

	Pool Course Offered by the Department/ Programme	Name of Course	CourseID	Credits			Theory Marks			Practical Marks			Total Marks
				T	P	Total	E	I	Total	E	I	Total	
<b>MULTIDISCIPLINARY COURSES</b>													
1.	Master of Science (Computer Science)	Web Technology	241/CS/MD201	2	1	3	35	15	50	5	20	25	75
2.	Master of Computer Applications	Discrete Mathematics	241/MCA/MD201	3	0	3	50	25	75	0	0	0	75
3.	Master of Computer Applications	Modelling and Simulation	241/MCA/MD202	3	0	3	50	25	75	0	0	0	75
4.	Master of Business Administration	Web Technologies Fundamentals /// MOOC	241/MBA/MD201	3	0	3	50	25	75	0	0	0	75
5.	Master of Business Administration (BUSINESS ANALYTICS)	Web Technologies Fundamentals /// MOOC	241/MBA/MD201	3	0	3	50	25	75	0	0	0	75
6.	Master of Commerce	International Business and Cross- Cultural Management	241/COM/MD201	3	-	3	50	25	75	0	0	0	75
7.	Master of Arts (English)	Introduction to Phonetics	241/ENG/MD201	3	0	3	50	25	75			0	75
8.	M.A. (Journalism & Mass Communication)	Writing for Media	241/JMC/MD202	3	0	3	50	25	75	0	0	0	75
9.	M.A. (Advertising & Public Relations)	Crisis Communication and Its Applications	241/APR/MD201	3	0	3	50	25	75	0	0	0	75
10.	M.A. HINDI	गांधी दर्शन एवं हिंदी साहित्य	241/HIN/MD202	3		3	50	25	75			0	75
11.	M.A. Public Policy, Administration and Governance	Citizenship in Global Perspective	241/PPAG/MD201	3	0	3	50	25	75	0	0	0	75

12.	M.A. Political Science and International Relations	Political Economy	241/MPSIR/MD201	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
13.	M.A. Political Science	Political Economy	241/MPSIR/MD201	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
14.	M.A. Applied Economics	Data Analysis with Statistical Softwares	241/AE/MD201	1	2	<b>3</b>	20	5	25	35	15	50	<b>75</b>	
15.	Master of Science (Mathematics)	Aptitude Reasoning-II	241/MAT/MD201	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
16.	Master of Science (Botany)	Conservation Biology	241/BOT/MD202	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
17.	Master of Science (Environmental Science)	Natural Resources Management	241/EVS/MD202	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
18.	M.A. MUSIC	Basic Elements of Indian Classical Music (Theory and Practical)	241/MUS/MD201	2	1	<b>3</b>	35	15	50	20	5	25	<b>75</b>	
19.	M.A. Psychology	Psychology of Happiness & Peace	241/PSY/MD201	2	1	<b>3</b>	35	15	50	20	5	25	<b>75</b>	
20.	Msc Psychology	Psychology of Happiness & Peace	241/MPSY/MD201	2	1	<b>3</b>	35	15	50	5	20	25	<b>75</b>	
21.	M.Sc Social Work	Environmental Concerns and Social Work	241/MSW/MD201	2	1	<b>3</b>	35	15	50	20	5	25	<b>75</b>	
22.	M.A. Geography	Geography of Haryana (Theory)	241/GEO/MD201	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
23.	M.A. Sociology	Rural Society: Structure and Change	241/SOC/MD201	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
24.	Master of Science (Zoology)	Population Genetics & Evolution-II	241/ZOO/MD202	3	0	<b>3</b>	50	25	75	0	0	0	<b>75</b>	
25.	M A SANSKRIT	Natyashastra	241/SKT/MD202	2	1	<b>3</b>	35	15	50	20	5	25	<b>75</b>	
26.	M A HINDU STUDIES	Introduction to Purana Texts: Vishnu Purana & Agni Purana	241/HS/MD202	3		<b>3</b>	50	25	75			0	<b>75</b>	
27.	Masters of Public Health	Health Education, Communication and Information	241/MPH/MD201	3		<b>3</b>	50	25	75				<b>75</b>	
28.	MA Education	Andragogy and Education	241/MEDU/MD201	3	0	<b>3</b>	35	15	50	20	5	25	<b>75</b>	



241/CS/MD201

## WEB TECHNOLOGY

Semester	2			
Course code	MDC-02			
Category	Multidisciplinary Course			
Course title	Web Technology			
Course ID	241/CS/MD201			
Scheme and Credits	L	T	P	Credits
	2	0	2	3
Theory Internal	15 marks			
Theory External	35 marks			
Practical Internal	5 marks			
Practical External	20 marks			
Total	75 marks			
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 unit and the marks of each question from Question no.2 to 9 will be of 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 OUTCOMES:

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

CO1: Analyze given assignment to select sustainable web development and design methodology.

