

Sr. No.	Programme	Name of Course	Course ID	Type of Course	Credits (Theory)	Credits (Practical)	Total Credits	Theory Ext Marks	Theory Int Marks	Total Theory Marks	Practical Ext Marks	Practical Int Marks	Total Practical Marks	Total marks
1	MA Integrated Development Studies	Equity, Ethics and Justice in Development	242/DSI/MI401	Minor Course	4		4	70	30	100				100
2	Bachelor of Arts - Journalism and Mass Communication	Radio Production	240/JMC/MI401	Minor Course		4	4				70	30		100
3	B.A Yoga	Yoga Therapy-1 for common Alignment	250/YOG/MI401	Minor Course	2	2	4	35	15	50	35	15	50	100
4	Diploma in Yoga	Meditation Techniques	242/YOG/MI401	Minor Course	2	2	4	35	15	50	35	15	50	100
5	B.Sc. Chemistry	Chemistry Biomolecules-II	240/CHE/MI401	Minor Course	3	1	4	50	25	75	20	5	25	50
6	B.A. (Multidisciplinary) Physical Education	Event Management in Sports	240/PE/MI401	Minor Course	2	1	3	35	15	50	20	5	25	75
7	B.A. Psychology	Community Psychology	240/PSY/MI401	Minor Course	2	2	4	35	15	50	35	15	50	
8	B.A. Major in History	Social Formation and Cultural Patterns of Ancient World.	240/HIS/MI401	Minor Course	2	0	2	35	15	50				
9	B.A. Major in Geography	Geography of Trade and Transport	240/GEO/MI401	Minor Course	3	0	4	70	30	100				
10	B.A. Sociology	Family Marriage and Kinship	240/SOCM/MI401	Minor Course	3	1	4	70	30	100				
11	BCA	Mobile Application Development	240/BCA/MI401	Minor Course	3	1	4	50	25	75	20	5	25	100
12	BCA	Computer Vision	240/BCA/MI402	Minor Course	3	1	4	75	25	100	–	–	–	100
13	BCA	Programming in JavaScript	240/BCA/MI403	Minor Course	3	1	4	50	25	75	20	5	25	100
14	B.Sc. Computer (Multidisciplinary)	Software Testing	240/CS/MI401	Minor Course	2	0	2	35	15	50	–	–	–	50
15	Bachelor of Arts in International Culinary Arts (Generic)	Basics of Accounts and Financial Statements for Entrepreneurs	240/ICA/MI401	Minor Course			4	35	15	50	35	15	50	100
16	B.Sc. in Hospitality Management	Basics of Accounts and Financial Statements	250/BSHM/MI201	Minor Course	3	0	3	50	25	75	0	0	0	75

17	B.Sc. Physical Science UG A1 (Multi-disciplinary)	Physics-IV	240/PHYP/MI401	Minor Course	3	1	4	50	25	75	20	5	25	100
18	B.A single major Sociology	Urban Sociology	250/SOC/MI201	Minor Course	2	0	2	35	15	50				
19	Bsc Animation and Multimedia	Audio Editing for Animation	240/ANI/MI401	Minor Course	2	2	4	35	15	50	35	15	50	100

**MA Integrated Development Studies
SEMESTER - 4**

Name of Subject: Equity, Ethics and Justice in Development											
Subject Code: MIC-04						Course ID:					
Credits				Hours			Marks				
Total Credits	L	T	P	L	T	P	TI	TE	PI	PE	Total Marks
4	4	0	0	4	0	0	30	70	-	-	100

Instructions for paper setter: Examiner is requested to set **one compulsory and eight other questions, two from each unit.** The compulsory question should be of 14 marks and should cover entire syllabus. Student should attempt four other questions i.e. one from each unit.

Objective: This course explores the principles of equity, ethics, and justice in development. It provides an understanding of theoretical frameworks, ethical challenges in practice, and real-world policy analysis to promote inclusive and fair development.

Course Outcomes: After completing this course, students will be able to:

1. Define key concepts and frameworks of equity, ethics, and justice.
2. Analyze ethical dilemmas in development, including informed consent and power dynamics.
3. Evaluate development policies with a focus on marginalized communities.
4. Propose inclusive strategies for equitable and sustainable development.

(Course Content)

Unit 1: Introduction to Equity, Ethics, and Justice in Development

- 1.1 Definitions and Concepts of *Equity, Ethics and Justice*
- 1.2 Historical perspectives (Gandhian ideas, Ambedkar's vision of social justice, *Nancy Fraser and Iris Marion Critical Social Justice Approach*)
- 1.3 Simple frameworks: (*Rawls' Theory of Justice, Capability Approach* and Thomas Piketty's political economy and inequality)
- 1.4 Indicators of fairness – access to health, education, social mobility

Unit 2: Ethical Issues in Development

- 2.1 Ethical dilemmas in Development (Displacement vs. Development, Participation vs. Top-down Planning, Equity vs. Efficiency, Cultural Sensitivity vs. Universal Models)
- 2.2 Importance of informed consent and ensuring community participation
- 2.3 Power Imbalance Between Government Agencies and Local People
- 2.4 Respecting Local Cultures and Traditions in Development Projects

Unit 3: Policies and Social Justice

- 3.1 Understanding policies using equity and justice perspectives
- 3.2 Policies Impact on Dalits, Adivasis, **women, LGBTQ+, and rural poor**
- 3.3 Fair distribution of resources like water, land, and technology
- 3.4 Case Studies (Haryana context):

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12. Government of Haryana. *Annual Budget Speeches and Vision Documents*. Various years. <https://haryana.gov.in>.

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240/JMC/MI401

Paper- 26
Radio Production

Practical Marks: 50 (35+15) (Credit – 2)

Time: 3 Hrs.

Course objective :

1. To develop knowledge about Radio Programmes.
2. To develop knowledge about management Radio Media.

Exercises and Assignments :

Students will produce Radio Programmes like Radio Talk, Radio Bulletin, Radio Commentary, Radio Advertisements, Radio Symposium, Radio Drama, Radio Feature.

Course outcomes :

1. Students will be able to produce Radio Programmes.
2. Students will get practical knowledge of Radio.

Paper – 27
Radio Reporting (Practical)

Time: 3 Hrs.

Practical Marks: 50 (35+15) (Credit – 2)

Course objective :

1. To develop knowledge about Radio Reporting and editing.
2. To develop practical knowledge about writing of Radio programmes.

Exercises and Assignments :

Students will write Radio News programmes on daily basis.

Course Outcomes

1. Students will be able to get knowledge about writing of Radio News.
2. Students will aware about process of Radio News writing.

MIC-4**Yoga Therapy -1 for common Alignment**

Course Code: 240/YOG/MI404	Credits:4
TI: 15 TE: 35	PI: 15 PE: 35

Instruction for External Examination: This question paper shall be divided in two sections. Examiner is requested to set section A as compulsory question containing 7 marks and from the entire syllabus (can be either subjective or objective). Section B will be in choice from two question from each unit. The student will be required to attempt one question from each unit. All question from each unit will carry equal marks.

Objectives: Yoga therapy is to use the principles and practices of yoga to support the healing and well-being of individuals, addressing specific health conditions and promoting overall wellness. Yoga therapy involves a personalized approach, integrating physical postures, breathing exercises, Meditation, and lifestyle changes to treat or manage various physical, mental, and emotional issues.

Outcomes: After completing this course student are able

To understand and prepare the Yoga therapy module for specific diseases

To understand the precautions, indications and contra-indications of Yogic practices to specific diseases.

