity, Nuclear Structure, Size of Nucleus, Mass Defects and Binding Energy, Nuclear Stability, Nuclear Forces, Nuclear Spin and Moments of Nuclei, Nuclear Models, Nuclear Decay Processes, The Laws of Radioactive Decay, Soddy-Fajans Group Displacement Law, Rate of Nuclear Decay and Half Life Time (Kinetics of Radioactive Decay), Induced Nuclear Reactions, Types of Nuclear Processes, High Energy Nuclear Reactions, Nuclear Reaction Cross-Section, Artificial radioactivity, Detection and Measurement of Radioactivity, Nuclear Fission, Nuclear Fusion, Applications of Radioactivity.

Section–III
4. Spectroscopy   (15 Hrs.)
Introduction: Electromagnetic radiation, regions of the spectrum, basic features of different spectrometers, statement of the Born-Oppenheimer approximation, degrees of freedom.
5. Rotational Spectrum
Diatomic molecules. Energy levels of a rigid rotor (semiclassical principles), selection rules, spectral intensity, distribution using population distribution (Maxwell-Boltzmann distribution) determination of bond length, qualitative description of non-rigid rotor, isotope effect.

6. Vibrational Spectrum

Infrared spectrum: Energy levels of simple harmonic oscillator, selection rules, pure vibrational spectrum, intensity, determination of force constant and qualitative relation of force constant and bond energies, effect of anharmonic motion and isotope on the spectrum, idea of vibrational frequencies of different functional groups.

Raman Spectrum: Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules.

7. Electronic Spectrum
Concept of potential energy curves for bonding and antibonding molecular orbitals, qualitative description of selection rules and Franck-Condon principle.

Qualitative description of s, p, and n M.O., their energy levels and the respective transitions.

Books Suggested:-

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.

2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43rd edition, Pubs: Vishal Publishing Co., 2008.

3. Barrow, G.M., Physical Chemistry; 6th edition, Pubs: McGraw Hill Companies Inc, 1996.

4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan of India, 1985.

5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2nd edition, Pubs: Oxford University Press, 2000.

6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1st edition, Pubs: John Wiley & Sons Inc., 1992.

7. Levine, I.N., Physical Chemistry; 5th edition, Pubs: Tata McGraw Hill Publishing Co. Ltd, 2002.

8. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.

9. Metz, C.R., Theory and problems of Physical Chemistry; Schaum's outline series, 2nd edition, Pubs: McGraw-Hall Book Company, 1989.

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SEMESTER–V
CHEMISTRY
(PRACTICAL)

Duration: 3½ Hrs. **Marks: 30**
6 Period/week

(I) Synthesis and Analysis
(a) Preparation of Sodium trioxalatoferrate (III)
(b) Preparation of Ni-DMG Complex
(c) Preparation of Copper tetrammine complex
(d) Preparation of cis-bisoxalatodiaquachromate (III) ion

(II) Physical Chemistry
(a) Conductometric Titrations
(i) Determine the end point of the following titrations by the conductometric methods.
Strong acid-Strong base
Strong acid-Weak base
Weak acid-Strong base
Weak acid-Weak base
(ii) Determine the composition of a mixture of acetic acid and the hydrochloric acid by conductometric titration.
(b) (i) Molecular Weight Determination of acetanilide, napthalane, using camphor as solvent
(Rast's methods).
(ii) To determine the molecular weight of a polymer by viscosity measurements.
(c) Adsorption (i) To study the adsorption of acetic acid oxalic/acid from aqueous solutions by charcoal.
(d) Phase Equilibria to determine the distribution coefficient of iodine between CCI_4 and water.
(e) Refractometry
(i) Determination of refractive index of a liquid by Abbe refractometer, and hence the specific and molar refraction.
(ii) To determine the composition of unknown mixture of two liquids by refractive index measurements.

Practical Examination
1)	Inorganic Synthesis	10
2)	Physical experiment	13
3)	Viva- Voce	04
4)	Note Book	03

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Books Suggested:-

1. Experimental Inorganic Chemistry, W.G. Palmer, Cambridge.

2. Handbook of preparative Inorganic Chemistry, Vol. I & II, Brauer, Academic Press.

3. Inorganic Synthesis, McGraw Hill.

4. Experiments in General Chemistry, C.N.R. Rao and U.C. Aggarwal, East-West Press.

5. Experiments in Physical Chemistry, R.C. Das and B. Behra, Tata McGraw Hill.

6. Advanced Practical Physical Chemistry, J.B. Yadav, Goel Publishing House.

7. Advanced Experimental Chemistry, Vol. I, Physical, J.N. Guru and R. Kapoor, S. Chand & Co.

8. Selected Experiments in Physical Chemistry, N.G. Mukherjee, J.N. Ghosh & Sons.

9. Experiments Physical Chemistry, J.C. Ghosh, Bharati Bhavan.

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SEMESTER–V
PHYSICS

PAPER–A
CONDENSED MATTER PHYSICS
(THEORY)

Time: 3 Hours   **Marks: 35**
Total Teaching Hrs: 45(3h/week)
Pass Marks: 35%

Instructions for the Paper Setters:
There will be five sections. Section A will consist of seven short answer type questions covering the whole syllabus and is compulsory. Sections B, C, D and E will consist of two questions each. The candidates are required to attempt one from each section. All questions carry equal marks.

UNIT-I
Crystal structure, Symmetry operations for a two and three dimensional crystal, Two dimensional Bravais lattices, Three dimensional Bravais lattices, Basic primitive cells, Crystal planes and Miller indices, Diamond and NaCl structure.

UNIT-II
Crystal Diffraction: Bragg's law, Experimental methods for crystal structure studies, Laue equations, Reciprocal lattices of SC, BCC and FCC, Brag's law in reciprocal lattice, Brillouin zones and its construction in two and three dimensions, Structure factor and atomic form factor.

UNIT-III
Lattice vibrations, Concepts of phonons, Scattering of photons by phonons, Vibration and mono-atomic, linear chains, Density of modes, Einstein and Debye models of specific heat.

UNIT-IV
Free electron model of metals, Free electron, Fermi gas and Fermi energy, Band Theory: Kronig-Penney model, Metals and insulators, Qualitative discussion of the following: Conductivity and its variation with temperature in semiconductors, Fermi levels in intrinsic and extrinsic semiconductors, band gap in semiconductors.

Books Suggested:

1. Introduction to Solid State Physics: C. Kittel (Wiley Eastern)
2. Elements of Modern Physics: S.H. Patil (TMGH), 1985.
3. Solid State Physics: Puri and Babbar.

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SEMESTER–V
PHYSICS

PAPER–B: NUCLEAR PHYSICS
(THEORY)

Time: 3 Hours   **Marks: 35**
Total Teaching Hrs: 45(3h/week)
Pass Marks: 35%

Instructions for the Paper Setters:
There will be five sections. Section A will consist of seven short answer type questions covering the whole syllabus and is compulsory. Sections B, C, D and E will consist of two questions each. The candidates are required to attempt one from each section. All questions carry equal marks.

UNIT-I
Nuclear Properties: Constituents of nucleus, non-existence of electrons in nucleus, Nuclear mass and binding energy, features of binding energy versus mass number curve, nucleus radius, angular momentum and parity, nuclear moments: magnetic dipole moment and electric quadruple moment, properties of nuclear forces, Yukawa theory.

UNIT-II
Radioactive Decays: Modes of decay of radioactive nuclides and decay Laws, radioactive series and displacement law, radioactive dating, constituents of Cosmic rays, Alpha decay: Gamow's theory of alpha decay, barrier penetration as applied to alpha decay, Geiger Nuttal law, Beta decays: β-, β+ and electron capture decays, Neutrino hypothesis and its detection, parity violation in β decay, Gamma transitions: Excited levels, isomeric levels, Gamma transitions, internal conversion.

UNIT-III
Nuclear Reactions: Types of nuclear reactions, reactions cross section, conservation laws, Kinematics of nuclear reaction, examples of nuclear reactions, Q-value and its physical significance, compound nucleus, level width.

UNIT-IV
Nuclear Models: Liquid drop model, semi-empirical mass formula, condition of stability, evidence for nuclear magic numbers, Shell Model, energy level scheme, angular momenta of nuclear ground states, parity and magnetic moment of nuclear ground states.

TUTORIALS: Relevant problems on the topics covered in the course.

Books Suggested :-
1. Basic Ideas and Concepts in Nuclear Physics: K. Hyde
2. Introduction to Nuclear Physics: H.A. Enge
3. Nuclear Physics: I. Kaplan (Addison Wesley)
4. Nucler and Particles: E. Segre

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SEMESTER–V
PHYSICS

(PRACTICAL)

Marks: 30

General Guidelines for Practical Examination: (4.5h/week)
I. The distribution of marks is as follows :
   (i)   One experiment   **15 Marks**
   (ii)   Brief Theory   **5 Marks**
   (iii) Viva–Voce   **5 Marks**
   (iv)   Record (Practical file)   **5 Marks**
II. There will be one sessions of 3 hours duration. The paper will have one session.
    Paper will consist of 8 experiments out of which an examinee will mark 6 experiments and one of these is to be allotted by the external examiner.
III. Number of candidates in a group for practical examination should not exceed 12.
IV. In a single group no experiment be allotted to more than three examinee in any group.

1. Measurement of reverse saturation current in p-n-junction diode at various temperatures and to find the approximate value of energy gap.
2. To draw forward and reverse bias characteristics of a p-n junction diode.
3. Study of a diode as a clipping element.
4. To measure the efficiency and ripple factors for (a) halfwave (b) full wave and (c) bridge rectifier circuits.
5. To draw the characteristics of a Zener diode.
6. To study characteristics of Common Base transistor.
7. To study characteristics of Common Emitter transistor.
8. To study the gain of an amplifier at different frequencies and to find Band width
9. To study the reduction in the ripple in the rectified output with RC, LC and   filters.

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SEMESTER–V

HOME SCIENCE

FOODS AND NUTRITION & CHILD DEVELOPMENT - I
(THEORY)

Time: 3 Hrs.   **Max. Marks: 100**
Teaching Periods: 6/week   **Theory Marks: 60**
                                                                                            Practical Marks: 40

Instructions for the Paper Setters:
The question paper will consist of five sections A, B, C, D & E. Section A, B, C, D will have two Questions from the respective sections of the syllabus and will be of 12 marks each. Section E will consist of short type questions covering the entire syllabus uniformly and will be of 12 marks.

Instructions for the Candidates:
Candidates are required to attempt one question each from section A, B, C, D and section E is compulsory

Section–A
1. Importance and functions of food:
    a) Physiological
    b) Psychological
    c) Social
2. Essential food Constituents: Carbohydrates, Proteins and Fats; functions, sources, requirements and Deficiency and excess.
3. Methods of cooking: Boiling, steaming, frying, baking, roasting and micro-wave cooking.

Section–B
4. Food nutrients: Functions, recommended allowances, deficiency and sources of:
    a) Vitamins– B-1, B-2, Niacin, A, C, D
    b) Minerals–Calcium, Iron, Iodine
5. Food Preservation: Definition, Importance & Principles. Causes of food spoilage. Household methods of preservation. Sun drying, use of salt, oil, spices, sugar & chemical preservatives.

Section–C
1. Definition and importance of Child Development.
2. a) Differences between growth and development.
    b) Principles of development.
3. Physical development of the child from infancy to late childhood and factors affecting the same.

Section–D

4. Motor Development from infancy to late childhood.
    a) Pattern of motor development.
    b) Factors affecting motor development.

5. Emotional Development
   a) Characteristics of children emotions.
   b) Common childhood emotions fear, anger, jealousy, love and affection, anxiety and curiosity.

6. Language Development
   a) Stages of language development.
   b) Factors affecting language development

References Books:

Sr.no. **Book title**   **Author**

   1. Food and Nutrition   Sebrell,William H.
   2. Normal And Therapeutic Nutrition   Praudfit
   3. Child Behaviour and Development   Kappuswamy, B
   4. Child Growth and Development   Hurlock, Elizabeth
   5. Human Nutrition and Dietics   Davidson, Stanley
   6. Textbook of Home Science   Neelam Garewal

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SEMESTER–V

HOME SCIENCE

FOODS AND NUTRITION
(PRACTICAL)

Time: 3 Hours   **Marks: 40**
Teaching: 6 Periods/week

1. Preparation of minimum of three dishes by using various methods of cooking (e.g. boiling, steaming, baking), frying (deep & shallow) and roasting with different food groups e.g. cereal, pulses & vegetables groups and their combinations.

2. Food preservation-Pickle, chutneys, jams, squashes, sherbets, sauce (at least two each).

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SEMESTER–V

COSMETOLOGY (VOCATIONAL)

(THEORY)

Time: 3 hrs.   **Max. Marks: 100**
Periods/Week: 4   **Theory Marks: 35**
                                                      Practical Marks: 50
                              College Lab Training Marks: 15

Instructions for the Paper Setters:

Note: There will be 2 sections.

Section–A: It will consist of 5 short type questions, and candidate will be required to attempt 3 of them. Each question carry 5 marks each.

Section–B: It will consist of 4 essay type questions, and candidate will be required to attempt 2 of them. Each question carries 10 marks each.

1. **Bacteriology**
   a) What is Bacteria?
   b) How Bacteria grows and reproduce?
   c) Types of Bacteria
   d) Infections and Disease

2. **Sterilization & Sanitations**
   a) Methods of Sterilization & Sanitations
   b) Commonly used disinfectants
   c) Knowledge of common antiseptics
   d) General suggestions for sanitations

3. **Chemical Treatment of Hair**
   a) Rebonding
   b) Smoothening

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SEMESTER–V

COSMETOLOGY (VOCATIONAL)
(PRACTICAL)

Time: 3 Hrs. **Marks: 50**
Periods/Week: 6

Note: Lab training should be taken in college cosmetology lab. And report with picture profile should be submitted by each student with the remarks of lab instructor.

1. **Make-up**

a) Cosmetics used in make-up, how to choose the correct colour, selecting base shades, how to determine facial balance.

b) Bridal Makeup - day & night

c) Corrective make-up

2. **Hair Styling:** Formal and casual

3. **Draping of Formals & Causals:** Saree and Lehngas

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SEMESTER–V

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

THERAPEUTIC NUTRITION
(THEORY)

Time: 3 Hrs.   **Max. Marks: 100**
Pds – 6 pds/week   **Theory: 60**
        Practical: 40

Instruction for the Paper Setter.
1. Theory paper will be of 3 hrs duration.
2. Question paper should cover all the topics of the syllabus.
3. There will be 8 questions in all. The students are to attempt any 5 questions (12 marks for each question).
4. Question 1 is compulsory, which contains short answer type questions.

Objectives:-
1) To gain knowledge about different diseases.
2) To learn therapeutic adaptation of the normal diet.

Content :-
Unit–I

1) Basic concept of Therapeutic diet - meaning, importance, objectives, Therapeutic adaptations of the normal diet.
2) Types of routine hospital diets - normal diet, Soft diet, liquid diet, Special feeding methods Enteral nutrition and Parenteral Nutrition.
3) Role of Dietitian in feeding of patients. Effect of illness on food acceptance and utilization.

Unit–II

4) Nutrient and drug interaction. Effect of drug therapy on intake, absorption and utilization of nutrients.
5) Nutrition during infection and fevers–classification, etiology, symptoms and dietary management in – Typhoid, Tuberculosis and Dengue.

Unit–III

6) Nutrition in Gastro - intestinal disorders, etiology, symptoms and dietary management in Diarrhoea, constipation, Gastritis, Irritable bowl syndrome peptic ulcer.
7) Nutrition in disturbauces of small and large intestine eitiology, symptoms and dietary management in Celiac disease, Lactose intolerance, ulcerative colitis.

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Unit–IV

8) Nutrition in disease of the liver, gall bladder and pancreas, etiology, symptoms and dietary management in - Jaundice, Hepatitis, cirrhosis of liver, Cholecystitis and Pancreatitis.

Unit–V

9) Nutrition in Diabetes Mellitus - Types etiology, symptoms metabolic changes, life style modification, Dietary management, Hypoglycemic agents, Medication, Insuline therapy, Acute Complication of diabetes.

Unit–VI

10) Nutrition in Renal disease, etiology, symptoms dialysis - Its type and dietary management in Glumerulonephritis, Nephrosis, Acute Renal failure.

Unit–VII

11) Nutrition in Cardiovascular diseases, etiology, symptoms, life style modification, brief knowledge of Dash Diet and dietary management in Atherosclerosis, Hypertension, Dislipidemia and Acute cardiovascular disease/Heart attack.

Unit–VIII

12) Nutrition in Cancer, types etiology, stages, symptoms diagnosis, factors inhibiting carcinogenesis, factors enhancing carcinogenesis and dietary management and Chemo & Radiation therapy (Brief Introduction).

Unit–IX

13) Nutrition in obesity - assessment of obesity, Hazards of obesity, etiology, nutritional management and other approaches.
14) Gout - etiology, symptoms & dietary management.
15) Food Allergy - Causes, symptoms & dietary management.

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SEMESTER–V

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

Reference Books:

Sr. No.	Name of Book	Year	Author	Edition	Publisher
1	Food Science and Nutrition	2018	Sunetra Rodey	3rd	Oxford University Press
2	Food production Operations	2011	Parvinder Bali	2nd	Oxford University Press
3	Nutrition and Dietetics	2015	Shubhangini A. Joshi	4th	McGraw- Hill Education
4	Foods- Facts and Principles	2001	N. Shukantala Manay	2nd	New Age International, (P) Limited Publishers
5	Food Science	2014	B. Srilakshmi	6th	New Age International, (P) Limited Publishers
6	Nutrition Science	2017	B. Srilakshmi	-	New Age International, (P) Limited Publishers
7	Dietetics	2014	B. Srilakshmi	7th	New Age International, (P) Limited Publishers
8	Food Hygiene and Sanitation	2011	Sunetra Rodey	2nd	McGraw Hill Education
9	Clinical Nutrition and Dietetics	2002	F P Antia	4th	Oxford University Press
10	Food Science	2006	Sumati R. Mudambi	2nd	New Age International, (P) Limited Publishers
11	Fundamentals of Foods, Nutrition and Diet Therapy	2007	Sumati R. Mudambi and M. V. Rajagopal	5th	New Age International, (P) Limited Publishers
12	Advances in Diet Therapy : Practical Manual	2009	V. Vimla	1st	New Age International, (P) Limited Publishers
13	A Text book of Food Nutrition and Dietetics	2009	Raheena Begum	3rd	Sterling Publishers Pvt. Ltd
14	Exercise Physiology Fitness and Sports Nutrition	2016	B. Srilakshmi	1st	New Age International, (P) Limited Publishers

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SEMESTER–V

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

THERAPEUTIC NUTRITION
(PRACTICAL)

Time: 3 Hrs.   **Marks: 40**
Periods: 6

Note:- Paper will be set on the spot by the examiner instructions for the Paper Setter.

1. Prepare following therapeutic recipes and calculate their nutritive value.
    a. Prepare 5 recipes of liquid and soft diet.
    b. Prepare 5 high protein and high energy recipes.
    c. Prepare 5 high carbohydrate, moderate protein & low fat recipes.
    d. Prepare 5 high fiber and low glycemic index recipes.
    e. Prepare 5 low sodium, low fat and high fiber diet.

2. Plan and calculate nutritive value of diet for the following diseases. Typhoid, Diarrhoea, Constipation, Jaundice, peptic utcer, Diabetes, Hypertension, atherosclerosis, renal disease and obesity.
3. Students are required to run Diet Clinics in the college

Note: Students are required to undergo 10 days hospital training in winter break and submit report

Reference Books:

1. Food and Nutrition - by Dr. M. Swamination

2. Text book of Nutrition & Dieteties - by Kumeed Khanna & others.

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SEMESTER–V

FASHION DESIGNING AND GARMENT CONSTRUCTION
(VOCATIONAL)

HISTORIC COSTUMES OF INDIA AND WORLD–I
(THEORY)

Time: 3 Hrs.   Max. Marks: 100
Periods/week: 4   Theory Marks: 40
                                                                         Practical Marks: 60

1. Historic costumes of India and World:

a) Egypt.
b) Greece

2. Traditional Costumes of the Following States of India

a) Punjab.
b) Himachal.
c) Jammu & Kashmir.
d) Maharashtra.
e) Rajasthan.

3. Traditional Textiles of India:

a) Jamdhani & Baluchari of Bengal.
b) Tanchoi & Patola of Gujarat.
c) Chanderi & Maheshwari of M.P.

General Instructions to the paper Setter:
The question paper consists of eight questions, out of which student will attempt five.
All questions carry equal marks.

Reference Books:

Sr.no.	Book title	Author
1.	Traditional Indian Textiles	
2.	Costume Textiles and Jewellery of India	Vandana Bhandari
3.	Survey of Historic Costumes	Phyllis Tortora
4.	Ancient Indian Costume	Roshan Alkazi
5.	Medivial Indian Costumes	Roshan Alkazi
6.	History of Fashion	Sodhia, Manmeet

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SEMESTER–V

FASHION DESIGNING AND GARMENT CONSTRUCTION
(VOCATIONAL)

ADVANCE DESIGNING, CONSTRUCTION & DRAPING–I
(PRACTICAL)

Time: 4 Hrs.   **Marks: 60**
Periods/week: 2x6

Part–I

Sample making of following
1. Pockets – Cross, Welt, Bound.
2. Zippers – Concealed, Zipper with fly opening.