CO2: Identify the difference between the HTML PHP and XML documents.

CO3: Identify the engineering structural design of XML and parse tree

CO4: Analyze the difference between and PHP and XML.

CO5: Develop solution to complex problems using appropriate method, technologies, frameworks, web services and content management.

### UNIT-I

**HYPertext MARKUP LANGUAGE:** The anatomy of an HTML document: Marking up for structure and style: basic page markup, absolute and relative links, ordered and unordered lists, embedding images and controlling appearance, table creation and use, frames, nesting and targeting.

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**STYLE SHEETS:** Separating style from structure with style sheets, Internal style specifications within HTML, External linked style specification using CSS, page and site design considerations.

#### **UNIT-II**

**Introduction to PHP:** Declaring variables, data types, arrays, strings, operations, expressions, control structures, functions, Reading data from web form controls like Text Boxes, radio buttons, lists etc., Handling File Uploads, Connecting to database (My SQL as reference), executing simple queries, handling results, Handling sessions and cookies. File Handling in PHP: File operations like opening, closing, reading, writing, appending, deleting etc. on text and binary files, listing directories.

#### **UNIT-III**

**CLIENT-SIDE PROGRAMMING:** Introduction to Client-side programming, Java Script syntax, the Document object model, Event handling, Output in JavaScript, Forms handling, cookies, Introduction to VBScript, Form Handling.

#### **UNIT-IV**

**XML:** Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Well formed, using XML with application.XML, XSL and XSLT. Introduction to XSL, XML transformed simple example, XSL elements, transforming with XSLT.

#### **TEXT AND REFERENCE BOOKS:**

1. "Fundamentals of the Internet and the World Wide Web", Raymond Greenlaw and Ellen Hepp, TMH , latest edition.
2. "Internet & World Wide Programming", Deitel,Deitel & Nieto, Pearson Education
3. "Complete idiots guide to java script". Aron Weiss, QUE.
4. "Network firewalls", Kironjeet syan - New Rider Pub.

## PROGRAMMING IN PYTHON

Semester	2			
Course code	SEC-01			
Category	Skill Enhancement Course			
Course title	Programming in Python			
Course ID	241/CS/SE201			
Scheme and Credits	L	T	P	Credits
	1	0	2	2
Theory Internal	5 marks			
Theory External	20 marks			
Practical Internal	5 marks			
Practical External	20 marks			
Total	50 marks			
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 of 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 OUTCOMES:

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

CO1: Understand Python syntax and semantics and be fluent in the use of Python flow control and Functions

CO2: Develop, run and manipulate Python programs using Core datastructures like Lists, Dictionaries, and use of Strings Handling methods.

CO3: Develop, run and manipulate Python programs using File Operations and searching pattern using regular expressions.

CO4: Interpret the concepts of object-oriented programming using Python

CO5: Determine the need for scraping websites and working with CSV, JSON and other file formats.

### UNIT - I

**Basic Introduction:** Origin, Need of Python Programming, Features, program structure, identifiers, reserved words, escape sequences, IDLE-Python Interpreter

241/MCA/MD201

Course code	MDC-2			
Category	Multidisciplinary courses			
Course title	Discrete Mathematics			
Course ID	241/MCA/MD201			
Scheme and Credits	L	T	P	Credits
	3	-	-	3
Theory Internal	25			
Theory External	50			
Total	75			
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 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 Outcomes:**

- CO1: Solve mathematical problems based on concepts of set theory, relations, functions and lattices.
- CO2: Express logical sentences in terms of quantifiers and logical connectives.
- CO3: Apply basic counting techniques to solve permutation and combination problems.
- CO4: Solve recurrence relations.
- CO5: Develop the given problem as graph networks and solve it with techniques of graph theory.