Unit - 1: YOGA THERAPY FOR MUSCULO SKELETAL DISORDERS

To prepare the Yoga Therapy Module for following Musculo skeletal disorders:

1.1 Back Pain

1.2 Neck Pain

1.3 Arthritis

1.4 Fibromyalgia.

Unit - 2: YOGA THERAPY FOR DISORDERS OF GASTROINTESTINAL AND EXCRETORY SYSTEM

To prepare the Yoga Therapy Module for following disorders of gastrointestinal and excretory system:

2.1 IBS

2.2 Hyperacidity

2.3 Dyspepsia

2.4 Constipation

Unit - 3 : YOGA THERAPY FOR CARDIO-VASCULAR DISORDERS:

To prepare the Yoga Therapy Module for following cardio-vascular disorders:

3.1 Hypertension

3.2 Stress related Cardiac Disorder

3.3 Atherosclerosis

3.4 Coronary artery disease.

Unit - 4 : YOGA THERAPY FOR RESPIRATORY DISORDER

To prepare the Yoga Therapy Module for following respiratory disorder:

4.1 Asthma

4.2 Chronic Bronchitis

4.3 Common Cold, Allergic Rhinitis,

4.4 Sinusitis, Sleep apnea.

Suggested Books

Bhavanani, A.B. (2013). Yoga Chikitsa: Application of Yoga as a therapy. Pondicherry, India: Dhivyananda Creations.

NagarathaR.andNagendraH.R.:Commonailmentseries,publishedbySVYP, Bangalore, 2010

SwamiKarmananda:Yogic management of common diseases,Yoga Publications Trust, Munger, 2001

Dr R. Nagarathna, Dr H R Nagendra, Yoga for Arthritis, Published by SVYP, Bangalore, 2001

Dr R. Nagarathna, Dr H R Nagendra: Yoga for Asthma by Published by SVYP, Bangalore, 1998

MDNIY publications:10 Booklets, Yoga Therapy Series, MDNIY Publications, New Delhi, 2009

Reddy, M. Venkata and Others: Yogic Therapy,Sri M.S.R. Memorial Yoga series, Arthamuru A.P.2005

Yoga for Back Pain by Dr H. R. Nagendra, Dr R Nagarathna, Published by SVYP, Bangalore, Bangalore, 2001

**Minor Vocational Course
Meditation Techniques**

Course Code: 240/YOG/MI405	Credits:4
TI: 15 TE: 35	PI: 15 PE: 35

Instruction for External Examination: This question paper shall be divided in two sections. Examiner is requested to set section A as compulsory question containing 7 marks and from the entire syllabus (can be either subjective or objective). Section B will be in choice from two question from each unit. The student will be required to attempt one question from each unit. All question from each unit will carry equal marks.

Objectives: Students will be familiar with scriptural knowledge of meditation. To gain ability to teach meditation techniques with scientific approach. Students share personal experience of meditation. Students would be able to apply meditation techniques in therapeutic way.

Outcomes:

- To know traditional meaning and definitions of the term 'meditation'
- To know Preparatory practice of meditation
- To know different types of meditation techniques with their benefits
- To have the knowledge of scientific approach of meditation
- To know database research on meditation

UNIT -I INTRODUCTION OF MEDITATION

- 1.1 Meditation its meaning, nature, and scope.
- 1.2 Meditation as deployment of Concentration.
- 1.3 Concept of Dharana, Dhyana and Samadhi. Prayer, Worship & Meditation,
- 1.4 Pre-requist of Meditation

UNIT-II MEDITATION IN HINDUISM

- 2.1 Meditation in Hinduism: OM meditation; So-Ham meditation.
- 2.2 Chakra meditation.
- 2.3 Process of Meditation in 6th chapter of Bhagavad Gita
- 2.4 Cyclic Meditation

UNIT-III MEDITATION IN BUDDHISM

- 3.1 Meditation in Buddhism
- 3.2 Vipasyana Meditation
- 3.2 Meditation in Jainism
- 3.4 Preksha Dhyana

UNIT-IV: MEDITATION & ITS SCIENTIFIC APPROACH

- 4.1 Practice of Various Meditation Techniques.
- 4.2 Psychological effects of Meditation:
- 4.3 Spritual effect of Meditation
- 4.4 Scientific effect of meditation

Suggested Books

- Johnson, D. & Farrow, J.T. Ed(1977). Scientific Research on TranscendentalMeditation Programme:Collected Papers, Vol I. Los Angeles: MERUPress.
- Rao, K.R. (1989). Meditation: Secular and Sacred. Presidential Address to theIndian Academy of Applied Psychology, University of Calcutta.
- Krishnamacharya, T.: 'Dhyanamalika, KYM,' Chennai, 2005
- Swami Satyananda: Yoganidra, Yoga Publication Trust, Munger, 1998
- Lajpat,Rai&others:Meditation,AnbhavaRaiPublications,Gurgaon
- Saraswati, Swami Satya Nand: Meditation from Tantras, Yoga Publication Trust, Munger, 2004
- Swami Niranjanananda Saraswati: Dharana Darshan; ; Bihar school of Yoga publications; Munger, 2001
- Lajpat, Dr. R.: Discovering Human Potential Energy, Abhinav Rai Publication, Gurgaon, 1996

Department of Chemistry

B.Sc Physical Sciences

MULTIDISCIPLINARY COURSE (MDC) FROM THE DEPARTMENT FOR POOL OF THE COURSES IN THE UNIVERSITY

(These courses are to be offered to students of different discipline/Subject)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-1	Introductory Chemistry-I		2		2	2		1	3	15	35	05	20	75

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-2	Introductory Chemistry-II		2		2	2		1	3	15	35	05	20	75

Semester 3

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-3	Introductory Chemistry-III		2		2	2		1	3	15	35	05	20	75

Minor Course from the department for pool of the Courses in the University

(These courses are offered by each department for students of other departments/same department to gain a broader understanding beyond the major discipline)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-1	Green Chemistry		2			2			2	15	35			50

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-2	Bioinorganic Chemistry		2			2			2	15	35			50

Semester 3

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-3	Chemistry of biomolecules-I		3		2	3		1	4	25	50	5	20	100

Semester 4

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-4	Chemistry of		3		2	3		1	4	25	50	5	20	100

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Department of Chemistry
B.Sc Physical Sciences

Semester 5														
Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-5	Chemistry of Fertilizers and Pesticides or Chemistry of Cosmetics and Perfumes		3		2	3		1	4	25	50	5	20	100
Semester 6														
Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-6	Agriculture Chemistry		3		2	3		1	4	25	50	5	20	100
MIC-7	Green Laboratory Practices Or Maintenance of laboratory instruments		3		2	3		1	4	25	50	5	20	100

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COURSE DETAILS:

Course Title	Chemistry of Biomolecules-II				
Semester	Semester-IV				
Course Code	MIC-4				
Course ID					
Total Credits	04 (Lecture: 03, Tutorial: 0, Practical: 01)				
Total Marks	100				
Marks Distribution	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Theory External: 50</td> <td style="width: 50%;">Theory Internal: 25</td> </tr> <tr> <td>Practical External: 20</td> <td>Practical Internal: 05</td> </tr> </table>	Theory External: 50	Theory Internal: 25	Practical External: 20	Practical Internal: 05
Theory External: 50	Theory Internal: 25				
Practical External: 20	Practical Internal: 05				

COURSE CURRICULUM DELIVERY WEEKLY DISTRIBUTION:

Total Hours per Week: 5	
Lectures (L) Hours per Week: 3	Practicals (P) Hours per Week: 2

COURSE OBJECTIVES:

1. To understand the classification, structure, and chemical nature of amino acids, proteins, and lipids.
2. To describe the structure of nucleic acids (DNA & RNA) and the fundamental processes of replication and transcription.
3. To classify enzymes, explain their kinetics, mechanism of action, and regulation.
4. To provide an overview of metabolic pathways and the principles of bioenergetics.
5. To develop hands-on skills in the analysis, estimation, and characterization of amino acids, proteins, lipids, and enzymes.