Design Draft and Construct following:
1. Night Wear.
2. Trouser / Culottes / Hipsters.

Part–II

1. Draping of Basic Bodice Block Front.
2. Draping of Basic Bodice Block Back
3. Draping of Bodice with princess line

General Instructions for the Paper Setters:
1. Design any one garment from syllabus on paper bag–Front & Back, Adaptation to be made from sloper, Cutting & Placement, Construction and finishing of garment.
2. Draping of any Block.

Note: Please send the material list along with.

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SEMESTER–V

EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)
(THEORY)

Time: 3 Hrs.   **Max. Marks: 100**
Lectures/week: 6 Theory   **Theory Marks: 60**
                                                     Practical Marks: 40

Instructions for the Paper Setters:
Ten questions will be set; students are required to attempt any 6, carrying 10 marks each.

Course Contents:
Integration in Early Childhood Care and Education
- Handicapped children
- Types of handicaps
- Identification of children with special needs
- Integration with normal children
- Basic needs of handicapped children

Roles and Responsibilities of Staff
- Administration and supervision
- Qualities of a good teacher and supervisory staff
- Capacity building in staff
- Pre-school personnel's and their training

Substitute Child Care
- Substitute child care
- Needs of infant and children
- Kinds of substitute child care
- Role of Nursery school/balwadi's

Integrated Child Development Scheme
- Packages of services
- Objectives of ICDS

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SEMESTER–V

EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)
(PRACTICAL)

Time: 3 Hrs.   **Marks: 40**
Lectures/week: 4 Practical

Instructions for the Paper Setters:
Paper will be set on the spot by the examiner.

Distribution of marks for practical examination
Written Practical: **10 Marks**
Class Performance: **10 Marks**
Practical File: **5 Marks**
Oral Examination: **5 Marks**
Preparation of Activity Material: **10 Marks**

Course Contents:

* Use of appropriate psychological tools to identify developmental needs of children with special needs.

* Organizing a Parent Education Programme.

* Preparation of interactive material for children with special needs

* Preparation of activities/ material for enhancing physical and mental abilities of pre-school children

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SEMESTER–V
FOOD SCIENCE & QUALITY CONTROL (VOCATIONAL)
FSQC-9: FOOD ANALYSIS (THEORY)

Time: 3 Hours   **Max. Marks: 75**

Instructions for the Paper Setters**:** Question paper will cover both the main topics and divided into three parts. Each part will contain at least two questions and students will be asked to attempt five questions in all with at least one from each part and not more than two from any part.

PART-I

1. Food Composition and factors effecting food composition.

2. Sampling techniques and preparation of sample.

3. General physical methods of analysis of foods.

a. Electronic determination.

b. Refractometry.

c. Polarimetry and polarography

PART-II

d. Food rheology.

e. Viscosity.

f. Surface tension.

g. Freezing point

f. Specific gravity

4. General Chemical Methods of analysis of food

a. Proximate composition. Ash and its types.

PART-III

(b) Total protein, Non protein and specific protein in foods, total fat and different types of lipids.

(c) Macro nutrients i) Sodium, K.P. Ca, Mg, Fe, Zn. ii) Vitamins iii) Trace Elements

Reference Books:
1. Manuals of Food Quality Control additions contaminants techniques, 1980.
2. The Chemical Analysis of Foods and Food Products. By Morries B Jacob, 3rd Ed., Roberte, Krieger.

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SEMESTER–V

FOOD SCIENCE & QUALITY CONTROL (VOCATIONAL)
FSQC-10: FOOD ANALYSIS (PRACTICAL)

Max. Marks: 25

List of Practicals:

1. a Lactometric determination

b. Refractrometory

c. Polarimetry and polarography

d. Food Rheology

e. Viscosity

f. Surface tension

g. Freezing point.

2. Proximate composition of food using various techniques.

3. Estimation of different minerals in food using various methods.

4. Estimation of vitamins in food using analytical and microbiological techniques.

5. Estimation of crude, dietary and other fibre components.

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SEMESTER–V

FINE ARTS
(DRAWING & PAINTING)

PAPER: A–THEORY

Time: 3 Hrs.   **Max. Marks: 100**
                                              Theory Marks: 50
                                              Practical Marks: 25 + 25

Work Load:

Theory   -   3 periods per week.
Practical   -   9 periods per week.
Total   -   12 periods per week.

Note:
(a)   50 Marks for the theory paper and 25 marks for each practical.
(b)   The question paper will cover the entire syllabus.
(c)   Questions should be based on world famous paintings whose slides are easily available.
(d)   Question paper should cover the syllabus uniformly.
(e)   The paper setter should set the paper in two sections section A and B.
(f)   The division of the marks will be as under:

Section–A: 25 marks for 25 short answer questions. Each question carries 1 mark.
Section–B: 25 marks for 5 questions. The examiner will set 8 questions. The candidate will attempt 5 questions of 5 marks each. Compartment candidates in the subject of Fine Arts will appear only in theory paper during supplementary exam. Previous marks of practical paper will be considered for the aggregate.

History of Modern Movement in Europe:

1. **Impressionism**: Monet- Impression Sunrise, Rouen Cathedral.   (ADDED)
    Renoir – The Umbrellas, Lunch on the boat.   (ADDED)
2. **Post Impressionism**:
    (i)   Cezanne- Card players, Still life with apples
    (ii)   Vangogh- Starry night, Sunflowers
3. **Expressionism:**
    (i)   Munch- Cry, Dance of life
    (ii)   Kandinsky- Blue mountain, Improvisation 30
4. **Cubism:**
    (i)   Picasso- Les Demoiselles D' Avignon, Guernica
    (ii)   Braque- Still life, The Portuguese
5. **Surrealism:**
    (i)   Salvador Dali- Persistence of Memory, Burning Giraffe
    (ii)   Max Ernst- Celebes, Europe after rain

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SEMESTER–V

FINE ARTS
(DRAWING & PAINTING)

PAPER: B– LANDSCAPE (ON THE SPOT)
(PRACTICAL)

Time: 5 Hrs   **Marks: 25**

Work Load:

Theory   -   3 periods per week.

Practical   -   9 periods per week.

Total   -   12 periods per week.

Arrangement of shape based on subjects like human forms and animal forms.

In landscape setting emphasis should be given on perspective, Colour and its application in harmony.

Medium: Any medium

Size: ½ Imperial

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SEMESTER–V

FINE ARTS
(DRAWING & PAINTING)

PAPER: C–FULL LIFE DRAWING
(PRACTICAL)

Time: 5 Hrs **Marks: 25**

Work Load:
Theory   -   3 periods per week.
Practical   -   9 periods per week.
Total   -   12 periods per week.

Rendering of full life study should be done in any medium. Emphasis should be given to structure, volume, proportion, tones and texture in monochromatic Colour.

Medium: Any medium

Size: ½ Imperial

Candidates will submit:-

(i)   5 sheets of each paper

(ii)   Sketch book containing 50 sketches.

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SEMESTER–V

HISTORY OF ART
PAPER–A

Time: 3 Hours **Max. Marks: 50**

Outlines of Test, Syllabi, and Courses of Reading

Note: (a) The question paper should cover entire syllabus. It may contain very specific short
answer questions.

(b) The paper-setter should set 15 questions in all. Students will attempt 10 questions of
5 marks each.

History of Indian Painting from C.1850 to the present times-

Company painting

Raja Ravi Verma.

Bengal school with reference to Rabindranath Tagore, Nand Lal Bose, Gagendernath Tagore.

Post Independence Artists-

Amrita Shergil,Gemini Roy,D.P.R.Chowdhary, Shobha Singh,M.F.Hussain, Satish Gujral,

Subodh Gupta.

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SEMESTER–V

HISTORY OF ART
PAPER–B

Time: 3 Hours   **Max. Marks: 50**

Outlines of Test, Syllabi, and Courses of Reading:

Note: (a)   The question paper should cover entire syllabus. It may contain very specific short answer questions.

(b)   The paper-setter should set 15 questions in all. Students will attempt 10 questions of 5 marks each.

History of India Sculptures- from C.600 A.D. to C.1300 A.D.

Pal and Sena School of Bengal, Bihar and Orrisa

Pratihara sculptures of Central and western India

Chola sculptures –Stone and Bronze.

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SEMESTER–V

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)
(THEORY)

Time: 3 Hrs
Max. Marks: 100
Theory Marks: 50
Practical Marks: 50

Section–A: 2 marks for 10 short answer questions. All the questions are compulsory.
02x10=20

Section–B: The examiner will set 5 questions and the candidate will attempt 3 questions.
03x10=30

1. Casting
2. Polishing
3. Electroplating
4. Electroforming
5. Chemical Finishing

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SEMESTER–V

GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)
(PRACTICAL)

Marks: 50

Manufacturing:

1. Domestic Jewellery - Creation of 3 final designs in relation to Indian Jewellery.

   Kundan, Meena work, stone setting (Through .J.Cad)

2. Export Jewellery - Creation of 3 final designs in relation to export market like U.K, USA,

   China etc.

3. Manufacturing of Fashion and Costume Jewellery with metals.

   Exercise on: Jali Work, Riveting, Silver Ring, Pendent Making, Development of Pandent,

   Earings Broches

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SEMESTER–V

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)
(THEORY)

Time: 3 Hours   **Max. Marks: 100**
                                                            Theory Marks: 50
                                                            Practical Marks: 50

Instructions for the Paper Setters:
Total no. of questions to be set: 20
Total no. of questions to be attempted: 12
Question paper is divided in two parts.

Section–A: It will consist of 16 questions. Student will attempt 10 questions. Each question will carry 3 (three) marks. **(Total: 30 Marks)**
Section–B: It will consist of 4 questions. Student will attempt any 2 question. Answer will carry 10 (ten) marks. **(Total: 20 Marks)**

Course Contents:
1. Pre-script Stage: Background
2. Communication Objectives–Identify and presentise
3. Target Audience–Identify and presentise
4. Creative Treatment
5. Microphones–Different types.
6. Mikes–Special types and accessories, wireless, lappet, reflector type, short again.
Introductory lectures on:
- Overhead Projector.
- Hand held picture/chart slide presentation
- Multi Projector single screen with dissolves
- Multi Projector Multiscreen
Emphasis on:
- Multi Projector
- Script
- Visualisation
- Photography
- Graphics

Suggested Readings:

Sr. No.	Book Name	Author
1.	Effects and Experiments in Photography	Pet old- Focal
2.	Basic Photography	John Hedgecoe

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SEMESTER–V

STILL PHOTOGRAPHY & AUDIO PRODUCTION (VOCATIONAL)

ADVANCE PHOTO TECHNIQUES
(PRACTICAL)

Time: 6 Hours   **Marks: 50**

Instructions for the Paper Setters:
1.   The paper will be set by the external examiner on the spot considering the syllabus.
2.   Creative work on the part of the students is to be emphasized.
     Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3.   Photographs clicked during examination are supposed to be submitted by the student in the form of C.D. or D.V.D. as desired by the examiner.

Instructions for Students:
1.   Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
2.   Students are not allowed to use previous clicked Photographs.
3.   Sizes of photographs will be given by Internal Examiner as per requirement.

Course Contents:
1.   Use a medium format cameras and appreciate the difference.
2.   Expose Raw stocks of different kinds, Find out their Characteristics.
3.   Use lenses of different kind to see its various uses.
4.   Measuring light by using a exposer meter.
5.   Black and White processing and printing (only demonstrations)
6.   Indoor lighting arrangement for Poliant and Table Tops.
7.   In-camera Special Effects.
8.   Post exposure SFX Special Effects.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Color Prints	Coote-Focal
2.	Guide to the Dark Room	Gaunt- Focal

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SEMESTER–V

APPLIED ARTS

ART APPRECIATION AND ADVERTISING
(THEORY)

Time: 3 Hours

Max. Marks: 100
Theory Marks: 50
Practical Marks: 50

Instructions for the Paper Setters:

1. No. of questions to be set: 15

2. No. of questions to be attempted: 10

3. The questions are to be equitably distributed among all the topics of the Syllabus.

4. Each question will carry 5 marks.

Course Contents:

a. Development of Printing Press in India (Ancient, Medieval, Post-Independence)

b. Aesthetic of Commercial Art

c. Letter Press for printing

d. Trade Mark

e. Brand Name

f. Preparing Product Packaging

g. Block Making

Suggested Readings:-

Sr. No.	Book Name	Author
1.	Introduction to Printing	Herbert Simon
2.	Design	Peter Bridgewater, Brain Lewis, Brett Beckon

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SEMESTER–V
APPLIED ARTS

INDOOR CAMPAIGN: FOLDER AND LAYOUT
(PRACTICAL)

Time: 6 Hours **Marks: 50**

Instructions for the Paper Setters:-
1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Imaginative and Creative work on the part of the students is to be emphasized. Imagination and Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Limited references while preparing layout and folder can be taken. Logo and writing style of the existing company can be taken from any available source.
4. Any one of the above (Folder and Layout) is to be made by the students for the examination.

Instructions for the Students:
1. Attendance in departmental seminars and extension lectures and college tours shall be Obligatory for all students.
2. Size: As required.

Course Contents:
Folder: Prepare 2 fold or 3 fold folders as asked by the teacher.
Topics: Commercial and Educational

Layout: Prepare Layout for Magazine
Topics: Commercial and Educational

During examination, use of stencil, Transfer letters, Screens are allowed. Limited references while preparing layout and folder can be taken.

Suggested Readings:-

Sr. No.	Book Name	Author
1.	Advertising Procedure	Otto kleppner
2.	Design	Peter Bridgewater, Brain Lewis, Brett Beckon

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SEMESTER–V

SCULPTURE
(THEORY)

Time: 3 Hrs.   Max. Marks: 100
                                                                      Theory Marks: 50
                                                                      Practical Marks: 50

Note:
(i)   The question paper should cover the entire syllabus. It may contain very specific content related question.
(ii)   The paper setter should set fifteen (15) questions in all and students shall attempt 10 ten questions.
(iii)   The questions can be repeated from previous question paper.

Chapter–I

Gupta Sculptures

- Mathura Centre (standing Vishnu, Standing Buddha, Vishnu Anant Shayian from Dasavatar temple, Deogarh, Vishnu of Vaikuntha from Mathura)

- Sarnath Centre (Life of Buddha Panel, Seated Buddha preaching the Sermon of Law and Copper Buddha from Sultan Ganj)

Chapter–II

Pallava's Sculpture including Rath temples.

Chapter–III
Art of Sun temple of Konark (Odisha)

Chapter– IV

Sculptures of Kailashnath Temple, Ellora.

Chapter–V

Chola Bronzes sculptures including techniques, Shiv Natraj and Parvati Sulptures.

Chapter–VI

Sculptures of Elephanta Caves (Marriage of Shiva and parvati, Shiv Maheshamurti, including main features of the Sculptures.

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SEMESTER–V

SCULPTURE
(PRACTICAL)

Time: 6 Hrs   **Marks: 50**

1) Low Relief Sculptures in Geometrical pattern, Cast in Plaster of paris (POP) / Cement / Metal based on birds, Flora and Fauna. (Minimum Size 10 X 10 inches), Total no. of work–1

2) Composition in round sculpture based on human figures. Work should be produced in PoP / cement / Metal. Total no. of work–1

3) Creative Head in Clay Modeling, work should be produced in PoP / Cement / Terracotta.

Books Recommended:

1. History of Fine Arts in India and West   By Edith Tomory

2. Indian Art (A concise History)   By Roy C Craven

3. A Survey of Indian Scultures   By S. K Sarawati

4. Indian Sculpture   By Stella Kramisch

5. Murti Kala Ka Itihaas   By Aggar Ali kadavi

6. The Pelican History of Art   By Benjamin Rowland

7. Indian Images—Part I, II   By D.C. Bhattcharya

8. Mathura ki Murtikala   By Neel Kanth Purshottam Joshi

9. An Interesting Survey
    (Sculptures from konark)   By T.N Ramachandran

10. South Indian Bronzes   By O.C Gangoli

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SEMESTER–V

MUSIC (VOCAL)
(THEORY)

Theory: 3 Hours   **Total Marks: 100**
Theory: 3 Periods per week   **Theory Marks: 50**
                                                                     Practical Marks: 50

Note: There should not be more than fifteen students in one group of Practical class.

Instructions given to the examiners are as under:
1. There should not be more than fifteen students in a batch for practical examination.
2. Harmonium will only be allowed as base instrument in practical examination.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
4. The paper setter will set **Eight** questions in all. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate may be asked to attempt **Five** questions in all.
5. Candidate can take both subjects i.e. Vocal & Instrumental Music as elective subject.
6. Candidate can take Tabla subject along with Music Vocal or Music Inst.

COURSE CONTENTS:
1. Importance of Globalization in Indian music in Modern Period.
2. Development of Indian Notation System and its merits and demerits.
3. Short notes on the following :
    a. Thumri
    b. Tappa
    c. Chaturang
4. Detailed knowledge of folk music of Punjab.
5. Detailed description of the following Ragas:
    a. Darbari
    b. Tilang
    c. Kedar
6. Detailed study of the following Talas:
    a. Deepchandi
    b. Tilwara
7. Essay writing on the following topics:
    a. Kanth Sadhna (Voice Culture)
    b. Manch Pradarshan (Stage Performance)
8. Life and Contribution of the following Musicians:
    a. Dalip Chandra Bedi
    b. Acharaya Brehaspati
    c. Surinder Kaur
9. Inter-relationship between Music and Yoga.
10. Classical Gayan Shaillies used in Gurmat Sangeet.
11. Non-Detail Ragas: Jog, Adana, Kamod.

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SEMESTER–V

MUSIC (VOCAL)
(PRACTICAL)

Time: 20 minutes for each student **Marks: 50**
Periods/week: 9

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Darbari, Kedar, Tilang.
2. One Vilambit Khayal in any of the Ragas prescribed in the course with simple Alaps and Tanas.
3. Brief Knowledge of Non Detailed Ragas: Adana, Kamod and Jog.
4. One Ghazal.
5. One Chaturang or Trivat in any Raga of Your Choice.
6. Ability to recite Deepchandi and Tilwara showing Khali Tali with hand motion in Ekgun, Dugun Layakaris.
7. Ability to play theka of Jhap Taal on Tabla.
8. Ability to play five alankars on the Harmonium based on the Asawari Thata.

Books Recommended:

1. Bharatiye Sangeet Ka Itihaas, Sharat Chandra Paranjpay.

2. Rag Parichya Part – I, II, and III by Shri Harish Chnder Srivastava.

3. Hamare Sangeet Rattan Sangeet Karyalaya, Hathras.

4. Kramik Pustak Malika by Vishnu Narayan Bhathkhande.

5. Sangeet Nibandhavli, Dr. Gurnam Singh, published by PunjabiUniversity, Patiala.

6. Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh.

7. Gurmat Sangeet (Vishesh Ank) Amrit Kirtan Trust, 422, 15/A, Chandigarh.

8. Abhinav Geetanjali Pt. Ramashrya Jha I, II, III, IV, V.

9. Tantri Nada Pt. Lalmani Mishra.

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SEMESTER–V

MUSIC (INSTRUMENTAL)
(THEORY)

Theory: 3 Hrs.   **Total Marks: 100**
Theory: 3 periods per week.   **Theory Marks: 50**
                                                                                                             Practical Marks: 50

Instructions given to the examiners are as under:–
1. There should not be more than fifteen students in a batch for practical examination.
2. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
3. The paper setter will set eight questions in all.1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate may be asked to attempt five questions in all.
4. The External Examiner will set question paper for practical on the spot.
5. Candidate can take both subjects .i.e Instrumental music and Vocal music as elective subjects.
6. Candidate can take Tabla subject along with instrumental music or vocal music.

Course Contents:
1.   Development of Music during modern period.
2.   Comparative study of Avirbhava & Tirobhava with illustrations.
3.   Relevance of time theory in Music.
4.   Life & Contribution of the following Musicians.
       a. Pt. Ravi Shankar (Sitar)
       b. Ustad Bismillah Khan (Shehnai)
5.   Study of Musical Electronic Instruments.
6.   Inter relation between folk & classical music.
7.   Detailed description of the prescribed Ragas Darbari Kanrha, Todi, Puria Dhanashri. (with Notations).
8.   Knowledge of the following Ragas:–
       a. Multani
       b. Adana
       c. Puriya Kalyan
9.   Detailed knowledge of following Talas :–
       a. Deepchandi
       b. Tilwara
10. Study of Kirtan Chowkies in Gurmat Sangeet.