**UNIT I**

**Set Theory:** Introduction to set theory, Venn diagrams, Set operations, Algebra of sets, Duality, Finite and infinite sets, Counting principles, Power sets, Partitions, and Multi sets.

**Relations:** Cartesian product, Representation of relations, Types of relation, Binary relation, Equivalence relations, Partitions, Partial ordering relations, POSET, Hasse diagram, Lattices and its types.

**Functions:** Definition, Types of functions, Bijective functions, Composition of functions, Inverse functions, recursively defined functions, Finite and infinite sets, Countable and uncountable sets, Cantor's diagonal argument and The Power Set theorem, Schroeder-Bernstein theorem.

**Logic And Propositional Calculus:** Introduction, Propositions and compound propositions, Logical operations, Propositions and truth tables, Tautologies, Contradictions, Logical equivalence, Algebra of propositions, Conditional and Bi-conditional statements, The use of Quantifiers.

## UNIT II

**Basic Counting Techniques:** Pigeon-hole principle, Permutation and Combination, the Division algorithm: Prime Numbers, The GCD: Euclidean Algorithm, The Fundamental Theorem of Arithmetic.

**Recursion And Recurrence Relation:** Polynomials and their evaluation, Sequences, Introduction to AP, GP and AG Series, Partial Fractions, Recurrence Relation, Linear Recurrence Relations with constant Coefficients, Linear Homogeneous Recurrence Relations with Constant Coefficients, Particular Solution- Homogeneous Linear Difference Equations, Non-Homogeneous Linear Difference Equations, Total Solution, solving recurrence relation using generating functions.

## UNIT III

**Definitions and examples of Algebraic Structures with one Binary Operation:** Semi Groups, Monoids, Groups, Semigroups, Subgroups, Abelian groups, Cosets, Normal Subgroup, Cyclic groups, Congruence Relation and Quotient Structures, Permutation Groups, Lagrange's Theorem, Homomorphism, Isomorphism, Automorphism.

**Definitions and examples of Algebraic Structures with two Binary Operation:** Rings, Integral Domain, Fields; Boolean Algebra and Boolean Ring, Identities of Boolean Algebra, Duality, Representation of Boolean Function, Disjunctive and Conjunctive Normal Form

## UNIT IV

**GRAPHS THEORY:** Introduction to graphs and their properties, Degree, Connectivity, Path, Cycle, Directed and undirected graphs, Subgraph, Bipartite Graphs, Regular Graphs, Connected Graphs, Multigraph and Weighted graph, Homomorphic and Isomorphic graphs, cut points and bridges, Paths and circuits, shortest path algorithm for weighted graphs, Eulerian paths and circuits, Hamiltonian path and circuits, Planar Graphs, Euler's formulae, Graph Colouring.

### Textbooks&ReferenceBooks:

1. Kenneth H. Rosen, *Discrete Mathematics and its Applications*, 6th Edition, Tata McGraw Hill, 2011.
2. Satinder Bal Gupta: *A Text Book of Discrete Mathematics and Structures*, University Science Press, Delhi.
3. C. L. Liu and D. P. Mohapatra, *Elements of Discrete Mathematics A Computer Oriented Approach*, Tata McGraw Hill, 3rd Edition, 2008.
4. J.P. Trembley and R. Manohar, *Discrete Mathematical Structures with Applications to Computer*

*Science*, Tata McGraw Hill – 13th reprint, 2012.

5. Richard Johnsonbaugh, *Discrete Mathematics*, 6th Edition, Pearson Education Asia, 2011.
6. S. Lipschutz and M. Lipson, *Discrete Mathematics*, Tata McGraw Hill, 3rd Edition, 2010.
7. B. Kolman, R. C. Busby and S. C. Ross, *Discrete Mathematical structures*, 6th Edition, PHI, 2010.

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241/MCA/MD202

241/MCA/MD202

Course code	MDC-2			
Category	Multidisciplinary Course			
Course title	<b>Modelling &amp; Simulation</b>			
Course ID	241/MCA/MD202			
Scheme and Credits	L	T	P	Credits
	3	-	-	3
Theory Internal	25			
Theory External	50			
Total	75			
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 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 Outcomes:

CO1: Able to define the different modelling terms by analyzing the system or the data that is present.