COURSE OUTCOMES:

After completing this course, student will be able to:

1. Understand classification of amino acids and correlate the structure of proteins with their functions.
2. Analyze the structure of nucleic acids and explain the processes of DNA replication, RNA transcription and translation.
3. Evaluate the structure and function of various lipids.
4. Interpret enzyme classification, kinetics, and mechanisms of catalysis and regulation
5. Perform biochemical experiments for the qualitative and quantitative analysis of amino acids, proteins, lipids, and enzymes

DETAILED CONTENT OF COURSE:

Theory Syllabus: Total Contact Hours: 45

Department of Chemistry UQ (sem IV)

Unit	Topics	Contact Hours
I	<p>Amino Acids and Proteins</p> <p>Amino Acids: Classification based on R-group, nutritional requirements, and metabolic fate. Physical and chemical properties: Zwitterion, isoelectric point, reactions due to amino and carboxyl groups.</p> <p>Proteins: Peptide bond and its characteristics. Structural organization of proteins: Primary, secondary (alpha-helix, beta-pleated sheets), tertiary, and quaternary structures. Denaturation of proteins.</p> <p>Protein Function: Introduction to fibrous and globular proteins with examples (e.g., collagen, hemoglobin).</p>	12
II	<p>Lipids and Biological Membranes</p> <p>Lipids: Classification - simple, complex, and derived lipids. Physical and chemical properties of fats and oils: Saponification value, acid value, iodine number (revision from practicals).</p> <p>Complex Lipids: Structure and function of phospholipids and glycolipids.</p> <p>Biological Membranes: Fluid Mosaic Model. Brief introduction to the structure and function of cell membranes.</p>	11
III	<p>Nucleic Acids</p> <p>Nucleic Acid Building Blocks: Structure of nucleosides and nucleotides.</p> <p>DNA: Watson-Crick model of DNA double helix (salient features), types of DNA (A, B, Z).</p> <p>RNA: Types of RNA (mRNA, tRNA, rRNA), their structure and functions. Central Dogma: A brief overview of DNA Replication and Transcription and translation.</p>	11
IV	<p>Enzymes and Bioenergetics</p> <p>Enzymes: Nomenclature and IUB classification. Concept of active site. Enzyme Kinetics: Michaelis-Menten equation (concept and derivation not required), factors affecting enzyme activity.</p> <p>Mechanism of Action: Concept of activation energy, transition state, and enzyme- substrate complex.</p> <p>Enzyme Regulation: Reversible inhibition (competitive, non-competitive and un-competitive with examples). Introduction to allosteric regulation.</p> <p>Bioenergetics: Brief introduction to metabolism (catabolism & anabolism). Structure and role of ATP as an energy currency. Concept of Energy in Biosystems. Krebs cycle. The caloric value of food, the standard caloric content of food types.</p>	11
V	<p style="text-align: center;">Practicals:</p> <ol style="list-style-type: none"> 1. Qualitative tests for amino acids (Ninhydrin, Xanthoproteic, Millon's, etc.). 2. Estimation of protein by the Biuret method. 3. Estimation of protein by the Lowry's method. 4. Determination of the saponification value of an oil/fat. 5. Determination of the acid value of an oil/fat. 6. Separation of amino acids by paper chromatography / thin-layer chromatography. 	30

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Department of chemistry UC (sem IV)

7. Determination of the isoelectric point of a given protein.
8. Isolation of casein from milk.
9. Extraction of lipids from egg yolk.
10. Study of the effect of temperature on enzyme (e.g., amylase) activity.
11. Study of the effect of pH on enzyme (e.g., amylase) activity.
12. Quantitative study of enzyme kinetics (e.g., effect of substrate concentration on amylase activity).
13. Isolation of RNA from yeast.
14. Colorimetric estimation of cholesterol.
15. Demonstration of DNA amplification by Polymerase Chain Reaction (PCR).

COURSE EVALUATION METHODS

Theory Exams:

Total Marks: 75 (External: 50 + Internal: 25)

Internal Assessment: 25 Marks	<ul style="list-style-type: none">• Class Participation: 05• Seminar/Presentation/ Assignment: 05 Marks• Mid Term Exam: 15 Marks
External Assessment: 50 Marks (02 Hours)	<ul style="list-style-type: none">• End Term Exam: 50 Marks

Practical Exam:

Total Marks: 25 (External: 20 + Internal: 5)

Internal Assessment: 05 Marks	<ul style="list-style-type: none">• Class Participation: NIL• Seminar/Lab record/Demonstration: 05 Marks
External Assessment: 20 Marks (03 Hours)	<ul style="list-style-type: none">• End Term Practical Exam: 10 Marks• Lab record: 05 Marks• Viva Voce: 05 Marks

Instruction for End Term Theory Exam:

The Examiner is requested to set nine questions in total, selecting two questions from each section. Question-1 will be a compulsory question consisting short answer type questions covering all the units of the syllabus. All questions should carry equal marks.

RECOMMENDED BOOKS

1. Berg, J.M.; Tymoczko, J.L.; Stryer, L. (2006), Biochemistry. W.H. Freeman and Co.
2. Nelson, D.L.; Cox, M.M.; Lehninger, A.L. (2009), Principles of Biochemistry. W.H. Freeman and Co.

Department of Chemistry CU (Sem IV)

3. Murray, R.K., Granner, D.K., Mayes, P.A.; Rodwell, V.W. (2009), Harper's Illustrated Biochemistry. Lange Medical Books/McGraw-Hill.
4. Brown, T.A. (2018) Biochemistry, (First Indian addition 2018) Viva Books.
5. Satyanarayana, U.; Chakrapani, U. (2017), Fundamentals of Biochemistry, Books and Allied (P) Ltd.
6. Lehninger, A.L; Nelson, D.L; Cox, M.M. (2009), Principles of Biochemistry, W. H. Freeman.
7. Manual of Biochemistry Workshop, 2012, Department of Chemistry, University of Delhi.
8. Kumar, A.; Garg, S.; Garg, N. (2012), Biochemical Tests: Principles and Protocols. Viva Books.
9. Voet, D.; Voet, J.G.; Pratt, C.W. Fundamentals of Biochemistry.
10. Plummer, D.T. An Introduction to Practical Biochemistry.

BA 4th Sem Event Management in Sports

Minor Course from the department for pool of the Courses in the University
(These courses are offered by each department for students of other departments/same department to gain a broader understanding beyond the major discipline)

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-6	Event Management in Sports		2		4	2		2	4	15	35	15	35	100

Learning Objectives:

- Upon successful completion of this course, students will be able to:
- Understand the key stages of the sports event management process.
- Identify and analyze the various stakeholders involved in sports events.
- Develop effective marketing and communication strategies for sports events.
- Understand the financial aspects of sports event budgeting and revenue generation.
- Plan and manage the operational elements of sports events, including logistics and venue management.
- Identify and mitigate potential risks associated with sports events.
- Understand the legal and ethical considerations in sports event management.
- Evaluate the success and impact of sports events.