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SEMESTER–V

MUSIC (INSTRUMENTAL)
(PRACTICAL)

Time: 20 minutes for each student   **Marks: 50**
Periods/week: 9

1.   Ability to play 10 Alankars in Sitaar in the Swaras of Asawari That.

2.   One Maseetkhani gat in any Raga prescribed in you course Darbari, Todi and Puriya Dhanashri.

3.   One Rajakhani Gat in each Raga prescribed in your course.

4.   Brief Knowledge of Non–detailed Raagas: Puriya Kalyan, Adana and Multani.

5.   Ability to recite on hand Deepchandi & Tilwara Tal with single & Double Layakaries.

6.   Ability to play theka of Jhap Tal on Tabla.

7.   Ability to play One gat in Ektal in any Raga prescribed in your Course.

8.   Ability to sing national anthem with any instrument.

Books Recommended:

1.   Bharatiye Sangeet Ka Itihaas, Sharat Chandra Paranjpay.

2.   Rag Parichya Part – I, II, and III by Shri Harish Chnder Srivastava.

3.   Sangeet Shastra Darpan Part – II (Punjabi) published by PunjabiUniversity, Patiala.

4.   Sangeet Vishard Sangeet Karayalya, Hathras.

5.   Sangeet Shastra Darpan Shanti Govardhan.

6.   Hamare Sangeet Ratan, Luxmi Narayan Garg, Sangeet Karayalaya, Hathras

7.   Gurmat Sangeet, Prabandh ate Pasaar, Dr. Gurnam Singh

8.   Kramik Pustak Malika by Vishnu Narayan Bhathkhande.

9.   Sangeet Nibandhavli, Dr. Gurnam Singh, published by PunjabiUniversity, Patiala.

10.   Gurmat Sangeet (Vishesh Ank) Amrit Kirtan Trust, 422, 15/A, Chandigarh.

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SEMESTER–V

INDIAN CLASSICAL DANCE
(THEORY)

Time: 3 Hours   Max. Marks: 100
Periods/week: 3   Theory Marks: 50
                                                                 Practical Marks: 50

Instructions given to the Paper Setters are as under:-
1.   The paper setter will set eight questions. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate may be asked to attempt five questions.

Course Contents:
1.   Detailed knowledge of Bharat Natyam with its historical background, style, costume and music etc.
2.   Knowledge of Bhav, Sthai Bhav, Vibhav, Anubhav and Sanchari Bhav.
3.   Origin of Taal and its ten Prans.
4.   Gati Bhedas and Sthanak Bhedas according to Abhinaya Darpan.
5.   Importance of background music in Dance.
6.   Knowledge of Folk Dances of Himachal Pradesh.
7.   Kathak and Natwari Nritya.
8.   **Notation of:**

(i) BASANT TAAL -- **9 Matras**
        a)Tatkar in Ekgun, Dugun and Chougun Layakaries.
        b) Thaat- 2
        c) Tehai-1
        d) Amad-1
        e) Tora-2
        f) Paran-1
        g) Chakardar Paran – 1
        h) Kavit-1
        i) Pramelu – 1
(ii) ADA – CHAUTAAL -- **14 Matras**
        a) Tatkar in Thah, Dugun and Chougun Layakaries.
        b) Thaat- 1
        c) Amad-1
        d) Damdar and Bedam Tehai – 1 - 1
        e) Tora-2
        f) Paran-1
        g) Chakardar Paran – 1
        h) Kavit-1
9.   Notation of nagma in Basant Taal and Ada – Choutaal.
10. Defination and Notation of the following Talas in Ekgun, Dugun,Tigun and Chougun Layakaries:
        a) Basant Taal
        b) Ada - Choutaal

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SEMESTER–V

INDIAN CLASSICAL DANCE
(PRACTICAL)

Time: 20 Minutes   **Marks: 50**
Periods/week: 9

Instructions given to the examiners are as under:-

1.   There should not more than fifteen students in a batch for practical examination.
2.   Harmonium will be allowed as accompaniment to perform Nagma.
3.   Separate practical paper should be as a base
      set for each class from practical of prescribed syllabus on the spot.

Instructions for the Examiner: The Examiner will set practical paper on the spot.

1. BASANT TAAL (MATRAS - 9)
      a)Tatkar in Ekgun, Dugun & Chougun Layakaries.
      b) Thaat - 2
      c) Tehai - 1
      d) Amad -1
      e) Tora - 2
      g) Paran -1
      h) Chakardar Paran - 1
      i) Kavit - 1
      j) Pramelu - 1

2. ADA – CHOUTAAL (MATRAS - 14)
      a)Tatkar in Ekgun, Dugun & Chougun Layakaries.
      b) Thaat - 1
      c) Amad - 1
      d) Damdar and Bedam Tehai – 1- 1
      e) Tora - 2
      f) Paran - 1
      g) Chakardar Paran - 1
      h) Kavit - 1
3. Padhant of all the Practical material in given Taals.
4. Padhant of all thekas in Dugun & Chougun Layakaries.
5. Gat – Bhav in Radha – Krishan leela.
6. Nagma in Basant Taal.
7. Ability to play the theka of Ekeharva Taal on Tabla.
8. Ability to sing a Stuti with Harmonium.

Books Recommended:
1.   Kathak Nritya Ka Prichey, Subashni Kapoor, Radha Publications, New Delhi, 1997.
2.   Kathak Soundaryatmak Shashtriya Nritya, Shikha Kharey, Knishka Publishers,New Delhi, 2006.
3.   Atihasik Pripekesh Mein Kathak Naritya, Maya Taak, Knishka Publishers, New Delhi, 2005.
4.   Nibandh Sangeet, Laxmi Naryan Garg, Sangeet Karyalaya, Hathras, 2004.
5.   Kathak Nritya Shiksha Part-I & Part II, Dr. Puru Dadhich, Bindu Prakashan, Ujjain (MP).

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SEMESTER–V

TABLA
(THEORY)

Theory: 3 Hours   **Total Marks: 100**
Theory: 3 periods per week.   **Theory Marks: 50**
                                                            Practical Marks: 50

Instructions given to the examiners are as under:
1. There should not be more than fifteen students in a batch for practical examinations.
2. Harmonium will be allowed as accompaniment to perform the Nagma.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for practical paper should also be sent.
4. The paper–setter will set eight questions. 1st question will consist of 10 objective type questions which will be compulsory to all carrying 1 mark each. The candidate will be asked to attempt five questions.
5. Candidate can take Tabla subject with Vocal or Instrumental Music (Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shehnai, Rabab, Saranda, Taus, Santoor and any other Swar Vadhya to the played on the basis of Indian Classical Music).

COURSE CONTENTS:

1. Historical development of Avanad Vadhaya.
2. Detailed knowledge of Dakshini Tala System.
3. The role of Farukha-baad Gharana in promoting female artists.
4. Notation & description of :
    a. Pancham Swari Taal-One Peshkar, Two Kayada, Five paltas with Tihaai, Two Tukdas, Rella, One Chakradar Paran,
    b. Tivra Taal with proper vadan shally of Pakhawaj -Two Tukdas, Two Rella, Two Tihais.
5. Life & Contribution towards music of the following:
    a. Qadar Baksh
    b. Karamatullah Khan
    c. Ayodhya Prasad
6. Explanation of the following Terms.
    a. Taal Kachaihri
    b. Partal
    c. Tabla tarang
    d. Prastaar
7. Write an essay on the following topic:
    Importance of electronic musical instruments in teaching.
8. The Place of tabla in Shaan (in the context of Gurmat Sangeet)
9. Place of Tabla in Fusion Music.

Books Recommended:
1. Sangeet Visharad: Basant, Sangeet Karyalaya Hathras, 2004.
2. Tal Prabandh: Pt. Chhote Lal Misher Knishka Publisher, New Delhi, 2006.
3. Bharti Sangeet Vadhya: Lal Muni Misher, Bhartiya Gayan Peeth Parkashan, 1973.
4. Hamare Sangeet Rattan: Sangeet Karyalaya Hathras, 1978.
5. Tal Martand: Sataya Narayan Vishesht Sangeet Karyalaya Hathras, 1994.
6. Tal Parichaie Part I-IV Garish Chandar Srivastav Sangeet Karyalaya Hathras.
7. Tal Parkash Bhagwat Sharan Sharma Sangeet Karyalaya Hathras.
8. Sangeet Mein Tal Vadon Ki Upyogita Chitragupta Radha Publication New Delhi 1992.

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SEMESTER–V

TABLA
(PRACTICAL)

Time: 20 minutes for each student   **Marks: 50**
9 periods/week.

1. Taal Prescribed Pancham Swari, Tivra

2. Pancham Swari Taal-One Peshkar, Two Kayada, Five paltas with Tihaai, Two Tukdas, Rella,
    One Chakradar Paran

3. Tivra Taal with proper vadan shally of Pakhawaj -Two Tukdas, Two Rella, Two Tihais.

4. Ability to play Nagma on Harmonium in Pancham Swari and Tivra taal.

5. Ability to play Theka of Sooltal and Mat tal.

6. Practice of playing the above Taals with Vocal and Instrumental performance.

7. Tuning of Tabla.

8. Ability to play Western patterns of Taal – Keharva and Dadra on tabla

Books Recommended:

1. Sangeet Visharad: Basant, Sangeet Karyalaya Hathras, 2004.

2. Tal Prabandh: Pt. Chhote Lal Misher Knishka Publisher, New Delhi, 2006.

3. Bharti Sangeet Vadhya: Lal Muni Misher, Bhartiya Gayan Peeth Parkashan, 1973.

4. Hamare Sangeet Rattan: Sangeet Karyalaya Hathras, 1978.

5. Tal Martand: Sataya Narayan Vishesht Sangeet Karyalaya Hathras, 1994.

6. Tal Parichaie Part I-IV Garish Chandar Srivastav Sangeet Karyalaya Hathras.

7. Tal Parkash Bhagwat Sharan Sharma Sangeet Karyalaya Hathras.

8. Sangeet Mein Tal Vadon Ki Upyogita Chitragupta Radha Publication New Delhi 1992.

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SEMESTER–V

COMPUTER SCIENCE
DATA BASE MANAGEMENT SYSTEM & ORACLE
(THEORY)

Time: 3 Hours   **Max. Marks: 100**
4 Hours per week   **Theory Marks: 75**
                                                                                          Practical Marks: 25

Instructions for the Paper Setters:-
Note: (i)   In theory eight questions are to be set giving the weightage to all the portions. The candidates are required to attempt any five. All questions are to be of equal marks.
(ii)   The maximum marks for the paper will be 75.
(iii)   As for as possible except in the Computer language papers no programme may be asked in theory papers. Emphasis should be on algorithm development.
(iv)   The students can use only Non Programmable and Non Programmable storage type calculator in the subjects/papers pertaining to computer.

UNIT–I

DBMS
Introduction to database management system, components of DBMS, ER. Diagrams, Data Description Language, Data Manipulation Language, SQL.
Data Models, Hierarchical Model, Network Model and Relational Model, Relational Databases. Relational Algebra and Calculus Normalisation.
Database Security, Protection, Integrity, Recovery, Concurrency, Control, Decomposition.
Distributed Databases, Knowledge Base/Expert Systems and Object Oriented Databases.

UNIT–II

Oracle 10g
SQL * PLUS
Introduction to Oracle 10 SQL – DDL, DML, DCL.
Join methods & Sub query, Union, Intersection
Built in Functions, View Security amongst users, Sequences, indexing object Features of   Oracle 10.

UNIT–III

PL/SQL
Introduction to PL/SQL.
Cursors – Implicit & Explicit.
Procedures, Functions & Packages.
Database Triggers.

References:
1   Desai B.C.: An Introduction to Database Systems, Galgotia Publishers.
2   Date C.J. An Introduction to Database Systems, Vol. I, Narosa Publishers.

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SEMESTER–V

COMPUTER SCIENCE
DATA BASE MANAGEMENT SYSTEM & ORACLE
(PRACTICAL)

Marks: 25

Practical: Based on Database Management System and Oracle

Note: Practical marks will include the appropriate weightage for proper maintainance of Lab.

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SEMESTER–V

INFORMATION TECHNOLOGY (VOCATIONAL)
OPERATING SYSTEM
(THEORY)

Time: 3 Hours   **Max. Marks: 100**
                                               Theory Marks: 75
                                               Practical Marks: 25

Note for Paper Setters:

(i)   Eight questions are required to be set giving the weightage to all the portions. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii)   The maximum marks for the paper will be 75.
(iii) As for as possible except in the computer language papers no programme may be asked in the Theory papers. Emphasis should be on algorithm development.

UNIT–I
Operating System Definition, Evolution of OS, Components of OS, Single User Operating System, Multi User Operating Systems (UNIX), Types of Processing (Batch Processing, Multiprocessing, Time Sharing, Real Time Processing (Hard Real Time Processing, Soft Real Time Processing), Multiprogrammed Batch Processing, Parallel Systems, Distributed Systems and Real Time Systems,

UNIT–II
Process Concept, Process Scheduling, Context Switching, CPU Scheduling: Basic Concepts, Scheduling algorithms.

Deadlocks: Deadlocks Characterization, Memory Management: Logical versus physical address space, paging, segmentation, Virtual memory, Demand Paging Technique.

UNIT–III
File Management, File System Structure, Allocation Methods: Contiguous Allocation, Linked Allocation, Indexed Allocation, Free Space Management: Bit Vector, Linked List, Directory Implementation, Linear, List, Hash table, Device Management: Disk Structure, Disk Scheduling, FCFS, SSTF, SCAN, C–SCAN, LOOK

Windows NT Study as an Example of Operating System,

Reference:
Galvin and Sillberchatz, "Operating Systems" 7th Edition.

(PRACTICAL)

                                                                    Marks: 25

Practical on the basis of Operating System

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SEMESTER–V
COMPUTER MAINTENANCE (VOCATIONAL)
(THEORY)

NETWORKING OPERATING SYSTEMS

Time: 3 Hours **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:-
1. Eight questions are required to be set giving the weightage to all the portions. The candidate will be required to attempt any five questions. All questions will carry equal marks.
2. The maximum marks for the paper will be 75.
3. As for as possible except in the computer language papers no programme may be asked in the Theory Paper, emphasis should be on algorithm development.

UNIT – I
Introduction of various Network Operating Systems (Windows 9x/XP/2000/NT)
Introduction to Windows 2003 server, Window 2003 features, Hardware requirements, planning the network, Windows 2003 network security model special purpose servers, licensing.
UNIT – II
Planning storage strategies, options, working with disk administrator and backup. Networking and Network protocols Configuration of Windows 2003.
Windows 2003 services Architecture and security Architecture, planning and managing group and user accounts File services, distributed file system, remote administration, remote access services, Internet & Intranet. Printing and supporting network clients, performance tuning.
UNIT – III
Introduction to Windows NT, features, Hardware requirements. Windows NT services Architecture and security Architecture, planning and managing group and user accounts File services. Installation of Windows NT.
Concept of distributed Networks, E–mail & Internet Technology.

Text & Reference Books:
Windows NT 4: The Complete Reference by Sybex Publisher, BPB 1999.
Inside Windows Server 2003: William Boswell Publisher, Pearson, 2003.

Network Operating Systems Lab
Installation of Windows NT.
Implementing LAN using workgroup model and windows 2003.
Implementing LAN using Windows 2003 Domain model.
Using user manager for Domains in Administration.
Assigning user rights and permission on different objects.

(PRACTICAL)

Marks: 25

Practical on the basis of Operating System

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SEMESTER–V

COMPUTER APPLICATION (VOCATIONAL)
(THEORY)

INTERNET AND WEB DESIGNING

Time: 3 Hrs   **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:–

Note: (i) Eight questions are required to be set giving the weightage to all the portions. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) The maximum marks for the paper will be 75.
(iii) As per as possible except in the Computer language papers no programme may be asked in theory papers. Emphasis should be on algorithm development.

UNIT – I

1. BBS
2. Intro to Internet

UNIT – II

3. E–Mail, Browsers
4. HTTP, WWW, Shell, TCP/IP–(PPP, SLIP)

UNIT – III

5. FTP
6. HTML, Web Designing

(PRACTICAL)

Marks: 25

Practical Based on Internet and Web Designing

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SEMESTER–V

ELECTRONICS
MICROPROCESSOR ARCHITECTURE (501)
(THEORY)

Time: 3 Hours   **Marks: 40**

Instructions for the Examiners / Paper Setters:
1. Equal weightage should be given to each unit of the syllabus.
2. Question Paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

Section A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

UNIT – I
Microprocessor, microprocessor architecture and its operations, computer languages, introduction to assembly language, instruction classification, instruction format, microprocessor instruction set.

UNIT – II
Introduction to 8085 instructions, data transfer operations, arithmetic operations, logic operations, branch operations. how to write, assemble and execute a simple program, memory, input and output devices the 8085 MPU, example of an 8085-based microcomputer.

UNIT – III
Memory interfacing, basic interfacing concepts, interfacing I/O devices, memory mapped I/O, comparison of memory mapped I/O and peripheral mapped I/O programming of the 8085.

Suggested Readings:
1. Microprocessor Architecture and Programming by Gaonkar.
2. Fundamentals of Microprocessor & Microcomputers by B.Ram (Dhanpat Rai & Sons), 1990.
3. Microprosessors and Interfacing, DV Hall (TMH), 2nd Edition, 2006.
4. An Introduction to the INTEL, Family of Processor, JL Antonakos, Pearson Edu. Asia.

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SEMESTER–V
(ELECTRONICS)
ELECTRONIC COMMUNICATION SYSTEMS (502)
(THEORY)

Time: 3 Hours **Marks: 40**

Instructions for the Examiners / Paper Setters:
1. Equal weightage should be given to each unit of the syllabus.
2. Question Paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

Section–A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section–B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section–C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

UNIT–I
Amplitude modulation
Need for modulation, amplitude modulation, frequency spectrum of the AM wave, representation of AM wave, power relations in AM wave, generation of AM, base modulated class C amplifier, collector modulated class C amplifier, single side band techniques, suppression of carrier, suppression of unwanted sideband using the filter system and phase shift method.

UNIT–II
Frequency modulation
Frequency modulation, theory of frequency and phase modulation, description of systems, mathematical representation of FM frequency spectrum of the FM wave, phase modulation, intersystem comparisons, generation FM, direct method, stabilized reactance modulator-AFC, indirect method.

UNIT–III
Radio receiver, receiver types, tuned radio frequency receiver, superheterodyne receiver, AM receivers, RF section and characteristics, Frequency changing and tracking, intermediate frequencies and IF amplifiers, detection and automatic gain control (AGC), FM receiver, comparison with AM receivers, amplitude limiting, basic FM demodulator, ratio dectector, FM demodulator comparison.

Books:
1. Communication System by Kennedy (Tata McGraw Hill Publishing Company), 4th Edition, Reprint 2005.
2. Taub's Communication System Taub Schilling (Tata McGraw Hill), 2nd Edition, 2007.
3. Communication System, B.P. Lathi (Wiley Eastern Lim) 8th Edition, Reprint 2006.

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SEMESTER–V

ELECTRONICS
COMMUNICATION SYSTEMS LAB (503)
(PRACTICAL)

Time: 3 Hours & 30 Minutes   **Marks: 20**

Note: Minimum hours per week for practical 6.

List of Practical

1. To study the amplitude modulation and demodulation experimental boards.

2. To study the frequency modulation and demodulation experiment boards.

3. To study the function of a superhetrodyne receiver.

4. To study the operation of balance modulator.

Books Recommended:

1. Communication System by Kennedy (Tata McGraw Hill Publishing Company), 4th Edition, Reprint 2005.

2. Taub's Communication System Taub Schilling (Tata McGrew Hill), 2nd Edition, 2007.

3. Communication System, B.P. Lathi (Wiley Eastern Lim) 8th Edition, Reprint 2006.

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SEMESTER–V

INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT (VOCATIONAL)

Programming using C Language

Time: 3 Hrs.   **Max. Marks: 75**

Note:
(i) The paper setter is required to set eight questions in all and the candidates will be required to attempt any five questions out of these eight questions. All questions will carry equal marks.
(ii) The student can use only Non–programmable & Non–storage type calculator.

C language preliminaries: Introduction to C, Identifiers and Key Words, Data types, Constants, Variables, Expressions, Statements,.

Operators and I/O functions: Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators, getchar, putchar, printf, gets, puts

Control Statements: While, Do–while and for statements, Nested loops, If–else, Switch, Break – Continue statements.

Functions: Brief overview, types, defining, accessing functions, passing arguments to function, specifying argument data types, function prototypes, recursion.

Arrays and Pointers Defining, processing an array, passing arrays to a function, multi–dimensional arrays, Introduction to pointers, Operations on pointers, Pointers and array.

Structure and Union: : A simple structure, specifying the structure, defining a structure variable Accessing Structure member, Structure within structure, union, difference between structure and union.

References:

1. Let us C, Yashwant Kanetkar
2. C – programming E. Balagurusamy Tata McGraw Hill
3. Complete reference with C Tata McGraw Hill

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SEMESTER–V

INFORMATION TECHNOLOGY SPECILIZATION SOFTWARE DEVELOPMENT (VOCATIONAL)

Lab – I: Programming in C Language

Time: 3 Hrs.   **Max. Marks: 25**

Practical based on Programming in C language

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SEMESTER–V

AUTOMOBILE MAINTENANCE (VOCATIONAL)
(THEORY)

Time: 3 hours   **Max. Marks: 60**
Periods per week Theory: 6

Instructions for the Paper Setters:
Section–A: It will consist of 5 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks i.e. (2 marks); total weightage of the section being 10 marks.

Section–B: It will consist of short answer questions with answer to each question upto 2 pages in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 4 marks; total weightage of the section being 20 marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 15 marks; total weightage of the section being 30 marks.

Unit–I

Objective of transmission: Resistence, Variation of tractive efforts and total resistence with speed, Sliding mesh gearbox, Sliding mechanism, Constant mesh gearbox, Synchoromesh gearbox, Simple epicyclic gear, Automobile epicyclic gearbox, General deduction, Mechanism of epicyclic gearbox, Pre-Selector Gearbox, Torque convertor, Free Wheel Unit overdriver, Gearbox troubleshooting, Transmission trouble diagnosis, Four wheel drive and transfer case operation and service, Drive lines and universal joints, Differential and drive axle

Unit–II

Springs and Suspension Systems: Introduction, Objects of suspension, Rate and frequency, Basic requirements, Classification of suspension springs, Adjustable and self adjusting suspensions, Interconnected suspension systems, Independent front suspension, Independent rear suspension, Shock absorbers, Suspension systems troubleshooting

Unit–III

Fluid Fly Wheel: Introduction, Advantages & Disadvantages of Fluid Fly wheel.