CO2: Able to learn different mathematical model and their application in simulation.

CO3: Able to implement the model and from the results check for the correctness of the assumptions.

CO4: Able to analyse the outcomes and make predictions.

#### UNIT-I

**Introduction:** System, environment, input and output variables; state variables; static and dynamic systems; hierarchy of knowledge about a system and modeling strategy.

**Introduction to Simulation:** Definition of simulation, reasons for using simulation: advantages and disadvantages, areas of application, system models, types of models; steps in a simulation study, simulation of continuous and discrete processes, hybrid simulation, representation of time, simulation clock, and time management.

#### UNIT-II

**Models of Arrival Processes:** Importance and characteristics of arrival processes, Poisson processes, non-stationary Poisson processes, batch arrivals, probability, and Monte Carlo simulation.

**Models of Queuing Systems:** Importance and characteristics of queuing systems, applications, models of queuing systems, single-server and multiple-server queuing systems, performance measurement.

**Random Numbers:** Importance and characteristics of random numbers, pseudo-random numbers, generation of random numbers, tests for randomness.

### UNIT-III

**Analysis of Simulation Output:** Input modeling: data collection, identification and distribution fitting, parameter estimation; stochastic nature of output data, measures of performance and their estimation, goodness of fit tests, confidence intervals, and hypothesis testing, estimation methods, simulation run statistics, and elimination of initial bias.

**Verification and Validation:** Model building: design and verification of simulation models, validation of models and calibration, three-step approach for validation of simulation models.

**Simulation Software:** Selection of simulation software, simulation packages, trends in simulation software.

### UNIT-IV

**Modelling & Simulation of Cloud, Fog & Edge Computing:** Concepts and differences between Cloud, Fog, and Edge computing, applications of Cloud, Edge, and Fog in healthcare, computing implementation issues, iFogSim simulator and its components, installing iFogSim, simulating with iFogSim.

**Case Study:** Simulation of smart healthcare systems.

#### Text books & Reference Books:

1. Deo, N. System Simulation with Digital Computer. 3rd Edition, PHI Publication (EEE), 2004.
2. Zeigler, B. P., Praehofer, H., & Kim, I. G. Theory of Modeling and Simulation. 2nd Edition, Academic Press, 2000.
3. Shannon, R. E. System Simulation: The Art and Science. Prentice Hall Inc., 1990.
4. Gordon, G. System Simulation. 2nd Edition, Prentice Hall, 1978.
5. Banks, J., Carson II, J. S., Nelson, B. L., & Nicol, D. M. Discrete Event System Simulation. 4th Edition, Pearson Education Asia, 2007.
6. Buyya, R., & Srirama, S. N. Fog and Edge Computing. Wiley Series on Parallel and Distributed Computing.
7. Dastjerdi, A. V., & Buyya, R. Fog Computing: Helping the Internet of Things Realize its Potential, University of Melbourne.
8. Mahmood, Z. Fog Computing: Concepts, Frameworks, and Technologies. Kindle Edition.
9. Abbas, A., Khan, S. U., & Zomaya, A. Y. Fog Computing: Theory and Practice. John Wiley & Sons, 2020.

Course code	SEC-1			
Category	Skill Enhancement Course			
Course title	<b>Problem solving and python programming</b>			
Course ID	241/MCA/SE201			
Scheme and Credits	L	T	P	Credits
	1	-	2	2
Theory Internal	05			
Theory External	20			
Practical Internal	05			
Practical External	20			
Total	50			
Duration of Exam	2 hrs			

*Note: The examiner will set nine questions in total. Question one will be compulsory. Question one will have seven parts of 2 marks each from all units, and the remaining eight questions of 14 marks each to be set by taking two questions from each unit. The students have to attempt five questions in total, the first being compulsory and selecting one from each unit.*

**Course Outcomes:**

CO1: Develop algorithmic solutions to simple computational problems.

CO2: Develop and execute simple Python programs.

CO3: Write simple Python programs using conditionals and looping for solving problems.

CO4: Decompose a Python program into functions.

CO5: Represent compound data using Python lists, tuples, dictionaries etc.

**UNIT I**

Fundamentals of Computing – Identification of Computational Problems -Algorithms, building blocks of algorithms (statements, state, control flow, functions), notation (pseudo code, flow chart, programming language), algorithmic problem solving, simple strategies for developing algorithms (iteration, recursion).