For Paper Setter: Set eight questions in all. Question one is small answer type questions from all units. Each question of Seven marks.

For Students: Attempt any Five questions. Question One is compulsory. All questions carry equal marks.

Unit 1: Foundations of Sports Event Management:

- 1.1 Introduction to Sports Event Management: Scope and Significance
- 1.2 The Event Management Process: Planning, Organization, Implementation, and Evaluation
- 1.3 Functional Areas of Organizing Committee
- 1.4 Basic understanding of Legal and Ethical Considerations in Sports Events

Unit 2: Marketing and Financial Aspects of Sports Event:

- 2.1 Budgeting and Financial Management for Sports Events
- 2.2 Sports Event Marketing and Sponsorship
- 2.3 Revenue Generation: Ticketing, Telecast rights etc.
- 2.4 Economic Impact of Sports Event

Unit 3: Operational Planning and Execution:

- 3.1 Principles of Venue and Site Management
- 3.2 Basic understanding of Logistics and Operations for organizing Sports Event
- 3.3 Volunteer and Work-force Management in Sports Event

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3.4 Importance of Technology and Innovation in Sports Event Management

Unit 4: Risk Management and Event Evaluation:

- 4.1 Risk Assessment in Sports Events
- 4.2 Principles of Risk Management in Sports Events
- 4.3 Sustainable Legacy: concept of sustainable legacy in sports event management (e.g. Ecosystem, Environment and Sociopolitical impact)
- 4.4 Event Evaluation: Methods for evaluating the success and impact of sports events based on various criteria (e.g., economic, social, environmental)

Practical Work:

- Organising A Sports Event
- Drawing Fixture: Prepare a fixture for even and odd number of teams
- Preparing a Sports Budget for Annual Athletic Meet

Suggestive Readings:

1. Masterman, G. (2021), Strategic Sports Event Management (4th ed.). London: Routledge.
2. Westerbeek, H., Smith, A., Turner, P., Emery, P., Green, C. & van Leeuwen, L. (2005). Managing Sport Facilities and Major Events. London: Routledge.
3. Parent, M.M. & Smith-Swan, S. (2013), Managing Major Sports Events: Theory and Practice. London: Routledge.
4. Shone, A. & Parry, B. (2010), Successful Event Management: A Practical Handbook (3rd ed.). Hampshire: Cengage Learning EMEA.
5. Bhattacharya, A.K. (2015), Sports Management and Event Organization. New Delhi: Sports Publication.
6. Kansal, D.K. (2011), Textbook of Sports Management. New Delhi: Sports and Spiritual Science Publications.
7. Singh, Ajmer et al. (2013), Essentials of Physical Education. (Includes a unit on event management) New Delhi: Kalyani Publishers.
8. Puri, K. & Goyal, R. (2014), Management and Organization of Sports Events. New Delhi: Khel Sahitya Kendra.
9. Ferdinand, N. & Kitchin, P. (2017), Events Management: An International Approach (2nd ed.). London: SAGE Publications.
10. Mallen, C. & Adams, L. (2017), Event Management in Sport, Recreation and Tourism: Theoretical and Practical Dimensions (3rd ed.). New York: Routledge.

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Semester-4

MIC-4 Community Psychology (Credits 04)

Maximum Marks: 100
Theory Examination: 35
Theory Internal Assessment: 15
Practical Examination: 35
Practical Internal Assessment: 15
Examination Time: 3 hrs

Course Outcomes:

- Students will learn the core principles of community psychology including ecological systems theory.
- Students will gain knowledge of how different systems such as individuals, families, organizations, communities interact and influence well-being.
- Students will understand the importance of cultural context and diversity in the community.
- Students will develop skills in designing, implementing, and evaluating community-based programs and interventions.

Note:

- a) Candidates would be required to attempt four questions in all.
- b) Question No. I would be compulsory. It shall be based on the entire syllabus and would contain 5 short answer type questions of one mark each.
- c) There would be two questions (10 marks each) from each of the three units. Candidates would attempt one Question from each unit.

Unit I: Introduction

Definition of community psychology, Community Psychology: A Shift in Perspective. Community Psychology in India, Ecological Levels of Analysis in Community Psychology.

Unit II: Understanding Community

Types of Communities. Sense of Community, Conflict and Change within a Community. Building Communities, Community Wellbeing and Community Awareness Programmes

Unit III: Community Mental Health

Emergence of Community mental health. Prevention: concept and types (Primary, Secondary and Tertiary). Intervention used by community psychologists. Community Psychology and health care system.

Practicals:

Perform any two practicals based on above units.

Do atleast one of the following:

- Yoga & Meditation
- Movie/Documentary screening based on eating disorder

- Survey / Field study
- Report writing using computer (Search engine, PPT, Assessment etc).

Suggested Readings

- Cook, P. (1970). *Community psychology and community mental health-Introductory reading*. San Francisco: Holden Day.
- Levine, M., Perkins, D. D., & Perkins, D. V. (2004). *Principles of Community Psychology: Perspectives and Applications* (3rd ed.). New York: Oxford University Press.
- Moritsugu, G., Wong, F. Y., & Duffy, K. G. (2009). *Community Psychology* (4th ed.). Boston, MA: Allyn and Bacon.
- Rappaport, J., & Seidman, E. (Eds.). (2000). *Handbook of Community Psychology*. New York: Kluwer Academic/Plenum.
- Rudkin, J. K. (2003). *Community Psychology: Guiding Principles and Orienting Concepts*. Upper Saddle River, NJ: Prentice Hall.
- Scileppi, J. A., Teed, E. L., & Torres, R. D. (2000). *Community Psychology: A Common Sense Approach to Mental Health*. Upper Saddle River, NJ: Prentice Hall

Semester:- 4

MIC-6: Social Formation and Cultural Patters of Ancient World

Credit:4

Maximum Marks: 100

Theory Exam: 70

Internal Assessment: 30

Time: 3 Hours

Instructions for Paper-Setter:

1. Nine questions shall be set in all, two questions from each Unit I-IV and Question No 1, that is, Compulsory Question, by taking COs into consideration. Each question shall carry 14 marks.
2. The Compulsory Question shall consist of *seven* short answer type questions of 2 marks each which shall be spread over the whole syllabus.
3. The candidate shall be required to attempt *five* questions in all selecting one each question from Unit I-IV and the Compulsory Question.
4. The Map Questions shall be carrying 14 marks each (09 Marks for map work and 05 marks for Explanatory Note). For visually disabled students, the part relating to the Explanatory Note shall carry full marks.

Course Outcome:

After completing the course, students will be able to:

- Trace the evolution of humans through prehistoric age understand their relationships with the landscapes & resources.
- Understand the significance of Mesolithic & Neolithic Periods.
- Analyse the process of state formation and urbanism in the early Bronze Age Civilisations of Mesopotamia and the Harappan.
- Understand the growth and development of iron age civilisations Roman & Greek.