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SEMESTER–V

AUTOMOBILE MAINTENANCE (VOCATIONAL)

(PRACTICAL) LAB–I

Time: 3 Hours   **Total Marks: 40**

Periods per week: Practical: 4

1. To study the Gear box dismentling and Assembling/Servicing.

2. To study the Drive shoft and universal/Joint opening.

3. To study the Steering wheel/Droparm, Tie rod opening.

References:

1. Basic Automobile Engineering (Punjabi Edition) Written by C.P. Nakra, Published by Dhanpat Rai and Sons, Jalandhar, (Delhi).

2. Royal Basic Automobile Engineering Written by R.K.Kalia. (Punjabi Edition).

3. Automobile Mechanics (English Edition) Written by William H. Crousa, Donald L. Anglin.

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SEMESTER–V

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–I (THEORY)

Time: 3 Hours **Marks: 30**

Instructions for the Paper Setters:

Section–A: It will consist of 5 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry half mark i.e. (1 mark); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry seven and half marks; total weightage of the section being 15 marks.

UNIT–I

Steam Jet Refrigeration: Introduction, steam jet Refrigeration, Analysis of Steam Jet Refrigeration system, Components of Steam Jet Refrigeration Plant, Advantages and Limitation of steam jet Refrigeration System, Performance of the system.

UNIT–II

Non Conventional Refrigeration System: Thermoelectric Refrigeration, Vortex Tube Thermoelectric effects, Applications of Vortex Tube, Advantages of Vortex Tube, Refrigerant Mixture and its properties, Cooling by Adiabatic demagnetization, plus Tube Refrigeration.

UNIT–III

Methods of defrosting: Necessity of Defrosting, Manual Defrosting, Automatic Periodic Defrosting, Water Defrosting, Defrosting by Reversing Cycle, Automatic Hot Gas Defrosting thermo bank Defrosting.

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SEMESTER–V

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–J (THEORY)

Time: 3 Hours **Marks: 30**

Instructions for the Paper Setters:

Section–A: It will consist of 5 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry half mark i.e. (1 mark); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry seven and half marks; total weightage of the section being 15 marks.

UNIT–I
Electric Defrosting: Electric Control Defrosting, Electric Air Switch Defrosting System, Two outdoor units system, Multiple evaporator defrosting.

UNIT–II
Electric Controls: Introduction, Water Level Control, High Pressure control, Low pressure control, Superheat control, Superheat and pressure limit control, over Protection control, Temperature Differential and Temperature Range control Capacity control Devices.

UNIT–III
Solar Heating and Cooling: Introduction Solar Collectors Solar Refrigeration, Solar Air conditioning, Solar Dehumidification, Solar Heat Pump System, Economics and future of Solar Energy.

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SEMESTER–V

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

PRACTICAL: LAB–III

Time: 2 Hours
Period Per week Practical: 4

Total Marks: 40

List of Experiments:

1. To Study the various Gas charging in a Refrigerating system and testing for leakages

2. To study the Gas charging in a Air conditioning system and testing for leakages

3. To test and adjust low pressure out. (L.P.).

4. To test and adjust high pressure out. (H.P.)

5. To test and adjust thermostat.

List of Books Recommended:

Name of Book	Author	Publisher
Refrigeration & Air Conditioning	S.C.Arora	Dhanpat Rai
Refrigeration & Air Conditioning	Dowkundwar Khurmi	Katson Publication
Refrigeration & Air Conditioning	Sarao, Gaabi Singh	Satya Prakashan.

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SEMESTER–V

RELIGIOS STUDIES (ਧਰਮ ਅਧਿਐਨ)
(ਸਿੱਖ ਦਰਸ਼ਨ)

ਸਮਾਂ 3 ਘੰਟੇ   ਕੁਲ ਅੰਕ:100
ਲੈਕਚਰਾਂ ਦੀ ਗਿਣਤੀ:75%   ਪਾਸ ਹੋਣ ਲਈ ਅੰਕ:35

ਪੇਪਰ ਸੈਟਰ ਲਈ ਹਦਾਇਤਾਂ:
ਪੇਪਰ ਦੇ ਪੰਜ ਭਾਗ ਹੋਣਗੇ: ੳ, ਅ, ੲ, ਸ, ਅਤੇ ਹ। ਭਾਗ ੳ, ਅ, ੲ, ਸ ਵਿਚੋਂ 2-2 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੋਵੇਗਾ ਅਤੇ ਹਰ ਇਕ ਪ੍ਰਸ਼ਨ ਦੇ 15 ਅੰਕ ਹੋਣਗੇ। ਭਾਗ ਹ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ, ਜਿਹੜੇ ਸਾਰੇ ਸਿਲੇਬਸ ਵਿਚੋਂ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 4-4 ਅੰਕ ਹੋਣਗੇ।

ਪ੍ਰੀਖਿਆਰਥੀ ਲਈ ਹਦਾਇਤਾਂ:
ਭਾਗ ੳ, ਅ, ੲ, ਸ ਵਿਚੋਂ ਕੇਵਲ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੈ ਅਤੇ ਭਾਗ ਹ ਦੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹਨ।

ਭਾਗ (ੳ) : ਸਿੱਖ ਸੰਕਲਪ-ਭਾਗ ਪਹਿਲਾ

1.   ਅਕਾਲ ਪੁਰਖ
2.   ਸ੍ਰਿਸ਼ਟੀ ਰਚਨਾ
3.   ਜੀਵਾਤਮਾ

ਭਾਗ (ਅ) : ਸਿੱਖ ਸੰਕਲਪ-ਭਾਗ ਦੂਜਾ

1.   ਹੁਕਮ
2.   ਸਿਮਰਨ
3.   ਸੇਵਾ

ਭਾਗ (ੲ) : ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ

1.   ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ : ਜਾਣ ਪਛਾਣ
2.   ਬਾਣੀ ਦਾ ਸੰਕਲਨ
3.   ਬਾਣੀ ਦਾ ਸੰਪਾਦਨ

ਭਾਗ (ਸ) : ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਦੀਆਂ ਪ੍ਰਮੁੱਖ ਬਾਣੀਆਂ

1.   ਜਪੁ ਜੀ ਸਾਹਿਬ
2.   ਗੁਰੂ ਅੰਗਦ ਦੇਵ ਜੀ ਦੇ ਸਲੋਕ
3.   ਬਾਰਹਮਾਹ ਮਾਝ

ਭਾਗ (ਹ) : ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ

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ਸੁਝਾਈਆਂ ਪੁਸਤਕਾਂ ਦੀ ਸੂਚੀ:

English:

1. Jodh Singh, *Outline of Sikh Philosophy*, Sikh Heritage, Patiala, 2000.

2. Kohli, Surinder Singh, *Sikh Philosophy*, Singh Brothers, Amritsar, 1992.

3. Puri, Shamsher Singh, *Handbook of Sikh Theology*, Nation Book Shop, Delhi, 1999.

4. Sahib Singh, *About Compilation of Sri Guru Granth Sahib*, Tr. By Dalip Singh, Lok Sahit Parkashan, Amritsar, 1996.

5. Sher Singh, *Philosophy of Sikhism*, Sterling, Delhi, 1966.

6. Talib, G.S., *Introduction to Guru Granth Sahib*, Punjabi University, Patiala, 1991.

7. Taran Singh, *Guru Granth Ratnavali*, Punjabi University, Patiala, 2001.

8. Pritam Singh, *Sikh Falsafey di Roop Rekha*, Guru Nanak Dev University, Amritsar, 1975.

Punjabi:

1. ਆਹਲੂਵਾਲੀਆ, ਜਸਬੀਰ ਸਿੰਘ, *ਸਿੱਖ ਫ਼ਲਸਫ਼ੇ ਦੀ ਭੂਮਿਕਾ*, ਰਘੂਬੀਰ ਰਚਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ, 1976.

2. ਸ਼ੇਰ ਸਿੰਘ, *ਗੁਰਮਤਿ ਦਰਸ਼ਨ*, ਸ਼੍ਰੋਮਣੀ ਗੁਰਦੁਆਰਾ ਪ੍ਰਬੰਧਕ ਕਮੇਟੀ, ਅੰਮ੍ਰਿਤਸਰ, 1982

3. ਸਾਹਿਬ ਸਿੰਘ, *ਸਲੋਕ ਗੁਰੂ ਅੰਗਦ ਸਾਹਿਬ ਸਟੀਕ*, ਸਿੰਘ ਬ੍ਰਦਰਜ਼, ਅੰਮ੍ਰਿਤਸਰ, 2011.

4. ਕਵੀਸ਼ਰ, ਸਰਦੂਲ ਸਿੰਘ, *ਸਿੱਖ ਧਰਮ ਦਰਸ਼ਨ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1969.

5. ਗਿੱਲ, ਮਹਿੰਦਰ ਕੌਰ, *ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਦੀ ਸੰਪਾਦਨ ਕਲਾ*, ਰੂਹੀ ਪ੍ਰਕਾਸ਼ਨ, ਦਿੱਲੀ, 1974.

6. ਗੁਰਮੁਖ ਸਿੰਘ, *ਬਾਰਹਮਾਹ ਦਰਸ਼ਨ (ਮਾਝ ਤੇ ਤੁਖਾਰੀ); ਪਾਠ, ਪ੍ਰਵਚਨ ਤੇ ਅਰਥ ਬੋਧ*, ਰੂਹੀ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ, 2008.

7. ਤਾਰਨ ਸਿੰਘ, *ਬਾਰਹਮਾਹ ਦਰਪਣ*, ਨਿਊ ਬੁੱਕ ਕੰਪਨੀ, ਜਲੰਧਰ, 2002.

8. ਪਦਮ, ਪਿਆਰਾ ਸਿੰਘ, *ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਪ੍ਰਕਾਸ਼*, ਕਲਮ ਮੰਦਿਰ, ਲੋਅਰ ਮਾਲ, ਪਟਿਆਲਾ, 1977.

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SEMESTER–V
PHILOSOPHY
WESTERN METAPHYSICS AND EPISTEMOLOGY

Time allowed: 3 hours   **Max. Marks: 100**
Lectures to be delivered: 6 per week
Pass Marks: 35

Note: Instructions for the Paper-Setter

The question paper will consist of five sections: A, B, C, D & E. Sections A, B, C, & D will have two questions from each respective section of the syllabus and each question will carry 15 marks each. Section E, will consist of 10 short answer type questions, which will cover the entire syllabus uniformly and will carry 40 marks in all, each short answer type question carrying 4 marks.

Instructions for the Candidates

Candidates are required to attempt one question from each section A, B, C, and D of the question paper and the entire Section E.

Section–A

1. Introduction to Western Philosophy: Nature, Scope and Utility

2. Idealism: Subjective (Berkeley) and Objective (Plato).

3. Materialism: Mechanical and Dialectical.

Section–B

4. Monism (Spinoza)

5. Dualism (Descartes)

6. Pluralism (Leibnitz)

Section–C

7. Rationalism: Definition, Meaning and Characteristics

8. Empiricism: Definition, Meaning and Characteristics

9. Intuitionism: Definition, Scope and Characteristics

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Section–D

10. Existentialism: Definition, Nature and Characteristics.
11. Logical Positivism: Definition, Nature and Characteristics.
12. Pragmatism: Definition, Nature and Characteristics.

Section–E

Ten short answer type questions

Recommended Readings:

English Books

1. Ayer,A.J., *20th Century Philosophy,* Orion Books, London, 1992.

2. Bahm, A.J., *Philosophy An Introduction,* New Delhi, Asia publisher house, 1964.

3. Grossman Reinhardt, *Phenomenology and Existentialism: An Introduction*, London; Boston: Routledge & K. Paul, 1984.

4. James William, *Pragmatism and Four Essays from the Meaning of Truth*, New Delhi, Eurasia, 1975.

5. Stephen, Conner, *Fundamental Questions in Philosophy*, Harmondsworth, Middlesex, Penguin Books, 1971.

6. Stumpf, Samuel Enoch, *Socrates to Sartre: A History of Philosophy,* McGraw-Hill, New York, 1966.

7. Titus, H., *Living Issues in Philosophy,* Eurasia, New Delhi, 1968.

Punjabi Books

1. ਸੰਧੂ, ਜੀ.ਐਸ., *ਤੱਤ ਮੀਮਾਂਸਾ ਅਤੇ ਗਿਆਨ ਮੀਮਾਂਸਾ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।

Hindi Books

1. ਪ੍ਰਸਾਦ, ਰਾਜਿੰਦਰ, *ਦਰਸ਼ਨ ਸ਼ਾਸਤਰ ਕੀ ਰੂਪਰੇਖਾ*, ਮੋਤੀਲਾਲ ਬਨਾਰਸੀਦਾਸ, ਦਿੱਲੀ, 2011.

B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*
(Faculty of Life Sciences)

SEMESTER –V

ZOOLOGY

Paper	Maximum Marks		Hours of Teaching	
	Theory Marks	Practical Marks	Theory	Practical
SEMESTER–V			**Credit Hrs.** **(60 min. each)**	**per Week**
ZOO-VA (Developmental Biology)	35	__	3 Hrs	__
ZOO-VB (Genetics)	35	__	3 Hrs	__
PRACTICAL–V (RELATED TO ZOO-VA and ZOO-VB)	__	30	__	4½ Hrs

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SEMESTER–V
ZOOLOGY
ZOO-VA: Developmental Biology
(THEORY)

Max. Time: 3 Hrs. **Max Marks: 35**

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

UNIT-I
Gametogenesis with particular reference to differentiation of spermatozoa, vitellogensis; role of follicle/subtesticular cells in gametogenesis
Egg maturation; egg membranes; polarity of egg
Parthenogenesis
Fertilization

UNIT-II

Cleavage and its patterns
Gastrulation
Determination and differentiation
Tissue interactions, basic concepts of organizers and inductors and their role
Embryonic development of Hardmania

UNIT-III
Development upto three germinal layers and their fate in frog and chick
Fate maps of chick and frog embryos
Metamorphosis in Frog

UNIT-IV
Embryonic development of Rabbit
Foetal membranes, their formation and role
Mammalian placenta–its formation, types and functions
Regeneration, Ageing and Death

Suggested Readings:

1. Balinsky, B.I. (2007), An Introduction to Embryology, Saunders, Philadelphia.

2. Bellairs, R. (1971), Development Processes in Higher Vertebrates, University of Miami Press, Miami.

3. Berrill. N.J. (1971), Developmental Biology. McGraw Hill, New Delhi.

4. Ebert, J.D. & Sussex, IM. (1970), Interacting Systems in Development, Holt, Rinehart and Winston, New York.

5. Gilbert, F. (2017), Developmental Biology, Sinaur.

6. Goel, S.C. (1984), Principles and Animal Developmental Biology, Himalaya, Bombay.

7. Grant, P. (1978), Biology of Developing System.

8. Karp. G. & Berrill, M.J. (1981), Development. McGraw Hill, New Delhi.

9. Oppenheimer, J.M. and Willer, B.H. (1964), Foundation of Experimental Embryology, Prentice-Hall, New Delhi.

10. Pritchard, D.J. (1986), Foundation of Development Genetics, Taylor and Francis, London.

11. Saunders, J.W. (1982), Developmental Biology, Patterns, Principles, Problems, MacMillan, New York.

12. Spratt, N.T. Jn. (1971), Developmental Biology, Wordsworth, Belmont, Co.

13. Waddigton CH. (1966), Principles of Development and Differentiation, MacMillan, New York.

14. Loomis, W.F. (1986), Developmental Biology Macmillan, New York.

15. Miller, W.A. (1997), Developmental Biology Springer Verlag, New York.

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SEMESTER–V

ZOOLOGY
ZOO-V B: Genetics
(THEORY)

Max. Time: 3 Hrs. **Max Marks: 35**

Instructions for the Paper Setters:
1. Question paper should be set strictly as per the topics in the syllabus.
2. The question paper will comprise of two sections.
3. Section A will be compulsory and will have 7 short answer type questions (one mark each).
4. Section B will have 8 questions including two questions from each unit. Candidates shall be required to attempt 4 questions, one from each unit. All questions shall have equal marks. (7 marks each)

UNIT-I
Modification of Mendelian Ratios: Non-allelic gene interaction, Modified F2 ratios. (9:7;9:3:4;12:3:1;13:3;15:1;9:6:1), Gene modifications due to incomplete dominance; lethal factors(2:1); Pleiotropic genes.
Multiple Alleles: Blood group inheritance, eye colour in *Drosophila,* pseudoallelism.
Multiple Factors: Qualitative and quantitative characters, inheritance of quantitative traits (skin colour in man).
Linkage: Linkage, sex-linked characters
Crossing Over and Recombination: crossing over, frequency of crossing over, cytological basis of crossing over, synaptonemal complex. Recombination in Fungi (Tetrad analysis).

UNIT-II
Gene and Genetic Code: Structure of nucleic acids **(DNA & RNA).**
Replication & transcription of DNA
Expression of gene (Protein synthesis in Prokaryotes and Eukaryotes).
Genetic code: Properties of genetic code, codon assignment, wobble hypothesis, split and over-lapping genes,

UNIT-III
Mutations: Spontaneous and induced mutations, physical and chemical mutagen. Detection of mutations in Maize and *Drosophila.* Inborn errors of metabolism in man (Phenylketonuria, Alcaptonuria, Albinism). Somatic mutations and carcinogenesis.
Regulation of gene expressions in prokaryotes (Operon model) in eukaryotes.
Extranuclear inheritance: Chloroplast with special reference to *Mirabilis jalapa* and kappa particles in *Paramecium.*

UNIT-IV

Population genetics: Equilibrium of gene frequencies and Hardy-Weinberg law.

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Genetic recombination in bacteria (conjugation, transduction and transformation) and in plasmids.

Applied Genetics: Recombination DNA, Genetic cloning and its applications in medicine and agriculture, DNA finger printing.

Suggested Readings:-

1. Ayala, F.J. & Kiger, Jr. J.A. (1980), Modern Genetics. The Benjamin Cummings Publishing Co. Inc.
2. Brown T.A. (1992), Genetics- A Molecular Approach, (2nd ed), Van Nostrand Rainhold (international).
3. Gardener, E.J., Simmons, M.T.J. & Sunstad, D.P. (1999), Principles of Genetics, (8th ed), John Wiley & Sons, New York.
4. Miglani, G.S. (2000), Basic Genetics, Narosa Publishing House, New Delhi.
5. Winter, P.C., Hickey, G.I. and Fletcher, H.L. (1999), Instant notes in Genetics, New Delhi.
6. Satson, J.D. et. al. (1987), Molecular Biology of Gene (4th ed. vol. I & II), The Benjamin /Cummings Publishing Co., Inc.
7. Weaver, R.F. and Hedrick, P.W. (1992), Genetics, Wm. C. Brown Publishers Dubuque.
8. Zubay. U.G. (1987), Genetics, The Cummings Publishing Co., Inc.

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SEMESTER–V

ZOOLOGY
Practical-V (Related to ZOO-V A and ZOO-V B)

Time: 3hrs.   **Marks: 30**

Important Note for Practical:

1. Candidates will be required to submit their original note books containing record of their laboratory work.
2. Wherever possible, students must be taken out for excursion to the field (Zoological gardens, sea shores, ponds and hill stations etc.) to study habitat and ecology of the animals.
3. As per the latest UGC guidelines the dissections may please be avoided. In no case an animal falling under the categories of wildlife protection act 1972 should be caught or dissected. The rules of the Prevention of cruelty to Animals act 1960 should be familiar to all who are teaching the zoology courses. The guidelines on this issue are also available on the UGC website: www.ugc.ac.in

1. Demonstrate the Law of segregation and independent assortment (use of coloured beads capsules etc.) Numericals for segregation, independent assortment and Epistasis as well as numerical based on chi square.
2. Demonstration of segregation in preserved material (Maize).
3. Demostation of cytoplasmic inheritance in snails.
4. Inheritance of human characteriscts.
5. Comparison of variance in respect of pod length and number of seeds/pods.
6. *Calculation of gene frequencies and random mating (coloured beads, capsules).*
7. *Pedigree analysis*
8. Dermatoglyphics: Palm print and finger tip patterns.
9. Study of the following permanent slides :
    *   Polytene Chromosomes of *Chironomus.*
    *   Stages of gametogenesis, structure of egg and sperm of a mammal.
    *   Larva of *Herdmania.*
    *   Developmental stages of freshwater snail *(Limnaea),* frog-upto tadpole, chick-upto 96 hr.
10. Preparation of charts showing developmental stages of any vertebrate.
11. Preparation of slide for Barr body from cheek cells.

Note:- Some changes can be made in the practicals depending on the availability of material.
Guidelines for conduct of Practical Examination:

1. Two Numericals based on Mendel/Hardy Weinberg Law.   10
2. Perform the experiment for Dermatoglyphics/ Random mating/ Pod Length.   4
3. Identification of given spots/slides.   6
4. Make a pedigree chart from the given data.   3
5. Chart/Assignment.   2
6. Viva-voce and practical file.   5

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SEMESTER–V
BOTANY
PAPER–VA: PLANT PHYSIOLOGY

Time: 3 Hrs.
Theory Lectures: 3 Hours/Week
Max. Marks: 35

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and questions in this will be of short answer–type (3–4 lines). The remaining 8 questions will be set from equal distribution of the syllabus out of which candidates will be required to attempt 4 questions. All questions (including Q. No. 1) will have equal marks i.e. 7 each.