**UNIT II**

Python interpreter and interactive mode, debugging; values and types: int, float, boolean, string, and list; variables, expressions, statements, tuple assignment, precedence of operators, comments.

Conditionals: Boolean values and operators, conditional (if), alternative (if-else), chained conditional (if-elif-else).

241/COM/MD201

<b>Name of Subject: International Business and Cross- Cultural Management</b>	<b>Maximum Theory Marks: 75 (50+ 25) (TE+TI+PE+PI=50+25+0+0)</b>
<b>Course ID:</b>	<b>Time Allowed: 2hours</b>
<b>Credits: 3(L-T-P=2-1-0)</b>	<b>Course Type: Multidisciplinary Course</b>

**Instructions for Paper Setter:** The question paper shall be divided into two sections. Section 'A' shall comprise five short answer type questions from the syllabus carrying two marks each, which shall be compulsory. The answer to each question should not exceed 100 words normally. Section 'B' shall comprise 8 questions (2 questions from each unit). All the questions need to be mapped with Course Outcomes (COs) and need to be specified in the question paper against each question. 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 completion of the course, learners will be able to:

- CO1:** Understand the concepts and foundational principles of international business.  
**CO2:** Apply multiple dimensions of the field to impart an international perspective in making business decisions.  
**CO3:** Analyze relevant knowledge, skills, and abilities necessary to address cross-cultural management issues in international business contexts.  
**CO4:** Evaluate critical and creative solutions for cross-cultural management challenges in international business.

**Course Content:**

Unit I- Introduction: Nature, scope and importance of International Business; Modes of international business; International Trade: meaning, reasons, theories of international trade; Recent global trends in international trade.	10 Lectures
Unit II- Foreign market entry strategies; country evaluation and selection; factors affecting foreign investment decisions; impact of FDI on home and host countries; types and motives for foreign collaboration; International Economic Institutions: WTO, IMF, World Bank, UNCTAD; Regional Economic Integration: Levels of regional economic integration, Trade creation and diversion effects; Regional Trade Agreements: European Union (EU), ASEAN, SAARC and NAFTA.	10 Lectures
Unit III- Introduction: Concept of culture for a business context; Human and Cultural Variables in Global Organizations; Cross- Cultural Differences and Managerial Implications; Complexities of international firms	10 Lectures
Unit IV- Cross -Cultural Communication: elements and process of communication across cultures; Communication strategy of an Indian MNC and foreign MNC; Cross - Culture Negotiation & decision making- Process of Negotiation and Needed Skills & Knowledge Base – Overview with two illustrations from multi-cultural contexts [India – Europe/ India – US settings, for instance].	10 Lectures

**Suggested Readings:**

1. Daniels, J.D. and H. LEE Radesbaugh, International Business-Environment and Operations

(New Delhi; Pearson Education)

2. Hill, Charles W.L., International Business -competency in the Global Marketplace (New Delhi: Tata McGraw Hill)

3. Sundaram, Anant K and Steward J Black, The International Business Environment: Text and Cases (New Delhi: Prentice Hall of India)

4. Marie- Joelle Browaeys, understanding Cross-Culture Management, Pearson Education

5. Mead, R., International Management: Cross Cultural Dimensions, Blackwell, Camb., Mass.

**Instructions for Internal Examiner:** The internal assessment should be spread evenly throughout the semester and must include at least 3 independent components including a mid-term exam. Below are the suggested components for 25 marks. A teacher has a choice to change these components as per the need except for the mid-term exam. All the questions of mid-term Exams need to be mapped with Course Outcomes (COs) and need to be specified in the question paper against each question.