Unit-I

1. Comprehending prehistory : Paleolithic Age

Unit-II

2. Features of Mesolithic and Neolithic Settlements.

Unit-III

3. The Bronze Age Civilisations: Mesopotamian Civilisations & Indus Valley Civilisation.

Unit IV

4. The Iron Age Civilisations: Roman Civilisation & Greek Civilisation

Recommended Books:

- Allchin, B&R, *The Rise of Civilization in India and Pakistan*, Cambridge University Press, Cambridge, 1988
- Beers Burton F. *World History: Patterns of Civilization*, Prentice Hall, New Jersey, 1993.
- Child, V.G. *What Happened in History*, Penguin Books, 1964.
- Goyal, Shriram, *Vishva ki Prachin Sabhyatayen*, Vishvavidyalaya Prakashan Varanasi, 1994.
- Kramer, S.N, *The Sumerians*, University Press Chicago, 1963.
- Pathak, S.M. *Vishva ki Prachin Sabhyataon ka Itihas*. Bihar Hindi Granth Academy, Patna, 1986. Possehi, G.L. (ed.) *Harappan Civilization: A Contemporary Perspective*, American Institute of Indian Studies, New Delhi. 1982.
- Ray, Uday Narayain, *Vishva Sabhyata Ka Itihas*, Lok Bharti, Allahabad, 1982.
- Silverman, David, R. *Ancient Egypt*, Oxford University Press, Oxford, 1997.
- Singh, Purushottam, *The Neolithic Origins*, Agam Kala Prakashan, Delhi, 1997.
- Spievogei, Jackson, J. James, A. banks et.al. *Ancient Civilization*, McGraw Hill, New York, 2007.
- Thapiyal, K.K. & Shukla, S.P., *Sindhu Sabhyata*, Uttar Pradesh Hindi Granth Academy, Lucknow, 1976.

Gurugram University Gurugram, Haryana (India)

Minor Course from the department for pool of the Courses in the University

(These courses are offered by each department for students of other departments/same department to gain a broader understanding beyond the major discipline)

240/GEO/MI401

(As per NEP 2020 w.e.f session 2024-25) -Semester-4

GEOGRAPHY OF TRADE AND TRANSPORT (Theory Paper)

Paper Code: MIC-4-Course Id: 240/GEO/ MIC401

Credit: 03 (3+1+0) L+T+P Hrs/Week	Total Marks	100 Marks
Time: 3 Hours	End Semester Exam:	70 Marks
Note: (i) Question one of paper will contain Multiple Choice Questions (MCQ)/Objective type/Terms of Fourteen marks (each MCQ/ Objective type/Terms question will be of one mark each). (ii) The question paper will have four units. Two questions will contain from each unit of the syllabus. Candidates are required to attempt one question from each unit. These questions will be of Fourteen marks each.	Internal Assessment: Attendance Assignment/Seminar /presentation/class Session Examination	30 Marks 05 Marks 05 Marks 20 Marks

Learning/Course Objectives: To understand the underlying concept of trade and transport problems & apply environmental concepts to resolve such problems. The foundational concepts of the relationship between trade and transport and their surroundings will be addressed in the course on basic current topics. To get greater knowledge about concepts pertaining to Trade and Transport and the environment & understand processes and events that occurs in a certain region to comprehend people reaction in their environment.

Learning/Course Outcomes: CO1: To understanding about pattern and processes of trade and transport. CO-2: To Acquaintance with contemporary trade and transport practice & infrastructure issues .CO-3: Augmentation of knowledge about trade and transport issues issues .CO-4: Awareness about trade and transport governance issues .CO-5: To make geography a more interdisciplinary and trans-disciplinary field of study to understand the contemporary issues are important for long-term development and growth.

Unit- 1

Trade and Transport Geography: Meaning, Nature , Scope, Significance and development; Geographic Relevance, World Trade Organization: Problems and Prospects of Inter and Intra Regional Cooperation and Trade.

Unit - II

Modes of Transport: Introduction, Roads, Railways, Waterways and Airways; Factors associated with their growth and relative significance of different modes of transport.

Unit – III

Transportation network and economic development, Transport and environmental degradation, Vehicular pollution and congestion. Alternative transport systems, Structural analysis of transport network, Problems and issues of transportation network.

Unit- IV

International trade: Geographical factors influencing trade, various treaties at international level, Major Trade organizations and trade blocks COMECON, EFTA, ASEAN, NAFTA, OPEC – their objectives and trade relations, Problems and prospects of international trade.

Recommended Readings:

- Bamford, C.G. and Robinson, H. (1978), Geography of Transport, Macdonald and Evans, London.
- Bhaduri S. (1992), Transport and Regional Development, Concept Publishing Company, New Delhi.
- Eliot Hurst, M.E. (1972), A Geography of Economic Behaviour: An Introduction, Duxbury Press, California.
- Hammond, R. and Mc Cullagh, P.S. (1989), Quantitative Techniques in Geography; An Introduction, Clarendon Press, Oxford.
- Hoyle, Band and Knowles, R. (2000), Modern Transport Geography, John Wiley and Sons, New York.
- Mangat, H.S. and Gill, Lakhvir Singh. (2015), Haryana: Levels of Road Transportation, Punjab Geographer, Vol. 11, October, Punchkula, pp.87-102.
- Raza, M. and Aggarwal, Y.P. (1985), Transport Geography of India, Concept Publishing Company, New Delhi.
- Saxena, H.M. (2010), Transport Geography, Rawat Publications, New Delhi.

- Subodh Rani and Chamar, K.V. (2016), Levels of Road Connectivity in Haryana, Punjab Geographer, Vol. 12, October, Punchkula.
- Taaffe, E.J. and Gauthier, H.L. (1973) Geography of Transportation, Prentice Hall Englewood Cliff, New Jersey.
- Vaidya, B.C. (1998), Reading's in Transport Geography, Devika Publications, Delhi.



Semester-4

Course code-MIC-4

Course Title- Family, Marriage and Kinship

Credit-4

Maximum Marks -100

Theory - 70

Internal Assessment - 30

Time - 3 hours

The question paper will consist of four Units containing eight questions with internal choice from each unit i.e. two questions from each unit. The candidate will be required to answer five questions in all. Four questions will have to be attempted from four units and the fifth question which is compulsory shall be of short answer type question covering the entire syllabus. All the questions shall carry equal marks i.e. 14 each from the I to IV units and 5" compulsory question shall be divided into seven short answer questions of 2 marks each i.e. $7 \times 2 = 14$ thus making it the total weight age to 70 marks.

Course Outcomes :

- The students would earn about the basic concepts related to family system in India.
- The students would learn about the marriage system.
- The students would learn about kinship as an organization especially in Indian contexts
- The students would learn about the changing pattern of Family, Marriage and Kinship

Unit I

Family: Meaning, Nature, Functions; and Types; Emergent forms of family

Unit II

Marriage: Meaning, Nature, Functions and Types; Rules of Marriage and Mate Selection, Endogamy, Exogamy; Forms of Marriage: Traditional and Contemporary.

Unit III

Kinship: Meaning, Nature, Functions, Degree and Types of Kinship: Kinship Usages and Kinship Terminology

Unit IV

Change in Family, Marriage and Kinship: Changing Dimensions and pattern in family kinship and marriage



References:

Ahuja Ram(1993),Indian Social System,Jaipur,

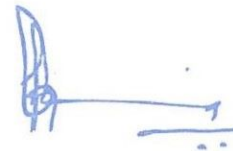
Rawat Publication Ahuja Ram (2003), Society in India, Jaipur, Rawat Publication

Benokraitis,(2015),Marriage and Families: Changes,Choices and Constraints, New Delhi:
Pearsons.

Dube,Leela(1974),Sociology of Kinship: An Analytical Survey and
Literature,Bombay:Popular Prakashan. Goode, William J. (1964), The Family, Englewood
Cliffs: Prentice Hall.