Unit-I
Plant-Water Relation: Importance of water to plant life, physical properties of water, (imbibition) diffusion and osmosis, absorption, transport of water and transpiration, physiology of stomata.

Unit-II
Mineral Nutrition: Essential macro-and micro-elements and their role, mineral uptake, deficiency and toxicity symptoms (hydroponics).
Transport of Organic Substances: Mechanism of phloem transport, source-sink relationship, factors affecting translocation.

Unit-III
Photosynthesis: Significance, historical aspects, photosynthetic pigments, action and absorption spectra and enhancement effects, concept of two photosystems, z-scheme, photophosphorylation, Calvin cycle, C4 pathway, CAM plants, photorespiration.

Unit-IV
Growth and Development: Definitions, phases of growth and development, kinetics of growth, seed dormancy, seed germination and factors of their regulation, plant movements, the concept of photoperiodism, physiology of flowering, florigen concept, biological clocks, physiology of senescence, fruit ripening, plant hormones - auxins, gibberellins, cytokinins, abscissic acid and ethylene, history of their discovery, biosynthesis and mechanism of action, general account of salicylic acid, jasmonates and brassinosteroids, photomophogensis, phytochromes and cryptochromes, their discovery, physiological role and mechanism of action.

Suggested Readings:-

1. Dennis, D.T., Turpin, D.H. Lefebvre, D.D. and Layzell (eds.) 1997. Plant Metabolism (2nd Edition).Longman, Essex, England.
2. Galston, A.W. 1989. Life Processes in Plants. Scientific American Library, Springer-Verlag, New York, USA.
3. Hopkins, W.G. and Huner, A. (2008). Introduction to Plant Physiology (4th Edition).John Wileyand Sons. U.S.A.
4. Mandavia, C., Patel, S. V., Mandavia, M. K., Golakiya, B. A. and Chovatia, V. P. (2009).Glimpses in Plant Physiology.International Book Distributing Co., Lucknow, India.
5. Mohr, H. and Schopfer, P. 1995. Plant Physiology. Springer-Verlag, Berlin, Germany.
6. Salisbury, F.B. and Ross, C.W. 1992. Plant Physiology (4th Edition). Wadsworth Publishing Co.,California, USA.
7. Taiz, L. and Zeiger, E. (2010). Plant Physiology (5th Edition).Sinauer Associates Inc. USA.
8. Buchanan, B.B., Gruissem, W. and Jones, R.L. (2002). Biochemistry and Molecular Biology of Plants, American Society of Plant Physiologists, Maryland.

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SEMESTER–V
BOTANY
PAPER–VB: BIOCHEMISTRY AND BIOTECHNOLOGY

Time: 3 Hrs.
Theory Lectures: 3 Hours/Week
Max. Marks: 35

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and questions in this will be of short answer–type (3–4 lines). The remaining 8 questions will be set from equal distribution of the syllabus out of which candidates will be required to attempt 4 questions. All questions (including Q. No. 1) will have equal marks i.e. 7 each.

Unit-I
Basics of Enzymology: Discovery and nomenclature, characteristics of enzymes, concept of holoenzyme, apoenzyme, coenzymes and cofactors regulation of enzyme activity, mechanism of action.

Unit-II
Respiration: ATP-the biological energy currency, aerobic and anaerobic respiration, Kreb'scycle,electron transport mechanism (chemi-osmotic theory), redox potential, oxidative phosphorylation,pentose phosphate pathway.

Unit-III
Nitrogen and Lipid Metabolism: Biology of nitrogen fixation, importance of nitrate reductase and its regulation, ammonium assimilation, structure and function of lipids, fatty acid biosynthesis, -oxidation, saturated and unsaturated fatty acids, storage and mobilization of fatty acids.

Unit-IV
Genetic Engineering: Tools and techniques of recombinant DNA technology, cloning vectors, genomic and cDNA library, transposable elements, techniques of gene mapping.
Biotechnology: Functional definition, basic aspects of plant tissue culture, cellular totipotency, differentiation and morphogenesis, biology of Agrobacterium, vectors for gene delivery and markergenes, salient achievements in crop biotechnology.

Suggested Readings:-
1. Bhojwani, S.S. (1990). Plant Tissue Culture: Applications and Limitations. Elsevier Science Publishers, New York, USA.
2. Dennis, D.T., Turpin, D.H. Lefebvre, D.D. and Layzell (eds.) (1997)**.** Plant Metabolism (2nd Edition).Longman, Essex, England.
3. Galston, A.W. (1989). Life Processes in Plants. Scientific American Library, Springer-Verlag, New York, USA.
4. Glick, B.R., Pasternak, J.J. (2003). Molecular Biotechnology- Principles and Applications of recombinant DNA. ASM Press, Washington.
5. Lea, P.J. and Leegood, R.C. (1999). Plant Biochemistry and Molecular Biology. John Wiley Sons, Chelichester, England.
6. Old, R.W. and Primrose, S.B. (1989). Principles of Gene Manipulation, Blackwell Scientific Publishers, Oxford, UK.
7. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics (5th Edition). John Wiley and Sons Inc., U.S.A.
8. Stewart, C.N. Jr. (2008). Plant Biotechnology & Genetics: Principles, Techniques andApplications. John Wiley & Sons Inc. U.S.A.
9. Vasil, I.K. and Thorpe, T.A. (1994). Plant Cell and Tissue Culture. Kluwer Academic Publishers, The Netherlands

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SEMESTER–V
BOTANY
Botany Practicals – V (Based on Papers- VA and VB)

Practical Hours: 4½ Hours/week Practical Marks: 30
Suggested Laboratory Exercises:

1. To study the permeability of plasma membrane using different concentrations of organic solvents.
2. To study the effects of temperature on permeability of plasma membrane.
3. To prepare the standard curve of protein and determine the protein content in unknown samples.
4. To study the enzyme activity of catalase and peroxidase as influenced by pH and temperature.
5. Separation of chloroplast pigments by solvent method.
6. Determining the osmotic potential of vacuolar sap by plasmolytic method.
7. Determining the water potential of any tuber.
8. Separation of amino acids in a mixture by paper chromatography and their identification by
9. comparison with standards.
10. Bioassay of auxin, cytokimin, GA, ABA and ethylene using appropriate plant material.
11. Demonstration of the technique of micropropagation by using different explants, e.g. axillary buds, shoot meristems.
12. Demonstration of the technique of another pollen culture.
13. Demonstrate the ascent of sap using a dye.
14. Demonstration of root and shoot formation from the apical and basal portion of stem segments in liquid medium containing different hormones.
15. Demonstrate the transpiration pull by mercury method.
16. Demonstration of osmosis by potato osmoscope.
17. Comparison of loss of water from two surfaces of leaf by $CoCl_2$ method/four leaf method.
18. Demonstration of imbibition by plaster of peris method.
19. Demonstration that 02 is evolved during photosynthesis.
20. Separation of pigments by paper chromatography/TLC method.
21. Demonstration of phototropism movements.
22. Demonstration the measurements of growth by arc auxanometer.
23. Preparation of nutrient medium.
24. Sterilization of glassware and plant material.
25. Preparation of explant for aseptic manipulation.
26. Requirements for setting up the tissue culture laboratory.

Suggested Readings (For Laboratory Exercises)

1. Bajracharya D. (1999).Experiments in Plant Physiology-A Laboratory Manual.Narosa Publishing House, New Delhi.
2. Devi, P. 2000. Principles and Methods of Plant Molecular Biology, Biochemistry and Genetics.Agrobios, Jodhpur, India.
3. Dixon, R.A. (Ed.) 1987. Plant Cell Culture: A Practical Approach, IRL Press, Oxford.
4. Kochhar, S. L. and Gujral, S. K. (2012). Comprehensive Practical Plant Physiology. MacmillanPublishers India Ltd., Delhi.
5. Moore, T.C. 1974. Research Experiences in Plant Physiology: A Laboratory annual. Springer-Verlag. Berlin.
6. Plummer, D.T. (1996). An Introduction to Practical Biochemistry (3rd Edition). Tata McGraw-Hill Publishing Co. Ltd. New Delhi.
7. Roberts, J. and Tuckar, G.A. (Eds.) 2000. Plant Hormone Protocols.Human Press, New Jersey,USA.
8. Scott, R.P.W. 1995. Techniques and Practices of Chromotography. Marcel Dekker, Inc., NewYork.
9. Smith, R.H. 2000. Plant Tissue Culture: Techniques and Experiments. Academic Press, NewYork.
10. Wilson, K. and Goulding, K.H. (Eds.) 1986. A Biologists Guide to Principles and Techniques ofPractical Biochemistry.Edward Arnold, London, UK.

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SEMESTER–V

MICROBIOLOGY
APPLIED MICROBIOLOGY–I
(THEORY)

Time: 3 Hours

Max. Marks: 100
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setter:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3-4 lines). However no multiple choice one-word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

UNIT–I

Microorganisms in Industry: Historical development definition and scope of industrial microbiology; contribution of Louis Pasteur in fermentation; sources of industrial microorganisms and their essential characteristics, natural habitats, cultural collections and preservation of stock cultures.

UNIT–II

Screening of Microorganisms: Isolation of industrially important microorganisms, primary and secondary screening methods for isolating useful Yeast, bacteria and fungi. Fermentation media: Composition of production media, characteristics of an ideal production medium, raw materials.

UNIT–III

Fermentation and Fermentation Processes: Fermentation as biological activity, Types of industrial fermentation's (submerged, solid state and continuous fermentation). Design of fermentor (body construction, aeration and agitation and control of septic conditions), Basics of batch culture, fedbatch culture and continuous culture.

UNIT–IV

Recovery and purification of fermentation products: General principles of separation of fermentation products, solid particles, foam separation, separation by filtration, centrifugation, cell disruption, liquid-liquid chromatography, ion-exchange chromatography. Fermentation economics; plant fermentation designing, process designing, market potential and recovery costs for the industrial set-up.

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Books Recommended:

1. Casida, L.E. 1991. *Industrial Microbiology.* Wiley Eastern Ltd., New Delhi.

2. Stanbury, P.F. Whittaker, A. and Hall S.J. 1995. Principles of Fermentation Technology. Elsevier Science Ltd., U.K.

3. Patel, A.H. 1984. *Industrial Microbiology,* Macmillan India Ltd., Delhi.

4. Trevan M.D., Saffey, S., Goulding, K.H. and Stanberry, P. 1988. *Biotechnology: The Biological Principles,* Tata McGraw Hill Publishing Co. Ltd., New Delhi.

5. Freifelder, D. 2006. Microbial Genetics. Jones and Barttett Publishers Inc., Boston.

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SEMESTER–V
MICROBIOLOGY

(PRACTICAL)

Time: 4 Hours **Marks: 25**

1. Isolation of various types of microorganisms from (a) soil (b) fruits.

2. Screening of some industrially important microorganisms

    a. amylase producers.

    b. protease producers.

3. Protein estimation by Lowry method.

4. Preservation of industrially important microorganisms by various methods (a) storage in 10 % glycerol (b) storage in mineral oil.

5. Determination of % viability of Yeast cells by haemocytometer.

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SEMESTER–V
INDUSTRIAL MICROBIOLOGY
(VOCATIONAL)

ENVIRONMENT AND AGRICULTURAL MICROBIOLOGY
(THEORY)

Time: 3 Hrs.
Max. Marks: 100
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setter:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3-4 lines). However no multiple choice one-word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

UNIT–I

Physico chemical characteristics of soil, water and air in relation to microorganisms. Microbiology of air, soil and water. Genetic & Physiological adaptations to environmental condition.

UNIT–II

Biogeochemical cycling of carbon, hydrogen, oxygen, sulphur, phosphorus-Interactions among microbial population: Neutralism, Commensalism, Mutualism, Competition, Amensalism, Parasitism, Predation, Mycorrhizal, association.

UNIT–III

Agricultural Microbiology. Soil fertility and management of agricultural soil. Influence of available nitrogen on soil fertility, Crop rotation, soil management practices, Biofertilizer, Mushroom cultivation and their use.

UNIT–IV

Biological Control: General consideration, viral pesticides, Bacterial pesticides & fungal pesticides, concept of biomagnification. Biodegradation of pollutants: Solid waste management, sanitary land fills, composting, Treatment of waste, primary treatment, secondary treatments, tertiary treatment, Disinfection.

Books Recommended:

1. ATLAS, R.M. and Bartha, M. 1981. *Microbiology Ecology,* Fundamentals and Applications.
2. Brock, T.D. 1966. *Principles of Microbial Ecology, Prentice Hall,* USA.
3. Campbell, R. 1977. *Microbial Ecology*, Blackwell Scientific, London.
4. Lynch, J.M. and Poole, *M.J. 1979.* Microbial Ecology: A Conceptual Approach, Blackwell Scientific, London.

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SEMESTER–V

INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

(PRACTICAL)

Time: 4 Hrs.   **Marks: 25**

1. Study of symbiotic/asymbiotic nitrogen fixing bacteria.

2. Study the process of ammonification.

3. To study nitrification in soil.

4. Isolation of *Aspergillus niger* from soil.

5. IMVIC test for water analysis.

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SEMESTER–V
MICROBIAL & FOOD TECHNOLOGY

APPLIED MICROBIOLOGY
(THEORY)

Time: 3 Hours   **Max. Marks: 100**
Theory Mark: 75
Practical Marks: 25

Instructions for the Paper Setter:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3-4 lines). However no multiple choice one-word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

UNIT–I

Microorganisms in industry: Historical development definition and scope of industrial microbiology; contribution of Pasterns in fermentation; sources of industrial microorganisms, essential characteristics, natural habitats, cultural collections and preservation of stock cultures.

UNIT–II

Screening of microorganisms: Isolation of industrially important microorganisms, Screening of useful yeast, Bacteria and Fungi. Fermentation Media: Composition of Production Media, characteristics of an Ideal Production Medium, Raw Materials.

UNIT–III

Fermentation and fermentation processes: Fermentation as biological activities types of industrial fermentation's (sub-merged, solid state and continuous fermentation). Design of Fermentor (Body Construction, Aeration and Agitational and Control of Septic Conditions), Basics of Batch Culture, Fed-Batch Culture and Continuous Culture.

UNIT–IV

Recovery and purification of fermentation products: General principles of separation of fermentation products, solid particles, foam separation, separation by filtration, centrifugation, cell disruption, solvent extraction, ion-exchange chromatography.

Books Recommended:

1. Casida, L.E. 1991. Industrial Microbiology. Wiley Eastern Ltd., New Delhi.
2. Stanbury, P.F. Whitakker, A. and Hall S.J. 1995. Principles of Fermentation Technology. Elsevie Science Ltd., U.K.
3. Patel, A.H. 1984. Industrial Microbiology, Macmillan India Ltd., Delhi.
4. Trevan M.D., Daffey, S., Goulding, K. H. and Stanberry, P. 1988. Biotechnology: The Biological Principles, Tata McGraw Hill Publishing Co. Ltd., New Delhi.
5. Rose A.H. 1961, Industrial Microbiology, Butterworths, Washington.

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SEMESTER–V
MICROBIAL & FOOD TECHNOLOGY

(PRACTICAL)

Time: 4 Hours **Marks: 25**

1. Determination of % gluten content & SDS value of wheat flour.

2. Isolation of bacteria, fungi from soil.

3. Isolation of amylase producing microorganisms from soil.

4. Isolation of yeast from fruits and flowers.

5. To study the growth curve of yeast.

6. Production of alcohol, lactic acid and yogurt.

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SEMESTER–V
BIOINFORMATICS (VOCATIONAL)

COMPUTATIONAL METHODS FOR SEQUENCE ANALYSIS
(THEORY)

Time: 3 Hrs. **Max. Marks: 100**
Credit Hours: 6 **Theory Marks: 75**
Practical Marks: 25

Instructions for the Paper Setters and Candidates:
1. There will be a total of 9 questions.
2. Question 1 will be compulsory and will be of 10 short answer type. **(1½ X10=15)**
3. The remaining 8 questions shall include 2 questions from each unit. Candidates shall be
required to attempt 1 question from each unit. All questions shall have equal marks.
(15x4=60)

UNIT–I

Sequence Alignment: Scoring matrices (PAM and BLOSUM), Local and Global alignment concepts, dynamic programming methodology (Needleman and Wunsh algorithm, Smith Waterman algorithm), Statistics of alignment score, Multiple Sequence alignment (Progressive alignment), Database searches for homologous sequences (Fasta and Blast versions).

UNIT–II

Fragment assembly: Genome sequence assembly, Gene finding methods: concept and signal methods, Background of transform techniques, Fourier Transform and Gene Prediction, Pattern and Motif searching, Analysis and prediction of regulatory regions.

UNIT–III

Neural Network concepts and secondary structure prediction. Probabilistic models: Markov chain (random walk), Hidden Markov models, Gene identification and other applications.

UNIT–IV

Evolutionary analysis: Basics of evolution: Rooted and unrooted trees, molecular clock theory, molecular markers used in studying evolution. Distances based methods and Clustering Methods of evolution, Bootstrapping strategies.

List of Books:

1. Waterman M.S. (Eds). Introduction to Computational Biology: Maps, sequence and genome. Chapman and Hill. London, (1995).

2. Yop T.K., Frieder O, Martino R.L., Hogh Performance computation methods for biological sequence analysis. Kluver Academic Publishers, Dordrecht. (1996).

3. Suhai (Eds). Theoretical and computation methods in genome research. Plenum Press, New York (1997).

4. Durbin R, Eddy S.R., Krogh A, Mitchison G, Biological sequence analysis. Probablistic models of proteins and nucleic acid. Cambridge University Press (1998).

5. Schulze K.S., Molecular Bioinformatics: counselling and application. Walterde Gruyter Berlin New York (1995).

6. Setubal J, Meidanis J, Introduction to Computational Molecular Biology. PWS Publishing Company. Boston (1996).

7. Gusfield D. Algorithms on strings, stress, trees and sequence. Computer Science and Biology. Cambridge Uiversity Press, Cambridge (1997).

8. Bishop M.J., Rawling C.J. (Eds). DNA and Protein Sequence analysis. A Practical Apporach. IRL Press. Oxford (1997).

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SEMESTER–V

BIOINFORMATICS (VOCATIONAL)

LAB IN COMPUTATIONAL METHODS FOR SEQUENCE ANALYSIS
(PRACTICAL)

Time: 3 Hrs.   **Marks: 25**
Credit Hours: 4½

- ➢ Tools to study local and global alignments.

- ➢ To study multiple sequence alignment using Clustal-W and T-COFFEE.

- ➢ To study gene prediction in Eukaryotes and Prokaryotes using GENSCAN, GLIMMER, GeneMark, ORF FINDER.

- ➢ Evolutionary analysis using Phylip.

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SEMESTER–V
BIOTECHNOLOGY (VOCATIONAL)

rDNA TECHNOLOGY AND ANIMAL BIOTECHNOLOGY
(THEORY)

Time: 3 Hrs.   **Max. Marks: 100**
Teaching Hours: 6   **Theory Marks: 75**
                                                                Practical Marks: 25

Instructions for the Paper Setters and Candidates:
1. There will be a total of 9 questions
2. Question 1 will be compulsory and will be of 10 short answer type.   **(1½x10=15)**
3. The remaining 8 questions shall include 2 questions from each unit.
   Candidates shall be required to attempt 1 question from each unit.
   All questions shall have equal marks.   **(15x4=60)**

rDNA Technology

UNIT–I

DNA Modifying enzymes: Ligases for blunt & sticky end ligation), DNA Polymerases, Klenow fragment, Alkaline phosphatase, Polynucleotide kinase, Terminal deoxynucleotidyl transferase, Restriction enzymes, reverse transcriptase.

UNIT–II

Cloning Vectors for E.coli: features of plasmids and development of plasmids as vector (-complementation) bacteriophages as vector, Genetic selection (HfL, SPi), Cosmids.

UNIT–III

Southern Hybridization, Methods of Transformation: CaCl₂, electroporation, transfection, micro projectile bombardment, Labelling of DNA and RNA- Radioactive labeling (Nick Translation, Random Priming, End Labelling), Non-Radioactive labelling (Direct & Indirect non isotopic labeling), cDNA cloning: Linker, Adaptation, Different stretagies for cDNA cloning- self priming, adaptor linker method, Introduction , principles & applications of PCR.

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Animal Biotechnology

UNIT–IV

General metabolism (Glucose and Glutamine), inhibition of metabolism, Bioreactors for large scale culture of cells Growth factors promoting proliferation of animal cells (EGF, FGF, PDGF, IL-1, IL-2, NGF, erythropoietin etc.), The need to express proteins in animal cells. Transfection – vectors (P element vector, SV 40 vectors, BPV vector, reteroviral vectors), selectable markers, Transfection methods (Calcium Phosphate precipitation, DEAE Dextran, microinjection, electroporation, protoplast fusion, somatic cell nuclear transfer, lipofection)

UNIT–V

Expressing cloned proteins in animal cells - Insulin, Growth hormone, Interferon, t-plasminogen activator, factor VIII., Overproduction and processing of chosen protein. Production of vaccines in animal cells, Production of monoclonal antibodies, Stem cells-sources of stem cells & their applications.