S. No.	Course Assessment Components	Marks/Weightage (%)
1	Attendance Below 55= 0 Marks Between 55 to < 65= 1Marks Between 65 to < 70 = 2 Marks Between 70 to < 75 = 3 marks Between 75 to < 80= 4 Marks 80 and more than 80 = 5 Marks	05
2	Assignment/ Presentations/ Seminars/ Role plays/ Case Analysis/ Simulations and Class Participation	10
3	Sessional Examination*	10
	<b>Internal Assessment (IA) (1+2+3)</b>	<b>25 (33.33%)</b>
	<b>End-Term Examination (EE)</b>	<b>50 (66.67%)</b>
	<b>Total Marks (IA+EE)</b>	<b>75</b>

#### Mapping Matrix of Course: 241/COM/MD205

**CO-PO & CO-PSO Matrix for the Course 241/COM/MD205: International Business and Cross- Cultural Management**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	2	2	2	1	1	2	3	2
CO2	2	2	2	3	2	2	1	2	2	3
CO3	3	2	3	3	2	2	2	2	3	3
CO4	2	1	2	3	3	2	3	3	2	3
Average	<b>2.5</b>	<b>2</b>	<b>2.25</b>	<b>2.75</b>	<b>2.25</b>	<b>1.75</b>	<b>1.75</b>	<b>2.25</b>	<b>2.5</b>	<b>2.75</b>

241/ENG/MD201

**Introduction to Phonetics**

Course Code: 241/ENG/MD201

**Max. Marks: 75****Theory: 50****Internal Assessment: 25****Course Outcomes:**

CO	DESCRIPTION
CO-1	Understand the system of sounds and sound combinations in English.
CO-2	Understand how words are produced, how they are transmitted, and how they are perceived.
CO-3	Differentiate between consonants and vowels.
CO-4	Pronounce English sounds in isolation and in connected speech.

**Course Objectives:**

CO	DESCRIPTION
CO-1	Understand systematic, conscious consideration of how speech sounds are made, what they sound like, and how they compare with each other.
CO-2	Know the structure of the English syllable.
CO-3	Know the different types of stress in English.
CO-4	Know the different intonations patterns of English.

2

**Unit 1: Basic of Phonetics**

Definition and Division of Phonetics

Consonant and Vowels: Sound with Transcriptions

Syllable: Definition, Types and Rules

Stress and Intonation: Definition and Types

**Unit 2 : Reading Patterns in English**

Difference between British, American and Indian English.

Characteristics and Problems of Indian English

Essentials of Reading English

Reading Skills: Scanning, Skimming Eyes, Extensive Reading and Intensive Reading

**Unit 3: English Language Teaching (ELT)**

First Language Acquisition

Second Language Acquisition/Learning

**Suggested Readings:**

*A Course in Phonetics* by Peter Ladefoged and Keith Johnson

*Introducing Phonetics and Phonology* by Mike Davenport and S.J. Hannahs

*Phonetic Data Analysis: An Introduction to Fieldwork and Instrumental Techniques* by Peter Ladefoged

*The Sounds of Language: An Introduction to Phonetics and Phonology* by Elizabeth Zsiga

*Phonetics: A Practical Introduction* by Ratrete Wayland

**Instructions to the Paper-Setter and students:**

- All questions are compulsory.
- Question 1 will be short-answer type question covering all Units. There will be at least one question from each Unit. The students are required to attempt any 4 out of 6 selecting at least one from each Unit. (4×5=20marks)
- Question no. 2 will be an Essay type question based on Unit I. The students have to attempt any 1 out of 2 questions. (10 marks)
- Question no. 3 will be an Essay type question based on Unit II. The students have to attempt any 1 out of 2 questions. (10 marks)
- Question no. 4 will be an Essay type question based on Unit III. The students have to attempt any 1 out of 2 questions. (10 marks)

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241/JMC/MD202

MA(JMC)  
SEMESTER -2

Name of Subject: <b>Writing for Media</b>	Maximum Theory marks: 75 (25+50)
Subject Code: MDC-02	Course ID: 1111111111

**Instructions for Paper Setter:** This question paper shall be divided in two sections. Examiner is requested to set section A as compulsory question containing 14 marks and from the entire syllabus (can be either objective or subjective). Section B will be in choice from two of the questions from each unit; these questions will be of 12 marks each. The students will be required to attempt one question from each unit.

**Objective:** Developing a comprehensive understanding of various writing formats across print, broadcast, web, film, and documentary mediums. Emphasizing skills in news reporting, feature writing, broadcast scriptwriting, online media writing, and film/documentary scripting to prepare students for diverse roles in the field of media communication.

**Course Outcomes:**

Students will be able to:

1. Develop skills in writing news, features, and opinion pieces for print media.
2. Learn techniques for writing scripts for radio and television.
3. Gain proficiency in creating content for digital and social media.