Jain,Shobita(2002),Bharat Me
Parivar,VivaherNatedari(inHindi),NewDelhi:RawatPublications. Kapadia, K.M. (1958),
Marriage and Family in India, Bombay: Oxford University Press.

Karve,Irawati(1968), Kinship Organization in India,Bombay:Asia Publishing House



240/BCA/MI401

Course code	MIC-4			
Category	Minor Course			
Course title	Mobile Application Development			
Scheme and Credits	L	T	P	Credits
	3	0	2	4
Theory Internal	25			
Theory External	50			
Practical Internal	05			
Practical External	20			
Total	100			
Duration of Exam	3 hrs.			

Note: The examiner will set nine questions in total. Question one will have seven parts from all units and the marks of first question will be of 20% of total marks of Question Paper and the remaining eight questions to be set by taking two questions from each attempt FIVE questions in all, selecting one question from every unit apart from the Question Number 1.

COURSE OUTCOMES:

At the end of this course, students will demonstrate the ability to

CO1: Understand the basic concepts and functions of Mobile Application and Android Studio.

CO2: Describe the working and architecture of Android Operating System.

CO3: Design Android UI Layout and Describe activities.

CO4: Design and develop an application using Database.

UNIT I

Android Architecture: Introduction to Android, Features of Android, Android Architecture, Android and File Structure, Layouts – Linear, Relative, Grid and Table Layouts, Views and Resources, Activities and Intents, Activity Lifecycle and Saving State,

User Interface (UI) Components – Editable and non-editable Text Views, Buttons, Radio and Toggle Buttons, Checkboxes, Spinners, Dialog and pickers, List View, Spinner View.

UNIT II

Event Handling – Handling clicks or changes of various UI components.

Intent – Using intents to launch Activities, Explicitly starting new Activity, Implicit Intents, Passing data to Intents, Getting results from Activities, using Intent to dial a number or to send SMS.

UNIT III

Fragments – Creating fragments, Lifecycle of fragments, Fragment states, Adding fragments to Activity, adding, removing and replacing fragments with fragment transactions

Location and Mapping: Location based services, Mapping, Google Maps activity, Working with MapView and MapActivity; Playing and Recording of Audio and Video in application.

UNIT IV

Persisting Data to files: Saving to Internal Storage, Saving to External Storage

Introduction to SQLite database: creating and opening a database, creating tables, inserting retrieving and deleting data.

Application Signing, API keys for Google Maps, Publishing application to the Android Market.

Textbooks & References:

1. Zigurd Mednieks, Laird Dornin, G,BlakeMeike and Masumi Nakamura, Programming Android, O'Reilly Publications.
2. Wei-Meng Lee, Beginning Android Application Development, Wiley India Ltd.
3. Burd, B. Android Application Development All-in-One for Dummies.
4. James C.S., Android Application development for Java Programmer, CENGAGE Learning.
5. Pradeep Kothari, Android Application Development: Black Book, Wiley India Ltd.

Mobile Application Development Lab List of Experiment

1. Installation of Android studio.
2. Development Of Hello World Application
3. Create an application that takes the name from a text box and shows hello message along with the name entered in text box, when the user clicks the OK button
4. Create a screen that has input boxes for User Name, Password, Address, Gender(radio buttons for male and female), Age (numeric), Date of Birth (Date Picket), State (Spinner) and a Submit button. On clicking the submit button, print all the data below the Submit Button (use any layout)
5. Design an android application Using different layouts
6. Design an android application to create page using Intent and one Button and pass the Values from one Activity to second Activity
7. Design an android application Send SMS using Intent
8. Create an android application using Fragments

9. Design an android application for menu.
10. Create a user registration application

Course code	MIC-4			
Category	Minor Course			
Course title	Computer Vision			
Scheme and Credits	L	T	P	Credits
	3	1	0	4
Theory Internal	25			
Theory External	75			
Practical Internal	-			
Practical External	-			
Total	100			
Duration of Exam	3 hrs.			

Note: The examiner will set nine questions in total. Question one will have seven parts from all units and the marks of first question will be of 20% of total marks of Question Paper and the remaining eight questions to be set by taking two questions from each attempt FIVE questions in all, selecting one question from every unit apart from the Question Number 1.

Course outcomes:

CO1: Understand Image Processing and Computer Vision concepts, and explore various applications like biometrics, object recognition, and virtual/augmented reality.

CO2: Learn image formation models, camera calibration, and techniques for constructing 3D models from images.

CO3: Gain skills in image preprocessing, edge detection, and motion estimation, including stereo vision and structure from motion.

CO4: Study shape representation and segmentation techniques, including deformable models, snakes, active contours, and multi-resolution analysis.

UNIT-I

Introduction: Image Processing & Computer Vision, What is Computer Vision - Low-level, Mid-level, High-level.

Diverse Computer Vision Applications: Document Image Analysis, Biometrics, Object Recognition, Tracking, Medical Image Analysis, Content-Based Image Retrieval, Video Data Processing, Multimedia, Virtual Reality and Augmented Reality

UNIT-II

Image Formation Models: Monocular imaging system, Orthographic & Perspective Projection,

Camera model and Camera calibration, Binocular imaging systems, Multiple views geometry, Structure determination, shape from shading, Depth from Defocus, Construction of 3D model from images.

UNIT-III

Image Processing and Feature Extraction: Image preprocessing, Image representations (continuous and discrete), Edge detection. Motion Estimation: Regularization theory, Optical computation, Stereo Vision, Motion estimation, Structure from motion.

UNIT-IV

Shape Representation and Segmentation: Contour based representation, Region based representation, Deformable curves and surfaces, Snakes and active contours, Level set representations, Fourier and wavelet descriptors, Medial representations, Multi resolution analysis.

Textbooks & References:

1. R. C. Gonzalez, R. E. Woods, Digital Image Processing, Addison Wesley Longman, Inc.
2. D. H. Ballard, C. M. Brown, Computer Vision, Prentice-Hall.
3. Richard Szeliski, Computer Vision: Algorithms and Applications (CVAA), Springer.
4. Sonka, Hlavac, and Boyle. Thomson, Image Processing, Analysis, and Machine Vision.
5. D. Forsyth and J. Ponce, Computer Vision - A modern approach, Prentice Hall.
6. E. Trucco and A. Verri, Introductory Techniques for 3D Computer Vision, Prentice Hall.

Course code	MIC-4			
Category	Minor Course			
Course title	Programming in JavaScript			
Scheme and Credits	L	T	P	Credits
	3	0	2	4
Theory Internal	25			
Theory External	50			
Practical Internal	05			
Practical External	20			
Total	100			
Duration of Exam	3 hrs.			

Note: The examiner will set nine questions in total. Question one will have seven parts from all units and the marks of first question will be of 20% of total marks of Question Paper and the remaining eight questions to be set by taking two questions from each attempt FIVE questions in all, selecting one question from every unit apart from the Question Number 1.

Course outcomes:

CO1: Explain the evolution, syntax, and structure of JavaScript, differentiate it from Java and VBScript, and describe how it enhances HTML to create static and dynamic web pages.

CO2: Demonstrate proficiency with JavaScript fundamentals—using DOM to obtain user input, understanding variables, data types, operators, control structures, loops, and proper script usage.

CO3: Apply JavaScript's built-in types, methods, and event handling; and leverage core objects such as String, Date, Boolean, Window, and Document for dynamic interaction.