Books Recommended:

1. Butler, M. (1987). Animal Cell Technology–Principles and Practices, Oxford University Press.
2. Goeddel, D.V. (1990). Methods in Enzymology, Vol. 185 Gene Expression Technology, Academic Press Inc. San Diego.
3. Mickloss, D.A. and Freyer, G.A. (1990). DNA Science: A First Course in Recombinant Technology, Cold Spring Harbor Laboratory Press, New York.
4. Butler, M. (1991). Mammalian Cell Biotechnology–A Practical Approach, IRL, Oxford University Press.
5. Spier, R.R. and Griffiths, J.B. (1994). Animal Cell Biotechnology, Academic Press, London.
6. Freshney, RT. (1994). Culture of Animal Cells, John Wiley and Sons, New York.
7. Primrose, S.B. (1994). Molecular Biotechnology, 2nd edition, Blackwell Scientific Publishers, Oxford.
8. Glover, D.M. and Hames, B.D. (1995). DNA Cloning: A Practical Approach, IRL Press, Oxford.
9. Rasko, L, and Downes, C.S. (1995). Genes in Medicine, Champan & Hall.
10. Berger, S.L. and Kimmel, A.R. (1996). Methods in Enzymology, Guide to Molecular Cloning Techniques, Vol. 152, Academic Press Inc., San Diego.
11. Butler, M. (1996). The Animal Cell Culture and Technology, IRL, Oxford University Press.
12. Maulik S. and Patel, S.D. (1997). Molecular Biotechnology Therapeutic Application and Strategic, John Wiley & Sons.
13. Sambrook, J., Fritsch, E.F. and Maniatis, T. (2000). Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory Press, New York.

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SEMESTER–V

BIOTECHNOLOGY (VOCATIONAL)

rDNA TECHNOLOGY AND ANIMAL BIOTECHNOLOGY
(PRACTICAL)

Time: 3 Hrs.   **Marks: 25**
Teaching Hours: 4½

Isolation of chromosomal and plasmid DNA from bacteria

Isolation of genomic DNA from blood

Agarose gel electrophoresis

Spectrophotometer analysis of DNA.

Restriction digestion of DNA

Making competent E. coli

Transformation and selection of competent E Coli.

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SEMESTER–V
EDUCATION

DEVELOPMENT OF EDUCATION IN INDIA

Time: 3 Hours   **Max. Marks: 100**

Instructions for the Paper Setters:

Note: (i) The question paper will consists of five Units: I, II, III, IV & V. Units I, II, III & IV will have two questions each carrying 20 marks. The students are to attempt one question from each unit approximately in 1000 words. Unit –V consists of 10 short answer type questions to be set from their entire syllabus and will carry 20 marks in all. Each short answer type question carries 2 marks, to be attempted in 8 to 10 lines.

UNIT–I
1. Concept of Education in Vedic-Era with special reference to aims, curriculum & role of teacher
2. Education in Buddhist period with special reference to aims, curriculum & role of teacher

UNIT–II
1. Salient features of Indian Education during Medieval period
2. Recommendations of Major Commissions & Committee set up during British Period with special reference to Charter Act (1813), Maculay's Minute (1835) and Wood's Despatch (1854).

UNIT–III
1. Concept & features of Basic Education
2. Constitutional Provisions of Education

UNIT–IV
1. Major recommendations of Secondary Education Commission (1952-53) and Indian Education commission (1964-66)
2. Salient features of NPE (1986)

UNIT–V
This Unit (V) will consist of 10 short type questions to be set from the entire syllabus of first four Units (I, II, III, IV)

Books Recommended:

1. Aggarwal, J.C. Landmarks in the History of Modern Indian Education, Vikas Publishing House Pvt. Ltd., New Delhi, 2004.
2. Aggarwal, J.C.: Modern Indian Education: History Development and Problems, New Delhi, Shiplra Publication House (2006).
3. Govt. of India, Ministry of Education, Report of Education Commission (1964-66), New Delhi, 1986
4. Govt. of India, Ministry of Human Resources Development, National Policy of Education, New Delhi, 1986.
5. Govt. of India, Challenge of education, A Policy Perspective, New Delhi, 1986.
6. Govt. of India, Ministry of Human Resources Development, National Policy of Education, New Delhi, 1986 (with Modifications undertaken in 1992), New Delhi, 1992.
7. Saxena Swaroop, N.R., Education in Emerging India Chaturvedi Sikha Society, R.Lall, Book Depot, Meerut, 2005.

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SEMESTER–V

HUMAN RIGHTS

PAPER – INTERNATIONAL HUMAN RIGHTS

Time: 3 hours   **Max. Marks: 100**

Instructions for the Paper Setters:

The question paper will consist of five sections A, B, C, D and E. Section A, B, C and D will have

two questions from the respective portion of the syllabus and will carry 20 marks each. Section E

will consist of 10 short answer type questions to be set from the entire syllabus i.e. sections A,B,C &

D and will carry 20 marks in all ,such short answer type questions carry 2 marks.

Instructions for the Candidates:
Candidates are required to attempt one question each, from sections A, B, C and D of the question
paper and the entire section E. The candidates are required to answer the short questions in not less
than 50 words.

UNIT–I
Organizations related to Human rights; Instruments of Human rights and covenants; role of UNO,
UN Commission of Human Rights, UN children's fund (UNICEF), UN commission on the status of
Women, ILO, UNESCO.

UNIT–II
International humanitarian issues, laws and assistance.

UNIT–III
International Human rights provisions: Torture, custodial violence, disappearance, prisoners, and
under trials.

UNIT–IV
Role of NGOs, role of Amnesty, Red Cross and NHRC

Recommended Books:
1. Khare, Subhash Chandra, Human Rights and United Nations Metropolitan Co. New Delhi.
2. Iyer, V.R. Krishna, Hman Rights and the Law, Vapul law, Indore.
3. Kashyap, subhash, Human Rights and Parliament, Metropolitan Book co. Delhi.
4. Sinha, P.C. Global sourcebookon Human Rights Part I, Kanishka Publishers, New Delhi.
5. Sinha, P.C., Global source book on Human rights part II, Kanishka Publishers, New Delhi.

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SEMESTER–V

DAIRY FARMING (VOCATIONAL)
(THEORY)

Time: 3 Hours **Max. Marks: 100**
Periods per week: 6 **Theory Marks: 50**
 Practical Marks: 50

Instructions for the Paper Setters:
1. Question paper should be set strictly according to the syllabus and in Punjabi language.
2. The language of questions should be straight and simple.
3. Theory paper shall consist of three parts :-
   a) Five short compulsory questions of two marks each requiring short replies up to five lines each. **(Total marks: 05x2=10).**
   b) Five questions of six marks each requiring short replies shall be asked. The candidate has the choice to attempt four questions. **(Total Marks: 4x6=24).**
   c) Two questions of descriptive type requiring five pages for each answer shall be asked. The candidate has the choice to attempt one question. **(Total Marks: 16x1=16).**
4. The question paper should cover the whole syllabus.

1. Fodder Production
Importance of green fodder in milk production, recommendations for cultivation of different fodder crops, nutritional value and yield of different fodder crops.
Legume and non-legume fodders. Enhancing nutritional value and yield of fodder crops. Fodder crop rotations and mixtures. Conservation of surplus green fodder. Feeding of green fodder, hay and silage. Fodder trees, bushes and grasses. Availability of fodders in different seasons for animals. Plan for Green fodder production throughout the year for Dairy Animals. Crop residues and biproducts. Enrichment of roughages.

2. Diseases of Cows and Buffaloes
Diseases of Nutritional Deficiency. Infectious and noninfectious diseases. Symptoms of different diseases. External and internal parasitic diseases and their control. Prevention of different diseases. Preventive vaccination schedule in a dairy farm. Control of reproductive disease. Use of sanitation and disinfection in disease control in a dairy farm. Diseases transmitted through milk. Veterinary First-Aid Zoonotic-diseases through from animals to man and viceversa. Sagregation and quarantine.

3. Economics of Dairy Farming
Economic parameters in a dairy farm. Income and expenditure details for upkeep of ten cows/buffaloes rural dairy unit.
Factors affecting profitability of a dairy unit. Advantages of mixed farming.

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SEMESTER–V

DAIRY FARMING (VOCATIONAL)

(PRACTICAL)

Time: 3 Hours   **Total Marks: 50**

Distribution of Marks:
Assignment	**10 Marks**
Practical Note book	**10 Marks**
Four Visits to Dairy Farms	**10 Marks**
Oral Examination	**10 Marks**
Written Test	**10 Marks**

Note: Preparation of Practical Note book and Dairy Farm Assignment is compulsory
1.   Formulation and costing of Dairy Rations.
3.   Expenditure and Income Calculations.
4.   Recognition of Disease Symptoms.
5.   Recognition of Heat Symptoms.
6.   Visit to NDRI Karnal.
7.   Two visits to PAU Ludhiana.
8.   Filling of Dairy Record Performs.
9.   Recognition of External and Internal Parasites.

Text Books:

1.   A Text book of Animal Husbandry by G.C. Banerjee.
2.   A Text book of Livestock Production and Management in Tropics by D.N. Verma.
3.   Livestock Production and Management by NSR Sastry and C.K. Thomas.
4.   Livestock and Poultry Production by H. Singh and E.N. Moore.
5.   Handbook of Animal Husbandry Published by ICAR New Delhi.
6.   Thronton's Meat Hygiene by Thronton.
7.   Dairy Farming: Extension booklet No. PAU/1992/F/29/P published by Communication Centre, PAU, Ludhiana (Punjab).
8.   "Dudharaun Layee Dharay" (Punjabi) Extension booklet No. PAU/1993/F/560 Published by PAU, Ludhiana.
9.   Dairy Farm Record Keeping, PAU, Ludhiana (Punjabi) Booklet.
10. Feeding Dairy Cattle Extension booklet published by NDRI, Karnal. (English).

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SEMESTER–V

RSL–301:   **RUSSIAN**

PAPER–I (Written) (APPLIED GRAMMAR)

Time: 3 Hrs.   **Max. Marks: 80**

1.   Grammar from the textbook   **Marks: 30**
2.   Composition (one out of four topics)   **Marks: 10**

-   Revision of all cases in singular & plural (nouns, adjectives & pronouns)
-   Aspects of verbs.
-   Verbs of motion with & without prefixes.
-   The relative pronoun "   , its declension & usage.
-   Participles & participle constructions.
-   Short form of the past participle.
-   Active & passive voice.
-   Direct & indirect speech.
-   Gerund.

Composition Topics: ,   ,   ,   ,
           ,   ,   . (One out of given three)
                                                                            Marks: 10
1.   From Russian into English/Hindi/Punjabi from the covered literary works.   **Marks: 15**
      (200 words)
2.   From English into Russian from the prescribed Text-book. (150-200 words)   **Marks: 15**

Note: Glossary of difficult words may be given for translation purpose in the question paper.

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SEMESTER–V

RSL–301:   **RUSSIAN**

PAPER–II (ORAL)

Max. Marks: 20

Dictation	**Marks: 05**
Simple Conversation	**Marks: 05**
Retelling of a text	**Marks: 05**
Reading of a text	**Marks: 05**

Prescribed Text-Book:
"RUSSIAN" – by Wagner V.N. & Ovsienko Y.G. (Lessons 41 to 52)

Recommended Books:
1. Langenscheidt Pocket Russian Dictionary.
2. Russian for Indians by Hem Chandra Pande.
3. "RUSSIAN" – by Ovsienko Y.G. & Skopina (Part-I & II)

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SEMESTER–V

FRL–301:   **FRENCH**

PAPER–I (WRITTEN) (COMPOSITION, GRAMMAR & COMPREHENSION)

Time: 3 Hrs.   **Max. Marks: 80**

A. Composition

i) A composition of around 200 words from the given topics. (One out of four)   **Marks: 10**

B. Grammar

i). Questions on applied grammar. (Exercises from the textbook)   **Marks: 20**

C. Comprehension

i) An unseen comprehension passage   **Marks: 10**

COMPOSITION TOPICS:

- La vie en ville /au village,La France, Mon pays, La cuisine,Un pique nique au bord de la mer,Mon acteur/actrice/ ecrivan favori,Mes reves,Un voyage,La vie au xxi siècle, L'influence de la télévision/radio/presse écrite sur les jeune,Le mariage – est-ce que c'est une institution , essentialle?,L'amour ou l'argent,Si J'etiais……, je…..,Les souveniers de mon enfance,Les vacances en Inde.

TRANSLATION:

1. Translation from French into English. (Passage)   **Marks: 10**
2. Translation from English into French. (Short sentences)   **Marks: 10**

Note: Glossary of difficult words may be given for translation purpose in the question paper.

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TEXT:

1. Questions of general comprehension pertaining to the vocabulary

   covered in the text book (e.g. Comment aimez – vous passer les vacances?)   **Marks: 10**

2. Objective type questions pertaining to the various aspects of French

   civilization covered in the textbook. (10 questions out of 15 in the form of

   fill in the blanks or multiple choices to be attempted).   **Marks: 10**

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SEMESTER–V

FRL–301: **FRENCH**

PAPER–II: (ORAL)

Max. Marks: 20

-     Reading of a text   **Marks: 05**
-     Dictation   **Marks: 05**
-     Conversation   **Marks: 05**
-     Oral Comprehension   **Marks: 05**

Prescribed Textbook:

"CONNEXIONS-III" (Units 1-6) by Regine Merieux & Yves Loiseau, Published by Didier

Recommended Book:

Nouveau Sans Frontières III by Philippe Dominique & Jacky Girardet

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SEMESTER–V

URDU

URL–301: **(MODERN URDU PROSE AND POETRY)**

Time: 3 Hours **Max. Marks: 100**

<u>PROSE:</u>

Study of Urdu Prose with special reference to modern fiction:

General information which leads to vital changes in literary attitudes and different forms of prose which came up in Urdu in Munshi Prem Chand and Post Prem Chand period; Introductory information about latest forms of prose: Afsana, Novel, Inshaiya, Khutoot-nigari, Reportaz

Question on modern trends of prose writing like Tajreed Afsana, Inshaiya Nigari, Social Satire.

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SEMESTER–V

URDU

Poetry

Study of Urdu poetry with special reference to the modern period

General information about the Modern period; the circumstances which lead to the vital changes in literary attitudes & different shades of Urdu poetry which came up in Urdu after Mirza Daagh Dehlvi; Questions on trends like Quami Shairi, Taraqqi Pasand Shairi & Jadeed Shairi

Introductory information about latest forms of poetry Ghazal, Aazad Ghazal, Paaband Nazm and Doha.

Books Prescribed:

Shaoor-e-Adab, published by Maktaba Jamia Ltd, New Delhi

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SEMESTER–V

PERSIAN

PRL–301:   **PROSE AND POETRY**

Time: 3 Hours   **Max. Marks: 100**

PROSE:

Selections from Intkhab Adabiyat-e-Farsi by Syed Hasan, Arun Kumar Beni Madho, 2, Katra Road,

Allabhabad – 211002

1.   Akhlaq-e-Mohsini : Adab, Ulve Himmat, Sakhavat-o-Ahsan (Pages from 34 to 41)

2.   Tarikh-e-Firoz Shahi (Pages from 17 to 23)

Selections from Nisab-e-Jadid-e-Farsi, Published by Jyed Press, Balli Maran, Delhi

1.   Zindagi-e-Man (Bab Kodaki (Pages from 5 to 19)

2.   Sarzameen-e-Hind Zaban-e-Farsi Dar Hind (Pages from 33 to 48)

POETRY:

Selections from Intkhab Adabiyat-e-Farsi: Published by Jyed Press, Balli Maran, Delhi.

1.   Rubaiyat-e-Sarmad (Pages from 144 to 146)

2.   Sho'orai Asar-e- Hazir

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SEMESTER–V

PERSIAN

A. Ai Ranj bar by Khanum Parveen Aitsami (Page-164)

B. Jamhuri by Arif Qazwini (Page-169)

C. Libas-e-Watni by Sarmad Tehrani (Page-170)

D. Parda-e-Beenash by Rasheed Yasmee (Page-175)

Books Prescribed:

1. Intkhab Adabiyat-e-Farsi by Syed Hasan and published by Ram Narain Lal Arun Kumar, 2-
    Katra Road, Allahabad- 211002

2. Nisab-e-Jadeed-e-Farsi,published by Jyed Press, Balli Maran, Delhi.

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SEMESTER–V

SANSKRIT (ELECTIVE)

¼uhfrdFkk] lkfgR; rFkk 0;kdj.k½

le;&3 ?k.Vs   iwkkkd&100

iz'u&i= dk ek/;e fgUnh gksxkA mŸkj lLd`r@fgUnh@iatkch@vaxszth esa gks ldrs gSaA

ikB~;Øe &

¼d½   iprU= ¼yC/kizkkk'k½ ¼xaxknŸkkfiz; n'kku lkdFkk] fl gyyEcd.kkdFkk] ;f/kf"Bjdk[Hkdkjdk]

                                                                                             50 vad

        fl g'kxkyiq±dFkk] ?k.VksV'Vd½dkFkk] 'kxky&fl g&0;k?kfp=dFkk] fons'kxrlkjes;dFkk½

        iz'ukadsfy, fu/kkfjr fcUnq &

        (i) dgkfu;ka dk lkj

        (ii f'k{kk

        (iii) thou eadgkfu;ka dk egŸo

¼[k½   0;kdj.k

        (i) fol xl l fU/k   10 vad

        (ii) iR;; ¼lu} f.kp½   10 vad

        Hkwy iB} gl } xe} ir} d'] xg} fno} gk] vki} Øh] pj] fl p} n"k] py~/kkrqvkadds

        lkFk yV~ydkj ¼iaFke i#"k] ,d opu½ ea : iA

¼x½   ofnd lkfgR;   10 vad

        __Xosn] ;tqosh] lkeosn o vFkkosn dk lkekU; ifjp;A

¼?k½   lkekU; Kku &   10 vad

        okjk] ekl] __rq] uoxzg] jkf'k] nl fn'kk;aA

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SEMESTER–V
SANSKRIT (ELECTIVE)

¼3½ 0;kogkfjd 'kCn   10 vad

1-	vxBk&v³x(B%	2-	dku&d.k%
3-	xnLu&xhok	4-	thHk&ftgok
5-	ukd&ukfI dk	6-	ckg&ckgq%
7-	I kx&'kkde~	8-	x/kk&xnHk%
9-	?kkM/Mk&v'o%] ?kkVd%	10-	unyk&udy%
11-	cUnj&okuj%	12-	cSy&cyn%
13-	HkSI &efg"kh	14-	dcrj&dikr%
15-	dks;y&dkfdy%	16-	dkSok&dkd%
17-	fpfM+;k&pVdk	18-	ekj&e;qj%
19-	ukfj;y ¼o'{k½&ukfjdsy	20-	jlkbZ&jl orh
21-	dcy&dEcy%	22-	I kMh&I kfVdk
23-	gkj&gkj%	24-	fcUnh&fcUnq%
25-	ekx&ekxZ%	26-	I jlks&I "kZi %
27-	gYnh&gfjnk	28-	jksVh&jkfVdk
29-	'kDdj&'kdZjk	30-	Fkkyh&LFkkyh
31-	NksVk Hkkbl] cMk Hkkbl& vuqt%] vxzt%	32-	nknk&firkeg%
33-	tokbZ ¼nkekn½&tkekrk	34-	nsoj&nsoj%
35-	I kyk&';ky% ¼L;ky%½	36-	I I j&'o'kj%
37-	iksrk&ikS=%	38-	Hkktuk&Hkkfxus;%
39-	HkkHkh&Hkkr`tk;k	40-	**Internet-**vUrtkZye~
41-	**Television-**nqjn'kZue~	42-	**Telephone-**nqjHkk"k%
43-	**Black Board-**';kei V%	44-	**Mobile Phone-**pynqjHkk"k%
45-	**Computer-**I x.kkd%		

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SEMESTER–V

SANSKRIT (ELECTIVE)

i*t*ui= fuekZ/k fun*Z*k &

I   i*p*rU= yC/ki*z*kk'k e*a*lsnI i| n*o*dj ikp dk Iiil*x* IjykFk*Z*fd;k tk, &

$$5x7 = 35$$

II   pkj i*t*u n*o*dj nks i*t*uk*a*ds mŸkj i*a*Ns tk,a &

$$2x7\tfrac{1}{2} = 15$$

III   nI fol*x*ZIfU/k e*a*ls ikp ds IfU/k@IfU/k foPN*a*n i*a*Ns tk,a &

$$2x5 = 10$$

IV   nI f.ktUr ,oa IUur iR;; n*o*dj ikp ds :i i*a*Ns tk,a &

$$2x5 = 10$$

V   o*S*fnd IkfgR; e*a*lsnks i*t*u n*o*dj ,d dk IkekU; ifjp; i*a*Nk tk, &

$$1x10 = 10$$

VI   IkekU; Kku e*a*ls pkj fcUnq n*o*dj nks dks Li"V djus dks dgk tk;s &

$$2x5 = 10$$

VII   0;kogkfjd 'kCnkoyh e*a*ls 20 fgUnh@vaxszth 'kCn n*o*dj 10 dks IaLd`r e*a*fy[kus dks
       dgk tk;s &   **10x1 = 10**

B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*
(Faculty of Languages)

SEMESTER–V

FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: 3 Hours   **Max. Marks: 100**

uk\V & i*t*u i= fgUnh e\a gk\xkA

i*t*u i= fuek\Zl\k fun\\?k

भाग क में 5 प्रश्न देकर 3 का उत्तर देने के लिए कहा जाये।   3X20 = 60

भाग ख में 7 प्रश्न देकर 4 का उत्तर देने के लिए कहा जाये।   4X10 = 40

ikB\;Øe &

      ekl\ka dk of\'k"V\; rFkk ekgkRE\;A
      ekl\ka e\a fofgr deZA
          p\S= ekl %
          o\Skk[k ekl %
          T;\s'B ekl %
          vk"kk<+ ekl %
          Jko.k ekl %
          Hkknzin ekl %
          vkf'ou ekl %
          dkfrZd ekl %
          ekxZkh'k"kZ ekl %
          ik\Sk ekl %
          ek?k ekl %
          QkYxqu ekl %

B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*
(Faculty of Languages)

SEMESTER–V
ENGLISH COMPULSORY

Time: 3 Hours   **Max. Marks: 50**

Texts Prescribed:
1. *All My Sons* by Arthur Miller
2. *Poems of Nature and Culture,* Guru Nanak Dev University, Amritsar

Course Contents:
1. The study of the whole text of the play, *All My Sons*
2. The study of the following poems from the prescribed book.