CO4: Implement advanced JavaScript features including arrays, scoped functions, recursion, cookies, form validation, and interacting with XML to build dynamic, client-side applications.

UNIT-I

The Nature of JavaScript: Evolution of Scripting Languages, JavaScript-Definition, Programming for Non-Programmers, Introduction to Client-Side Programming, Comparison between Java, JavaScript & VB Script. Enhancing HTML Documents with JavaScript. Static and Dynamic web pages.

UNIT-II

Introduction to JavaScript: Document Object Model (DOM), obtaining user inputs, memory

concepts, Character set, case sensitivity, comments, Literals, Expression & Operators, Control Structures, looping constructs, break, continue statements, variables, Data types, Keywords.

UNIT-III

JavaScript types, merge multiple JavaScript into one, Running Scripts, Methods, and Events, Introduction to Objects: String, Date, Boolean, Window, document and various Object interaction.

UNIT-IV

Array declaration and allocation, passing arrays to function, Scoping rules, Recursion and iteration, cookies, Form Validation. Introduction to XML.

Textbooks & References:

1. David Flanagan, JavaScript: The Definitive Guide: The Definitive Guide.
2. Chris Bates, Web Programming, Building Internet Applications, WILEY.
3. Kogent Learning, Web Technologies: HTML, JavaScript, PHP, Java, JSP, XML, AJAX – Black Book, Wiley India Pvt. Ltd.

Programming in JavaScript Lab List of Experiment

1. Write a program using JavaScript to add three numbers.
2. Write a program using JavaScript to toggle visibility of a <div>.
3. Write a program using JavaScript to display user input.
4. Write a program using JavaScript to perform basic arithmetic operations.
5. Write a program using JavaScript to validate number input.
6. Write a program using JavaScript to check if a number is even or odd.
7. Write a program using JavaScript to evaluate grade based on score.
8. Write a program using JavaScript to calculate factorial of a number.
9. Write a program using JavaScript to change background color on button click.
10. Write a program using JavaScript to display a digital clock.
11. Write a program using JavaScript to create an object with properties and methods.
12. Write a program using JavaScript to validate form fields.
13. Write a program using JavaScript to manipulate arrays.
14. Write a program using JavaScript to check if a string is a palindrome.
15. Write a program using JavaScript to create a to-do list application.
16. Write a program using JavaScript to generate a random number.
17. Write a program using JavaScript to convert temperatures between Celsius and Fahrenheit.
18. Write a program using JavaScript to convert an amount from one currency to another.

SOFTWARE TESTING

Course code	MIC-4			
Category	Minor Course			
Course title	Software Testing			
Scheme and Credits	L	T	P	Credits
	2	0	0	2
Theory Internal	15			
Theory External	35			
Total	50			
Duration of Exam	2 Hrs			

Note: The examiner will set nine questions in total. Question one will have seven parts from all units and the marks of first question will be of 20% of total marks of Question Paper and the remaining eight questions to be set by taking two questions from each unit and the marks of each question from Question no. 2 to 9 will be 20% of total marks of Question paper. The students have to attempt five questions in total, the first being compulsory and selecting one from each unit.

COURSE OBJECTIVE: Acquire comprehensive understanding and practical skills in software testing, encompassing testing fundamentals, techniques, strategies, test management, advanced topics such as automation, performance.

new

Unit I

Fundamentals of Software Testing: Definition, objectives, principles, and importance of testing; Software Development Life Cycle (SDLC)

Testing Techniques: Black-box testing, white-box testing, grey-box testing; Test Levels: Unit testing, integration testing, system testing, acceptance testing.

Unit II

Equivalence Partitioning and Boundary Value Analysis: Concepts and application in test case design.

State Transition Testing: Techniques for testing systems that exhibit finite state behavior

Use Case Testing: Testing based on use case scenarios and flows

Unit III

Static Testing Techniques: Review processes, walkthroughs, inspections, and static analysis.

Test Planning: Developing test strategies, creating test plans, estimation, and scheduling

Test Metrics and Reporting: Measurement of test effectiveness, defect metrics, and reporting.

Unit IV

Configuration Management: Version control, baseline management, and its role in testing; Risk-Based Testing: Identifying, assessing, and managing risks in testing.

Automation Testing: Introduction to test automation, tools, scripting languages (e.g., Selenium, JUnit); Performance Testing: Load testing, stress testing, scalability testing, and performance metrics;

Text and Reference Books:

1. Gill, Nasib Singh. Software Engineering. Khanna Book Publishing Co. (P) Ltd., New Delhi.
2. "Foundations of Software Testing" by Dorothy Graham, Erik van Veenendaal, Isabel Evans, Rex Black
3. "Software Testing Techniques" by Boris Beizer
4. "Effective Methods for Software Testing" by William E. Perry
5. "Managing the Testing Process: Practical Tools and Techniques for Managing Hardware and Software Testing" by Rex Black



240/ICA/MI401

Basics of Accounts and Financial Statements for Entrepreneurs CMIC404

L	T	P	Credits	TI	TE	PI	PE	Time Allowed
2	0	2	4	15	35	15	35	Hours

Type of Course: Minor Course

Core Course (CC)	Minor Course (MIC) including Vocational Courses (VOC)	Multidisciplinary Course (MDC)	Ability Enhancement Course (AEC)	Skill Enhancement Courses (SEC)	Value Addition Courses (VAC)	Internship
	√					

Introduction to the Course:

In an era of fast-moving and competitive businesses, it is crucial to possess a holistic understanding of the finance basics and financial building blocks of a successful organization. Through this course, the Learners will gain a well-rounded knowledge of key accounting & financial concepts that will help them apply an analytic mind set to understanding and driving organizational decisions and success. The course will enable Learners to learn how to examine the company's performance on a yearly basis, as well as against their peers. The students will be able to analyze the company's performance in terms of profitability, liquidity, activity, and solvency. The students then will be able to communicate their findings.

Course Outcome: - After completing the course students will be able to:

CO1. Understand the basics of accounts and have an understanding of the accounting cycle.

CO2. Explain the purpose, underlying concepts, and format of the balance sheet, income statement, and statement of cash flows, and the importance of accounting quality.

CO3. Obtain an overview of useful tools for analysing a firm's profitability, growth, and risk, including financial ratios, common-size financial statements, and percentage change financial statements, as well as how to use this information to forecast the future business activities of a firm and the value of a firm.

Detailed Syllabus:

Unit-I

Meaning and scope of accounting, nature of financial accounting principles, Concepts and convention, basis of accounting; different types of accounting.

Unit-II

accounting cycle and process; Journal entries, ledger account and trial balance, Meaning and importance of Depreciation.

Unit-III

Financial reporting and conceptual framework for financial statements, Understanding financial statements, Balance sheet and Income statements, Cash flow statements, Additional disclosures and notes to accounts in financial statements.

Unit-IV

Financial Analysis, Uses and Significance, Ratio Analysis, Comparative and Common size analysis, Trend Analysis.

Note: All the topics mentioned above will cover theoretical concepts and simple numerical questions.

Text Book

- Sivasankaran, N. (2021), *Financial Analysis For Beginners*, New Delhi, Taxmann
- Grewal, T.S., *Introduction to Accounting*, S. Chand and Co., New Delhi.

Other Recommended Texts

- Lal, Jawahar, *Corporate Financial Reporting: Theory & Practice*, Taxmann Applied Services, New Delhi.
- Raiyani, J. R. and Lodha, G., *International Financial Reporting Standard (IFRS) and Indian Accounting Practices*, New Century Publications.
- Singh, N. T. and Agarwal, P., *Corporate Financial Reporting in India*, Raj Publishing, Jaipur.
- Hennie, V. G., *International Financial Reporting Standards: A practical guide*, Washington: World Bank.
- Alexander, D., Britton, A. and A. Jorissen, *Global Financial Reporting and Analysis*, Cengage Learning, Indian edition.

Final Assessment (FA)

Theory Internal (TI)	15 marks
Theory External (TE)	35 marks
Practical Internal (PI)	15 marks
Practical External (PE)	35 marks
Final Assessment (FA) = (TI+TE+PI+PE)	100 marks

Internal : The (TI) & (PI) will be done through in-class tests/assignments and Class Participation

External: The (TE) & (PE) will be done through the end-term theory examination and Coursework Presentation. The panel for the PE will be inter departmental members.

The question paper pattern for the end-term examination will be 35 Marks and will follow the following pattern

Section A	Seven Short answer type questions covering all units. All compulsory.	1*1=7 marks
Section B	<u>Answer any one question from each Unit</u> Choice of Q. 2&3 From Unit I Choice of Q. 4&5 from Unit II Choice of Q. 6&7 from Unit III Choice of Q. 8&9 from Unit IV	7*4=28 marks
Total Marks		35 marks

Mapping Matrix of Course

Table 1: CO-PO Matrix for the Course

Course Outcomes	PO1	PO2	PO3	PO4
CO1	2	0	2	2
CO2	2	2	2	3

CO3	2	2	0	3
Average	2	1.3	1.3	2.6

Course Outcomes	PSO1	PSO2	PSO3	PSO4
CO1	3	0	2	2
CO2	3	2	2	3
CO3	2	2	0	3
Average	2.6	1.3	1.3	2.6

Minor Course

COURSE ID: 240/PHYP/ MI401

RENEWABLE ENERGY

Physics-IV

Marks (External): 50

Marks (Internal Assessment): 25

Credits: 3 (60 lectures)

Time: 3 Hrs

Note: The paper setter is to set nine questions in all. Question no. 1 (compulsory based on the entire syllabus) will consist of five short answer type questions. The rest of the eight questions are to be set uniformly, with two questions from each unit selected. A student is required to attempt five questions, selecting one from each unit along with compulsory question no 1. The question paper shall contain 20% numerical problems in the relevant papers.

Course Objective: Course objectives are to introduce the renewable energy concepts, solar energy, wind energy and Geothermal energy

Course Outcome: Understand basic idea about renewable energy and its measurement. Learn importance of energy in our daily life and hence they feel the necessity of planned and managed energy consumption. Along with also learn different aspects and challenges about conventional energy sources.

Unit I

Fossil fuels and Alternate Sources of energy: Fossil fuels and nuclear energy, their limitation, need of renewable energy, non-conventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

Unit II

Solar energy: Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems.

Unit III

Wind Energy harvesting: Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies. Ocean Energy: Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics, Wave Energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass

Unit IV

Geothermal Energy: Geothermal Resources, Geothermal Technologies. Hydro Energy: Hydropower resources, hydropower technologies, environmental impact of hydro power sources. Piezoelectric Energy harvesting: Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modelling

Rajit

piezoelectric generators, Piezoelectric energy harvesting applications, Human power. Electromagnetic Energy Harvesting: Linear generators, physics mathematical models, recent applications. Carbon captured technologies, cell, batteries, and power consumption. Environmental issues and Renewable sources of energy, sustainability

References:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.
3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Godfrey Boyle, "Renewable Energy, Power for a sustainable future", 2004, Oxford University Press, in association with The Open University.
5. P. Jayakumar, Solar Energy: Resource Assessment Handbook, 2009
6. J. Balfour, M. Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA).
7. <http://en.wikipedia.org/wiki/Renewable>.

COURSE ID: 240/PHYP/ MI401

RENEWABLE ENERGY LAB

Marks (External): 20

Marks (Internal Assessment): 05

Physics-IV

Credits: 1(30Hrs)

Time : 3 Hrs

1. Each student should perform at least five experiments.
2. The students are required to calculate the error involved in a particular experiment.
3. List of experiments may vary.

List of Experiments:

1. To study the I-V Characteristics of a Solar Cell.
2. Study of Flat Plate Collector
3. Model Demonstration of Hydroelectric Power Plant
4. Study of Battery Storage Systems (Lead Acid / Li-ion).
5. To simulate the Geothermal Energy Systems
6. Design and Testing of a Solar Cooker
7. Demonstration of Biogas Generation (Lab-scale Model)

Ramp



8. Simulation/Model Study of Ocean Energy Systems (Wave/Tidal/OTEC).

References:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.
3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Advanced Practical Physics for students, B.L. Flint and H.T. Worsnop, 1971, Asia Publishing House.
P. Jayakumar, Solar Energy: Resource Assessment Handbook, 2009



Ranjit

Semester- 4

Name of Subject: BUSINESS RESEARCH METHODS	Maximum Theory Marks: 100 (TE+TI+PE+PI) = (70+30+0+0)
Course Code:VOC1	Time Allowed: 3 Hrs
Credits 4 (L-T-P =4-0-0)	Core Course: MIC/VOC

Instructions for Paper Setter: The question paper shall be divided into two sections. Section 'A' shall comprise seven short answer type questions from the syllabus carrying two marks each, which shall be compulsory. The answer to each question should not normally exceed 100 words. Section 'B' shall comprise eight questions of fourteen marks each (2 questions from each unit). The students will be required to attempt four questions by selecting one question from each unit. All questions will carry equal marks

Course Outcomes: - After completing the course, students will be able :

CO1: To acquire knowledge on various kinds of research questions and research design.

CO2: To analyse a good quantitative purpose statement and good quantitative research questions and hypotheses.

CO3: To create Familiarity with good practices in conducting a qualitative interview and observation.

CO4: To learn how to distinguish between a population and a sample and to determine the sample size.

COURSE CONTENTS:

Unit-I Business research; its concept, nature, scope, need, process of research, Hypothesis-Meaning, Nature, Types of Hypothesis, Sources; research proposal- concept and ingredients of research proposal.
Unit-II Research design – concept and types – exploratory, descriptive, diagnostic, and experimental; sampling design; techniques, factors influencing sample size, measurement – concept, measurement scales – types and construction of scales and reliability and validity aspects in measurement.
Unit-III Methods of data collection – questionnaire/schedule; questionnaire designing, interview, and observational methods; data analysis and interpretation, editing, coding, content analysis, and tabulation; hypothesis testing – an overview of parametric and non-parametric tests (Analysis of Variance, X2 test, Wilcoxon Matched – pairs signed – rank test, Mann – Whitney test, Kruskal – Wallis H-test.
Unit-IV An overview of dependent and interdependent methods (multiple regression, discriminant analysis, conjoint analysis, factor analysis, cluster analysis); ingredients and constructions of research report; procedure of preparation of reference and bibliography.

SUGGESTED READINGS:

1. Mark Saunders: Research Methods for Business: Pearson Education, 2010
2. Cooper and Schindler: Business Research Methods, 10th edition, New Delhi
3. C.R. Kothari, (2004): Research Methodology – Methods, 2nd edition. New Age Publications.
4. Anil K. Mishra (2012). A Hand-Book of Research in SPSS, 1st edition. Himalayan Publishing, House, Mumbai


 Chairperson
 Department of Management
 J. J. Somaiya Institute of Management
 Vile Parle East, Mumbai