Poems of Nature and Culture

William Wordsworth:	"The World is Too Much with Us"
Gordon Lord Byron:	"She Walks in Beauty"
P.B. Shelly:	"Ozymandias"
Alfred Lord Tennyson:	"In Memoriam"
Robert Browning:	"Meeting at Night"
Mathew Arnold:	"Dover Beach"
W.B. Yeats:	"Words"
Wilfred Owen:	"Strange Meeting"
Robert Graves:	"The Portrait"
W.H. Auden:	"The Unknown Citizen"
Dylan Thomas:	"Do not Go Gentle into That Good Night"
Ted Hughes:	"The Thought-Fox"
Sylvia Plath:	"Mirror"
Seamus Heaney:	"Honeymoon Flight"
Rabindranath Tagore:	"False Religion"
Nissim Ezekiel:	"Night of Scorpion"

3. Formal letter and application writing, Resume Writing, Business Writing and Report writing

Instructions for the Paper Setter and Distribution of Marks:

The question paper will consist of three sections and the distribution of marks will be as under:
Section A: 10 Marks
Section B: 24 Marks
Section C: 16 Marks

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Section–A:

I.   Six questions (three questions from the play *All My Sons* and three questions from *Poems of Nature and Culture)* requiring very short answers based on the reading of *All My Sons* and the prescribed poems shall be set. The examinees will be expected to answer any FIVE.

(2x5=10 Marks)

Section–B:

II. THREE questions requiring brief descriptive answers based on character, tone, plot and theme(s) in the play *All My Sons* will be set and examinees will be expected to attempt any TWO.

(6x2= 12 Marks)

III. THREE questions on the central idea, theme, tone or style etc. of the prescribed poems from the textbook, *Poems of Nature and Culture* will be set for the students to attempt any TWO of these questions.

(6x2= 12 Marks)

Section–C:

IV. ONE question requiring students to explain a stanza, with reference to context, will be set. The stanza for explanation will be taken from the poems prescribed in the syllabus.
     ONE essay-type question from the play *All My Sons* will be set.

The students will be required to answer any of these two questions.

(1x8=8 Marks)

V.   TWO questions with internal choice will be set on (a) formal letter/application writing
     (5 Marks) and (b) Resume Writing/Business Writing and Report Writing (3 Marks)

(5+3=8 Marks)

B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*
(Faculty of Languages)

SEMESTER–V
ENGLISH (ELECTIVE)
MODERN ENGLISH DRAMA

Time: 3 Hours **Max. Marks: 100**

Texts Prescribed:

1. *Merchant of Venice* by William Shakespeare

2. *Arms and the Man* by G.B. Shaw

3. *Background to the Study of English Literature* by B. Prasad, Macmillan India Limited

   (Chapters I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III

   from Section-III)

Instructions for the Paper Setter and Distribution of Marks:

The question paper will consist of three sections and distribution of marks will be as under:

   Section A: 20 Marks

   Section B: 48 Marks

   Section C: 32 Marks

Section–A

Note: The examinees will be required to answer all the **ten** questions set as per the following

scheme:

1. Three very short-answer questions (approximately 5 lines each) from *Merchant of Venice*

2. Three very short-answer questions (approximately 5 lines each) from *Arms and the Man*

3. Four very short-answer questions (approximately 5 lines each) from *Background to the Study of*

   English Literature by B. Prasad. (Chapters I and II from Section-I; Chapters I, II and III from

   Section-II; Chapters I, II and III from Section-III) The questions shall deal with simple

   definitions and examples of literary terms introduced in the book. (10 x 2=20 Marks)

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Section–B

Note: The examinees will be required to answer **EIGHT** questions set as per the following scheme:

1. The examinees will be required to answer **THREE** short-answer questions out of the **FOUR** questions set from the play, *Merchant of Venice*. Each answer should be written in about 10-15 sentences.

2. The examinees will be required to answer **THREE** short-answer questions out of the **FOUR** questions set from the play, *Arms and the Man*. Each answer should be written in about 10-15 sentences.

3. The examinees will be required to answer **TWO** short-answer questions out of the **FOUR** questions set from the prescribed book, *Background to the Study of English Literature*. (Chapters I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III from Section-III) Each answer should be written in about 10-15 sentences.

    Note: Questions of both theoretical and practical nature requiring understanding of literary concepts and developments may be asked. At least two questions may be set on the analysis of passages/poems that clearly exhibit the use of literary devices discussed in the book. (8x6=48 Marks)

Section–C

The examinees will be required to answer any **TWO** questions (each of 16 marks) out of the **THREE** questions set as per the following scheme:

1. One essay type question (3 to 4 pages) from *Merchant of Venice*

2. One essay type question (3 to 4 pages) from *Arms and the Man*

3. One essay type question (3 to 4 pages) on the structure/ development of a genre as discussed in the book, *Background to the Study of English Literature.* (Chapters I and II from Section-I; Chapters I, II and III from Section-II; Chapters I, II and III from Section-III) *(2x16=32 Marks)*

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SEMESTER–V

FUNCTIONAL ENGLISH (VOCATIONAL)
PAPER–PRINT JOURNALISM
(THEORY)

Time: 3 Hours
Max. Marks: 100
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setter and Distribution of Marks:

Theory: 75 Marks
The question paper will consist of three sections and distribution of marks will be as under:
Section-A: 16 Marks
Section-B: 35 Marks
Section-C: 24 Marks
Practical: 25 Marks

Section–A: It will require students to write **EIGHT** (8) short notes of **2** marks each. The question
will test student's awareness about various aspects of journalistic terms.

(2x8=16 Marks)

Section–B: It will have **SEVEN** (7) questions out of which students will attempt any **FIVE** (5). The
questions will relate to specific issues given in Unit-I to VII. There will be at least three
questions of practical nature. Each question will carry 7 marks.

(7x5=35 Marks)

Section–C: It will have **TWO** questions with internal choice, each of 12 marks. The questions will
require students to demonstrate practical knowledge in writing various features for the
print media.

(2X12=24 Marks)

Objectives:
To generate awareness among learners of issues deserving reporting in print and to simulate them to
respond to their environment in print. To enable learners to write news stories from the stage of news
gathering to editing to their final presentation. To enable learners to acquire the art and skills of
feature writing.

Course Contents:

UNIT–I: Introduction to Print Media
- Print Media and Communication
- Definition of Communication
- Scope of Communication: Its purpose and forms
UNIT–II: Reporting
- Sources of Information
- Distinguishing Factual News Reporting from Interpretative and
- Analytical Reporting

UNIT–III: Investigate Journalism

- Writing the Questions

- Reporting from Interviews - Format, Style and Content

UNIT–IV: Writing News Stories

- Essentials of News Writing–the Headlines–the Leads–the Body and Conclusion–the Art and Skills of Writing for Different Purposes.

UNIT–V: Areas in News Reporting

- Reporting Obituaries, Weather, Sports, Science, Business, Art and Culture, Education, Agriculture, Fashion, Community Service etc.

UNIT–VI: The Reader

- Understanding the Reader

UNIT–VII: Feature Writing

- Defining a Feature (a lyric in Prose)–the Crafts of Feature Writing–Distinguishing a Feature from other Forms of Newspaper/Magazine, Writing–Researching before Writing–Titles and Leads–Packaging a Feature with interest, Humour, Pictures and other Ingredients–Areas for Feature Writing (middles, reviews)–Freelancing and Feature Writing.

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(Faculty of Languages)

SEMESTER–V

FUNCTIONAL ENGLISH (VOCATIONAL)
PAPER–PRINT JOURNALISM
(PRACTICAL)

Marks: 25

There will be practical examination of 25 marks. An external examiner will conduct the examination by giving on the spot news/report writing test.

Bibliography:

Ahuja, E.N. & S.S. Chhabra	*Reporting,* Surjeet Publications, New Delhi, 1990.
Drewry, John E	*Book Reviews,* The Writer, Inc. Bosten, 1945
Nicholis, Brian	*Features with Flair,* Press Institute of India, New Delhi, 1972.
Patterson, Helen M.	*Writing and Selling Feature,* Articles, Prentice Hall, New York, 1950.
Steigheiman, M.	*Writing the Feature Article,* Macmillan, New York, 1950.
Copestake, T.	Editing Super 8, Focal Press Ltd., London, 1980.
Critchfield, Richard P.	*The Indian Reporters Guide,* Allied Pacific, Bombay, 1962.
George, TJS	*News Editing,* Indian Institute of Mass Communication, New Delhi, 1989.
Tayler, Howard B and Jacob Scher	*Copy Reading and News Editing,* Prentice Hall, New York, 1955.
Warren, Carl H.	*Modern News Reporting,* Harper, New York, 1973.

SEMESTER–V

PUNJABI (COMPULSORY)
ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਸਮਾਂ : 3 ਘੰਟੇ   ਕੁਲ ਅੰਕ : 50

ਪਾਠ-ਕ੍ਰਮ ਅਤੇ ਪਾਠ-ਪੁਸਤਕਾਂ

1.   **ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ**
       (ਸੰਪਾ. ਡਾ. ਰਮਿੰਦਰ ਕੌਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ, 2018)

ਲੇਖਕ	ਕਹਾਣੀ	ਕਹਾਣੀ-ਸੰਗ੍ਰਹਿ
ਅਜੀਤ ਕੌਰ	ਨਿਊ ਯੀਅਰ	ਮੌਤ ਅਲੀ ਬਾਬੇ ਦੀ
ਗੁਰਬਚਨ ਭੁੱਲਰ	ਥਕੇਵਾਂ	ਉਪਰਾ ਮਰਦ
ਮਨਮੋਹਨ ਬਾਵਾ	ਏਕਲਵਯ	ਨਰ ਬਲੀ
ਜਿੰਦਰ	ਸੌਰੀ	ਜ਼ਖ਼ਮ
ਸੁਖਜੀਤ	ਹਜ਼ਾਰ ਕਹਾਣੀਆਂ ਦਾ ਬਾਪ	ਮੈਂ ਇੰਜ਼ੁਆਏ ਕਰਦੀ ਹਾਂ
ਜਤਿੰਦਰ ਹਾਂਸ	ਰਾਹੂ ਕੇਤੁ	ਈਸ਼ਵਰ ਦਾ ਜਨਮ
ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼	ਅਰਜਨ ਛੇੜ ਗਡੀਰਨਾ	ਕੁਝ ਅਣਕਿਹਾ ਵੀ
ਚੰਦਨ ਨੇਗੀ	ਹਰਖ ਸੋਗ	ਹਰਖ ਸੋਗ
ਜਸਵਿੰਦਰ ਸਿੰਘ	ਖੂਹ ਖਾਤੇ	ਖੂਹ ਖਾਤੇ
ਗੁਰਦੇਵ ਸਿੰਘ ਰੁਪਾਣਾ	ਸ਼ੀਸ਼ਾ	ਸ਼ੀਸ਼ਾ ਅਤੇ ਹੋਰ ਕਹਾਣੀਆਂ

       ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ/ਪਾਤਰ ਚਿਤਰਣ

2.   **ਨਾਵਲ : ਏਹੁ ਹਮਾਰਾ ਜੀਵਣਾ** (ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)

3.   **ਲਗਪਗ 200 ਸ਼ਬਦਾਂ ਵਿਚ ਪੈਰ੍ਹਾ ਰਚਨਾ**

4.   **ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ**

5.   **ਵਿਆਕਰਣ :**
       (ੳ)   ਪੰਜਾਬੀ ਧੁਨੀ ਵਿਉਂਤ
       (ਅ)   ਵਾਕਾਤਮਕ ਜੁਗਤਾਂ : ਮੇਲ ਤੇ ਅਧਿਕਾਰ
       (ੲ)   ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸੰਬੰਧ

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਵਿਸ਼ਾ-ਵਸਤ ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ/ਸਾਰ/ਪਾਤਰ ਚਿਤਰਨ (ਦੋ ਵਿਚੋਂ ਇਕ) 10 ਅੰਕ
2. ਸਾਰ/ਵਿਸ਼ਾ-ਵਸਤੂ/ਪਾਤਰ ਚਿਤਰਨ (ਦੋ ਵਿਚੋਂ ਇਕ)   10 ਅੰਕ
3. ਪੈਰ੍ਹਾ : ਤਿੰਨਾਂ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਵਿਸ਼ੇ ਉੱਤੇ   05 ਅੰਕ
4. ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ   05 ਅੰਕ
5. ਨੰਬਰ 5 ਉੱਤੇ ਨਿਰਧਾਰਿਤ ਵਿਆਕਰਣ ਵਿਚੋਂ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ   10 ਅੰਕ
6. ਉਪਰੋਕਤ ਲੜੀ ਨੰਬਰ 1 ਅਤੇ 2 ਦੀਆਂ ਪੁਸਤਕਾਂ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ
    5 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰੇਕ ਦਾ ਉੱਤਰ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ   5X2=10 ਅੰਕ

B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*
(Faculty of Languages)

SEMESTER–V

PUNJABI (ELECTIVE)
ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)

ਸਮਾਂ: ਤਿੰਨ ਘੰਟੇ   ਕੁਲ ਅੰਕ: 100

1. ਪੰਜਾਬੀ ਕਾਵਿ ਸੰਗ੍ਰਹਿ (1700 ਈ. ਤੱਕ)
    (ਸੰਪਾ. ਡਾ. ਗੁਰਸ਼ਰਨ ਕੌਰ ਜੱਗੀ ਤੇ ਡਾ. ਮਾਨ ਸਿੰਘ ਢੀਡਸਾ),
    ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2007
    ਹਰੇਕ ਕਵੀ ਦੇ ਪਹਿਲੇ ਪੰਜ-ਪੰਜ ਸ਼ਬਦ/ਬੰਦ/ਸਲੋਕ/ਪਦੇ/ਕਾਫ਼ੀਆ   40 ਅੰਕ

2. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ
    ਜ਼ਿੰਦਗੀ ਦੀ ਰਾਸ, ਗੁਰਬਖ਼ਸ਼ ਸਿੰਘ ਪ੍ਰੀਤਲੜੀ
    (ਪਹਿਲੇ ਦਸ ਨਿਬੰਧ)   30 ਅੰਕ

3. ਪੰਜਾਬੀ ਨਾਟਕ:
    ਚੰਦਨ ਦੇ ਓਹਲੇ (ਪਾਲੀ ਭੁਪਿੰਦਰ)   30 ਅੰਕ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. **ਪੰਜਾਬੀ ਕਾਵਿ ਸੰਗ੍ਰਹਿ (1700 ਈ. ਤੱਕ)**
    (ੳ)   ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਚਾਰ ਵਿੱਚੋਂ ਦੋ)   20 ਅੰਕ
    (ਅ)   ਕਿਸੇ ਇੱਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ੈ ਵਸਤੂ / ਕਵੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਅਤੇ ਕਵੀ ਦਾ ਯੋਗਦਾਨ
          (ਦੋ ਵਿੱਚੋਂ ਇੱਕ)   10 ਅੰਕ
    (ੲ)   ਮਲਟੀਪਲ ਚੋਣ ਪ੍ਰਸ਼ਨ (ਸੱਤ ਵਿੱਚੋਂ ਪੰਜ)   5x2=10 ਅੰਕ
2. ਕਿਸੇ ਇੱਕ ਨਿਬੰਧ ਸਾਰ, ਵਿਸ਼ਾ ਵਸਤੂ/ ਕਲਾਤਮਕ ਗੁਣ
    (ਦੋ ਵਿੱਚੋਂ ਇੱਕ)   20 ਅੰਕ
3. ਪੰਜਾਬੀ ਨਾਟਕ : **ਚੰਦਨ ਦੇ ਓਹਲੇ** (ਪਾਲੀ ਭੁਪਿੰਦਰ)
    ਨਾਟਕ ਦਾ ਵਿਸ਼ੈ ਵਸਤੂ/ਕਥਾਨਕ/ਪਾਤਰ/ਮੰਚ ਯੋਗਤਾ (ਦੋ ਵਿੱਚੋਂ ਇਕ)   20 ਅੰਕ
4. **ਜ਼ਿੰਦਗੀ ਦੀ ਰਾਸ ਅਤੇ ਚੰਦਨ ਦੇ ਓਹਲੇ** ਵਿੱਚੋਂ ਪਾਠ ਆਧਾਰਿਤ
    ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਛੇ ਵਿੱਚੋਂ ਚਾਰ)   4x5=20 ਅੰਕ

B.A./B.Sc. (Semester System) *(12+3 System of Education) (Semester–V) (Session 2019-20)*
(Faculty of Languages)

SEMESTER–V

FUNCTIONAL PUNJABI
ਪੰਜਾਬੀ ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ)

ਪ੍ਰਯੋਜਨ : ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਚ ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ ਨਾਲ ਜਾਣ ਪਛਾਣ ਅਤੇ ਪੰਜਾਬੀ ਵਿਚ ਇਸ
ਦੀ ਵਰਤੋਂ ।

ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ

ਕੁਲ ਅੰਕ : 100

(ਥਿਊਰੀ)

ਸਮਾਂ : 2 ਘੰਟੇ   ਅੰਕ : 50

(ੳ)   ਪੰਜਾਬੀ ਉਚਾਰਨ ਅਤੇ ਗੁਰਮੁਖੀ ਔਰਥੋਗ੍ਰਾਫ਼ੀ : ਪੰਜਾਬੀ ਧੁਨੀਆਂ ਅਤੇ ਗੁਰਮੁਖੀ
      ਦਾ ਸੰਬੰਧ (ਆਈ.ਪੀ.ਏ. ਦੀ ਮਦਦ ਨਾਲ)   ਅੰਕ : 20

(ਅ)   ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ : ਪਰਿਭਾਸ਼ਾ, ਮਹੱਤਵ, ਭਾਸ਼ਾ ਅਤੇ ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ, ਸਾਹਿਤ ਤੇ ਸੂਚਨਾ
      ਤਕਨਾਲੋਜੀ ।   ਅੰਕ : 15

(ੲ)   ਕੰਪਿਊਟਰ ਸੌਫਟਵੇਅਰ : ਕੰਪਿਊਟਰ ਓਪਰੇਟਰ ਸਿਸਟਮ – ਐਮ.ਐਸ.ਆਫਿਸ (4,3,6,0,7,0)
      ਪੇਜ ਮੇਕਰ ਆਦਿ ।   ਅੰਕ : 15

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SEMESTER–V

FUNCTIONAL PUNJABI
ਪੰਜਾਬੀ ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ)

(ਪ੍ਰੈਕਟੀਕਲ)

ਭਾਸ਼ਾ ਪ੍ਰਯੋਗਸ਼ਾਲਾ ਵਿਚ ਅਭਿਆਸ ਕਰਨਾ

ਸਮਾਂ : 2 ਘੰਟੇ   ਅੰਕ : 50

(ੳ)   ਪੰਜਾਬੀ ਉਚਾਰਨ ਸੁਣ ਕੇ ਗੁਰਮੁਖੀ ਅੱਖਰਾਂ ਅਤੇ ਅੰਤਰ–ਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ ਵਿਚ ਲਿਖਣਾ
        (ਪੰਜ-ਪੰਜ ਮਿੰਟਾਂ ਦੇ ਚਾਲੀ ਅਭਿਆਸ)

(ਅ)   ਵਿਆਕਰਣਕ ਵਰਗਾਂ ਦੇ ਆਧਾਰ 'ਤੇ ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਦੇ ਰੂਪਾਂ ਦੀ ਪਹਿਚਾਣ ਕਰਨਾ ਅਤੇ ਰੂਪ
        ਸਿਰਜਣੇ (ਪੰਜ-ਪੰਜ ਮਿੰਟਾਂ ਦੇ ਚਾਲੀ ਅਭਿਆਸ)

(ੲ)   ਥਿਉਰੀ ਵਿਚ ਦਿੱਤੇ ਗਏ ਵਿਸ਼ਿਆਂ ਉਤੇ ਘਟੋ–ਘਟ 35 ਵਾਕਾਂ ਵਾਲੇ ਭਾਸ਼ਣ ਦੇਣ ਦਾ ਅਭਿਆਸ
        (ਚਾਲੀ ਅਭਿਆਸ)

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SEMESTER–V

ਮੁਢੱਲੀ ਪੰਜਾਬੀ
(ਪੰਜਾਬ ਦਾ ਇਤਿਹਾਸ ਤੇ ਸੱਭਿਆਚਾਰ)
(In Lieu of Punjabi Compulsory)

Time: 3 Hrs.   **Marks: 50**

ਅੰਕਾਂ ਦੀ ਵੰਡ:-

ਭਾਗ ੳ:– ਇਸ ਭਾਗ ਵਿੱਚ 15 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀ ਵਲੋਂ ਕਿਸੇ 10 ਦੇ ਉੱਤਰ 30-40 ਸ਼ਬਦਾਂ ਵਿੱਚ ਦਿੱਤੇ ਜਾਣ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 2 ਅੰਕ ਹੋਣਗੇ।

ਭਾਗ ਅ:– ਇਸ ਭਾਗ ਵਿੱਚ 6 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀ ਵਲੋਂ ਕਿਸੇ 3 ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ 400-500 ਸ਼ਬਦਾਂ ਵਿੱਚ ਦਿੱਤੇ ਜਾਣ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 10 ਅੰਕ ਹਨ।

1.   **ਸਿੱਖ ਪੰਥ ਵਿੱਚ ਪਰਿਵਰਤਨ:-** ਗੁਰੂ ਹਰਗੋਬਿੰਦ ਸਾਹਿਬ ਤੋਂ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਸਾਹਿਬ ਤੱਕ (1606-1675) ਮੀਰੀ-ਪੀਰੀ, ਇਸ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਤੇ ਪ੍ਰਭਾਵ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਜੀ ਦਾ ਜੀਵਨ ਅਤੇ ਯੋਗਦਾਨ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਸਾਹਿਬ ਦੀ ਸ਼ਹਾਦਤ।

2.   **ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਤੇ ਖਾਲਸਾ ਪੰਥ ਦਾ ਨਿਰਮਾਣ:-** ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ (1675-1708), ਆਰੰਭਿਕ ਜੀਵਨ, ਖਾਲਸਾ ਪੰਥ ਦੀ ਸਾਜਨਾ (1699), ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ ਦੀ ਸ਼ਖਸ਼ੀਅਤ।

3.   **ਪੰਜਾਬ ਦਾ ਸਮਾਜਿਕ ਤੇ ਸੱਭਿਆਚਾਰਕ ਜੀਵਨ:-** ਮੇਲੇ ਅਤੇ ਤਿਉਹਾਰ, ਲੋਕ ਗੀਤ, ਲੋਕ ਨਾਚ, ਪੰਜਾਬ ਦੇ ਪ੍ਰਸਿੱਧ ਲੋਕ ਕਿੱਸੇ: ਪੂਰਨ ਭਗਤ, ਹੀਰ ਰਾਂਝਾ, ਸੋਹਣੀ ਮਹੀਵਾਲ

ਸਬੰਧਿਤ ਪੁਸਤਕਾਂ:-

1. **'ਪੰਜਾਬ ਦਾ ਲੋਕ ਵਿਰਸਾ'**, ਕਰਨੈਲ ਸਿਮਘ ਥਿੰਦ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਉਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ ਪਟਿਆਲਾ।

2. **'ਪੰਜਾਬ ਦਾ ਵਿਰਸਾ'**, ਪ੍ਰਿਥੀਪਾਲ ਸਿੰਘ ਕਪੂਰ, ਨਿਉ ਬੁੱਕ ਕੰਪਨੀ ਜਲੰਧਰ।

3. **'ਪੰਜਾਬ'** (ਇਤਿਹਾਸ; ਕਲਾ ਸਾਹਿਤ ਤੇ ਸੱਭਿਆਚਾਰ ਆਦਿ) ਮੁੱਖ ਸੰਪਾਦਕ ਮਹਿੰਦਰ ਸਿੰਘ ਰੰਧਾਵਾ, ਭਾਸ਼ਾ ਵਿਭਾਗ ਪੰਜਾਬ ਪਟਿਆਲਾ।

4. **'ਸ਼ਿਰੋਮਣੀ ਸਿੱਖ ਇਤਿਹਾਸ'** 1469-1708 ਡਾ. ਸੁਖਦਿਆਲ ਸਿੰਘ, ਸੰਗਮ ਪਬਲੀਕੇਸ਼ਨ, ਸਮਾਣਾ।

5. **'ਸੰਖੇਪ ਜੀਵਨ ਦਸ ਗੁਰੂ ਸਾਹਿਬਾਨ'**, ਗਿਆਨੀ ਜਗਤਾਰ ਸਿੰਘ ਰਾਏ ਮੋਰਾਵਾਲੀ, ਆਜਾਦ ਬੁੱਕ ਡੀਪੂ, ਹਾਲ ਬਜਾਰ, ਅੰਮ੍ਰਿਤਸਰ।

6. **'ਸਿੱਖ ਇਤਿਹਾਸ'** (1469-1765), ਪ੍ਰਿੰਸੀਪਲ ਤੇਜਾ ਸਿੰਘ, ਡਾ. ਗੰਡਾ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਉਰੋ ਪੰਜਾਬੀ ਯੂਨਵਿਰਸਿਟੀ ਪਟਿਆਲਾ।

7. **'ਸਿੱਖ ਇਤਿਹਾਸ'** ਭਾਗ ਪਹਿਲਾ, ਖੁਸ਼ਵੰਤ ਸਿੰਘ ਅਨੁਵਾਦਕ ਡਾ. ਗੁਰਦਰਸ਼ਨ ਸਿੰਘ ਔਲਖ, ਲਾਹੋਰ ਬੁੱਕ ਸ਼ਾਪ ਲੁਧਿਆਣਾ।

8. **'ਪੰਜਾਬ ਦਾ ਵਿਰਸਾ'** (ਪੰਜਾਬ ਦੇ ਸਭਿਆਚਾਰ ਦਾ ਵਿਕਾਸ) ਪ੍ਰਿਥੀਪਾਲ ਸਿੰਘ ਕਪੂਰ, ਨਿਉ ਬੁਕ ਕੰਪਨੀ ਜਲੰਧਰ।

9. **'ਸਿੱਖ ਹਿਸਟਰੀ'** 1469-1988 ਖੁਸ਼ਵੰਤ ਸਿੰਘ, ਨਵਯੁੱਗ ਪਬਲਿਸ਼ਰਜ ਨਵੀਂ ਦਿੱਲੀ।

10. **'ਸਾਡਾ ਇਤਿਹਾਸ ਭਾਗ ਪਹਿਲਾ'** (1469-1708) ਪੰਜਾਬ ਦਾ ਇਤਿਹਾਸ: ਸਤਿਬੀਰ ਸਿੰਘ, ਨਿਉ ਬੁੱਕ ਕੰਪਨੀ ਜਲੰਧਰ।

11. **'ਪੰਜਾਬ ਦਾ ਇਤਿਹਾਸ'** (1469-1799) ਸ਼ਿਵ ਗਜਰਾਨੀ, ਮਦਨ ਪਬਲਿਸ਼ਰਜ ਪਟਿਆਲਾ।

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SEMESTER–V

HINDI (ELECTIVE)

fof'k"V dfo ,oa dk0; fl)kar] dkedkth fgUnh rFkk jhfrdky

le; &3 ?k.Vs   iwkkad% 100
uksV% ; g it u&i= rhu Hkkxksa esa foHkkDr gksxkA

[k.M&,d

इस भाग में बीस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न एक अंक का है। कुल अंक 20 हैं।

[k.M&nks

इस भाग में 12 प्रश्न पूछे जाएंगे जिन में से 8 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर 2 पृष्ठों की सीमा का होगा। प्रत्येक प्रश्न के 6 अंक हैं। कुल अंक 48 हैं।

[k.M&rhu

इस भाग में 4 प्रश्न पूछे जाएंगे। जिनमें से 2 प्रश्नों का उत्तर देना अनिवार्य है। इन प्रश्नों का उत्तर 5 पृष्ठों का होगा। कुल अंक 32 हैं।

fu/kkfjr ikB~;Øe
fu/kkfjr iqLrd% jf'ejFkh ¼jke/kkjh flag fnudj½

1.   dk0; fl)kar% काव्य की परिभाषा, तत्व, प्रकार

2.   nl NUn% वसंततिलका, भुजंगप्रयात, वंशस्थ, मालिनी, इन्द्रवज्रा, दोहा, चौपाई, कवित्त, सोरठा, गीतिका।

3.   कामकाजी हिन्दी के प्रमुख कार्य: प्रारूपण, संक्षेपण, टिप्पण: परिभाषा एवं विधि विशेष पदनाम शब्दावली (संलग्न) तथा प्रचलित समास (केवल व्यावहारिक पक्ष)

4.   jhfrdky% नामकरण, परिस्थितियां, विशेषताएं एवं काव्यधाराओं का केवल संक्षिप्त परिचय।

fo"k; kuqdaiy vad foHkktu

1.   प्रथम खंड में छंद, पदनाम शब्दावली तथा समास से प्रश्न होंगे।

2.   दूसरे खण्ड में चार प्रश्न सप्रसंग व्याख्याओं के होंगे जिनमें से दो करनी अनिवार्य हैं और दो प्रश्न पाठ्यक्रम में निर्धारित पुस्तक, दो काव्य सिद्धांत, दो छन्द और दो कामकाजी हिन्दी से होंगे। प्रत्येक में से एक–एक प्रश्न का उत्तर अनिवार्य है। कुल आठ प्रश्न करने है।

3.   तीसरे खण्ड में दो प्रश्न पाठ्यपुस्तक से और दो प्रश्न रीतिकाल से पूछे जाएंगे। जिनमें से एक–एक प्रश्न का उत्तर देना अनिवार्य होगा।

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vxszth izkkl fund i nukeka ds fgUnh vuqpkn

1.	Auditor	लेखा परीक्षक
2.	Acting Principal	कार्यवाहक प्राचार्य
3.	Administrator	प्रशासक
4.	Associate Professor	सह आचार्य
5.	Air Hostess	विमान परिचारिका
6.	Attendant	परिचर
7.	Administrator General	महाप्रशासक
8.	Attorney General	महान्यायवादी
9.	Advocate General	महाधिवक्ता
10.	Auditor General	महालेखापरीक्षक
11.	Assistant Commissioner of Police	सहायक पुलिस आयुक्त
12.	Chairman	अध्यक्ष
13.	Chancellor	कुलाधिपति
14.	Vice – Chancellor	कुलपति
15.	Commissioner	आयुक्त
16.	Controller	नियन्त्रक
17.	Commissioner of Police	पुलिस आयुक्त
18.	Deputy Commissioner	उपायुक्त
19.	Director	निदेशक
20.	Education Officer	शिक्षा अधिकारी
21.	Evaluation Officer	मूल्यांकन अधिकारी
22.	Executive Engineer	कार्यकारी अभियन्ता
23.	Editor in Chief	प्रमुख संपादक
24.	Forest Officer	वन अधिकारी
25.	General Manager	महाप्रबंधक
26.	Honorary Adviser	मानद सलाहकार
27.	Inspector General	महानिरीक्षक
28.	Secretary	सचिव
29.	Joint Secretary	संयुक्त सचिव
30.	Lecturer	प्राध्यापक
31.	Public Relation Officer	जन संपर्क अधिकारी
32.	Proctor	कुलानुशासक
33.	Professor	आचार्य
34.	President's Estate Officer	राष्ट्रपति संपदा अधिकारी
35.	Principal Secretary	प्रधान सचिव
36.	Registrar	कुलसचिव
37.	Surveyor	सर्वेक्षक
38.	Superintendent	अधीक्षक
39.	Supervisor	पर्यवेक्षक
40.	Sales – Incharge	बिक्री प्रभारी
41.	Senior Assistant	वरिष्ठ सहायक
42.	Senior Deputy General	वरिष्ठ उप महाप्रबंधक
43.	Patent Officer	एकस्व अधिकारी
44.	Commissioner For Food and Supply	खाद्य एवं आपूर्ति आयुक्त
45.	Commissioner for Department Enquiry	विभागीय जांच आयुक्त
46.	Additional Station Director	अपर केन्द्र निदेशक
47.	Chief Justice	प्रमुख न्यायवादी
48.	Pro Vice Chancellor	प्रतिकुलपति
49.	Field Assistant	क्षेत्रीय सहायक
50.	Medical Officer	चिकित्सा अधिकारी

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SEMESTER–V

FUNCTIONAL HINDI (VOCATIONAL)
(प्रकार्यकुल हिन्दी)

समाचार] समाचार पत्र ,ोा दगकुनी वकेंज मिU;कl दh l एमी{kk

समय % 2^{1@2} घंटे   पूर्णांक % 60

क)   यह प्रश्न पत्र तीन भागो में बंटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी
      प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।

ख)   इस भाग में से 10 प्रश्न पूछे जाएंगे जिन में से 5 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो
      पृष्ठों की सीमा का होगा। प्रत्येक प्रश्न के 6 अंक है। कुल अंक 30 हैं।

ग)   इस भाग में चार प्रश्न पूछे जाएंगे जिन में से 2 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर 3–4
      पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 7 अंक हैं। कुल अंक 14 हैं।

निर्धारित पाठ्यक्रम

क)   समाचार और समाचार पत्र
   - समाचार : अर्थ और परिभाषा
   - समाचार : तत्व और प्रकार
   - समाचार : लेखन प्रक्रिया
       - कवरेज
       - प्रेस रिपोर्ट तैयार करना
       - सम्पादन
       - भाषा शैली
       - शीर्षक लेखन
       - सम्पादकीय लेखन
   - समाचार पत्रों की पृष्ठ–सरंचना/पृष्ठःसज्जा
   - पंजाब के मुख्य समाचार पत्र : परिचय और इतिहास

ख)   प्रेस विज्ञप्ति
       - प्रेस विज्ञप्ति : परिचय अवधारणा : स्वरूप और क्षेत्र
       - प्रेस विज्ञप्ति : भाषा शैली

ग)   प्रूफ रीडिंग

घ)   दगकुनी] मिU;कl वकेंज ,दकादह % vFkZ ifjHkk"kk] rRo वकेंज irdkj

अंक विभाजन
   - प्रथम खंड में 'क' में से प्रश्न पूछे जाएंगे।   1×10=10
   - द्वितीय खंड में भाग 'क', 'ख', 'ग' में से प्रश्न पूछे जाएंगे।   5×6=30
   - तृतीय खंड में भाग 'घ' में से प्रश्न पूछे जाएंगे।   2×10=20

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SEMESTER–V

FUNCTIONAL HINDI (VOCATIONAL)
(फंक्शनल हिन्दी)

प्रयोग और मौखिकी

पूर्णांक : 40

– विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग पुस्तिका तैयार करनी होगी। जिसमें 20 अंक मौखिक परीक्षा के ओर 20 अंक प्रयोग–पुस्तिका के होंगे।

– प्रयोग पुस्तिका का आकलन और मौखिक–परीक्षा गुरु नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा–नियमों के अनुसार की जाएगी।

प्रयोग के विषय :

– समाचार लेखन : भीर्शक, प्रथम पृष्ठ, चित्र, सम्पादकीय पृष्ठ–लेखन का अभ्यास

– प्रेस नोट तैयार करने का अभ्यास

– विद्यार्थियों को हिन्दी समाचार कार्यालयों / प्रेस में लेकर जाना

● – सैमीनार और समूहवार बहस

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(Faculty of Languages)

SEMESTER–V

HINDI PATRAKARITA (VOCATIONAL)

हिन्दी पत्रकारिता (वोकेशनल)
फोटो पत्रकारिता और दूरदर्शन

समयः 3 घण्टे   पूर्णांक 60

क)   यह प्रश्न पत्र तीन भागों में बंटा हुआ है । पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी
        प्रश्न अनिवार्य है । प्रत्येक प्रश्न 1 अंक का है । कुल अंक 10 हैं।

ख)   इस भाग में से 10 प्रश्न पूछे जाएंगे । जिनमें से 5 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो
        पृष्ठों की सीमा का होगा । प्रत्येक प्रश्न 6 अंक का है । कुल अंक 30 हैं।

ग)   इस भाग में से चार प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना होगा। इन प्रश्नों का उत्तर 3-4
        पृष्ठों तक सीमित होगा । प्रत्येक प्रश्न के 10 अंक हैं । कुल अंक 20 हैं।

निर्धारित पाठ्यक्रमः

क) फोटो पत्रकारिता : लेखन के सिद्धांत / विशेषताएँ

ख) फोटो पत्रकारिता –

        – फोटो पत्रकारिता : आरम्भ

– फोटो पत्रकारिता : अर्थ, परिभाषा और महत्त्व

– फोटो पत्रकारिता : विशेषताएँ

– फोटो पत्रकारिता : फोटोग्राफी के लिए आवश्यक उपकरण

– फोटो पत्रकारिता : कैमरा उपकरण और उसके रख-रखाव के निर्देश

– फोटो पत्रकारिता : छायांकन कला के प्रमुख बिन्दु

– फोटो पत्रकारिता : पत्र – पत्रिकाओं के लिए चित्रों का चयन और संपादन कला

– फोटो पत्रकारिता : चित्र-प्रेषण के प्रकार

ग) दूरदर्शन

– दूरदर्शन : अर्थ और परिभाषा

– दूरदर्शन : स्वरूप और महत्त्व

– दूरदर्शन : सम्पादन कला

– दूरदर्शन : संवाददाता के गुण

– दूरदर्शन : हिन्दी समाचार की विशेषताएँ

– दूरदर्शन के हिन्दी कार्यक्रमों का वर्गीकरण : बालवर्ग, युवावर्ग, वरिष्ठवर्ग

घ) दूरदर्शन समाचार बुलेटिन के स्मरणीय तथ्य

अंक-विभाजन

– प्रथम खंड में भाग 'क' और 'घ' में से प्रश्न पूछे जाएंगे । 1×10=10

– द्वितीय खंड में भाग 'क' और 'ख' तथा 'ग' में से प्रश्न पूछे जाएंगे। 5×6=30

– तृतीय खंड में भाग 'ख' तथा 'ग' में से प्रश्न पूछे जाएंगे। 2×10=20

SEMESTER–V

HINDI PATRAKARITA (VOCATIONAL)

हिन्दी पत्रिकारिता

प्रयोग और मौखिकी

पूर्णांक : 40

- विद्यार्थियों को प्रति समस्तर 40 अंक की प्रयोग – पुस्तिका तैयार करनी होगी जिसमें 20 अंक मौखिक परीक्षा के और 20 अंक प्रयोग पुस्तिका के होंगे।

- प्रयोग-पुस्तिका का आकलन और मौखिक-परीक्षा गुरू नानक देव विश्वविद्यालय द्वारा निर्धारित परीक्षा

- नियमों के अनुसार की जाएंगी ।

विषय – फोटोग्राफी के विभिन्न उपकरणों की जानकारी देना ।

पत्र-पत्रिकाओं से विभिन्न चित्रों का चयन और संकलन करना ।

कैमरे की प्रचलित किस्मों के बारे में जानकारी दें ।

कैमरे के अवयव किस प्रकार कार्य करते हैं इसकी जानकारी देना ।

दूरदर्शन के हिन्दी चैनलों का विषयानुसार वर्गीकरण ।

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(Faculty of Physical Education)

SEMESTER–V

PHYSICAL EDUCATION

Time: 3 Hours.   **Max. Marks: 100**
Theory Marks: 60
Practical Marks: 40

Note:- **Question paper will be divided into three sections.**

Section–A: The candidates are required to attempt all the six questions. Each question carrying two
marks.   **6x2=12 Marks**
Section–B: The candidates are required to attempt seven out of twelve questions. Each question
carrying four marks.   **7x4=28 Marks**
Section–C: The candidates are required to attempt two out of four questions.
Each question carrying ten marks.   **10x2=20 Marks**

Part–A

1. Recreation: Meaning and Importance of Recreation.

2. Aims and objectives of recreation.

3. Intramural and Extramural Sports Competitions and their Importance.

4. Muscular contraction: Ecentric, Concentric, Motor unit, Isotonic, Isometric, Isokinetic Exercises.

5. Laws of motion, Lever and its types, Equilibrium, Its types and Laws, Centre of Gravity, Force
   and its types.

Part–B

1. Posture: Meaning and Types of postures.

2. Postural-Deformities: Spinal Foot and Knock-Knees, Their Causes and Corrective Exercises.

3. Meaning and Aims of Sports Training.

4. Normal Load, Creast Load, Over Load.

5. Meaning and Importance of Warming up and Cooling down in sports.

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SEMESTER–V

PHYSICAL EDUCATION

(PRACTICAL)

Marks: 40

Division of Marks: Athletics (12) + Games (12) + Ground Markings (3+3),
Practical Note Book (5), Viva-Voce (5)

- ➢ Athletics Performance ------------   800M, Triple Jump for Boy
800M, Tipple Jump for Girls

- ➢ Games (Boys & Girls) ----------   Fundamentals, Rules, Performance
Basketball, Judo

Books Recommended:

1. Singh Kanwaljeet and Singh Inderjeet: Sports Sociology, Friends Publication, New Delhi 2000.
2. Tandon D.K. et.al,: Scientific Basis of Physical Education and Sports, Friends Publication New Delhi, 2001.
3. Singh Ajmer and Gill Jagtar: Essentials of Physical Education and Olympic movement, Kalyani Publishers, Ludhiana, 2004.
4. Kang G.S.,: Anatomy, Physiology and Health Education, Publication Bureau, Punjabi University Patiala 2000.
5. Kang G.S. and Deol, N.S.: An Introduction to Health and Physical Education 21st Century, Patiala, 2008.