**COURSE CONTENTS:**

<b>Unit 1: Writing for Print Media</b>
1.1 News, News Values and News Stories 1.2 Structure and Principal of News 1.3 Writing Formats: Article, Editorial, Column, Op-ed, Review, Interview and Caption Writing 1.4 Various Types of Features: Travelogue and Memoir
<b>Unit 2: Writing for Broadcast</b>
2.1 Writing for the Ear and Radio News 2.2 Copy Writing for Radio Advertisement (Jingle and Slogans) 2.3 Television Language and Technique of News Writing 2.4 Television Script Format and Packaging: (PTC, V.O. Anchor links, STD shots, STD graphics, Head link)
<b>Unit 3: Writing for Web</b>
3.1 Types of Online Media Writing (Breaking News, Developing News Stories, Multimedia: Visual Story Telling) 3.2 Platforms Based Online Media Writing (News Websites and Blogs, Social Networking sites, Interactive Writing) 3.3 Search Engine and Optimization (SEO) Based Online Writing 3.4 Fact Checking While Writing (Visuals Fact Check and Fake News Fact Check)

**Suggested Readings:**

1. "News Writing" by George A. Hough

2. "Creative Writing: A Beginner's Manual" by Neira Anjana Dev, Anuradha Marwah, and Swati Pal
3. "News Reporting and Editing" by Jan R. Hakemulder, Ray Ac De
4. "The News Writers' Handbook" by M. L. Stein and Susan F. Peterno
5. "Basic Source Material for News Writing" by M. K. Joseph
6. "Practical Photography" by O. P. Sharma
7. "Basic Photography" by Michael Langford
8. "Handbook of Photography" by James A. Folts, Ronald P. Lovell
9. "Photography" by Lee Frost





पूर्णांक-50+25=75

Course Id-

पाठ्यक्रम के उद्देश्य :

- विद्यार्थियों को महात्मा गांधी के शब्द और कर्म से परिचित कराना।
- महात्मा गांधी के चिंतन और हिंदी साहित्य के अंतर्संबंधों का ज्ञान देना।
- राष्ट्रीय आंदोलन के मूल्यों से परिचित कराना।

पाठ्यक्रम अध्ययन के परिणाम :

- विद्यार्थी महात्मा गांधी के जीवन-दर्शन से परिचित होंगे।
- विद्यार्थी राष्ट्रीय आंदोलन में गांधी जी के नेतृत्व और उनकी लोकप्रियता के कारणों को समझेंगे।
- विद्यार्थी गांधी-दर्शन और हिंदी साहित्य के संबंधों को जानेंगे।

पाठ्यक्रम:

इकाई 1 : गांधी-दर्शन : अवधारणा और महत्व

गांधी दर्शन की अवधारणा

गांधी दर्शन का विकास

सत्य और अहिंसा

विश्व पर गांधी-दर्शन

इकाई 2 : भारतीय साहित्यिक-सांस्कृतिक परंपरा और महात्मा गांधी

गांधी का गीता भाष्य

गांधी और रामराज

गांधी और सनातन संस्कृति

इकाई 3 : हिंदी कविता में गांधी

महात्मा जी के प्रति सुमित्रानंदन पंत

बापू (चार पारंपरिक अंश)- रामधारी सिंह दिनकर

तुम कागज पर लिखते हो- भवानी प्रसाद मिश्र

इकाई- 4 : हिंदी गद्य में गांधी

बहला गिरमिटिका (अंतिम 50 पृष्ठ)- गिरिराज किशोर

दांडी यात्रा (पृष्ठ 30-67)- मधुकर उपाध्याय

निर्देश-1. पाठ्यक्रम में निर्धारित प्रत्येक खंड में से कम से कम एक दीर्घ प्रश्न अवश्य पूछा जाएगा। पूछे गए कुल प्रश्नों की संख्या चार होगी जिसमें से परीक्षार्थी को कुल दो प्रश्न करने होंगे। प्रत्येक प्रश्न के लिए 10 अंक निर्धारित हैं। पूरा प्रश्न कुल 20 अंकों का होगा।

2. पूरे पाठ्यक्रम में से कुल दस लघुतरी प्रश्न पूछे जाएंगे जिनमें से परीक्षार्थी को 200 शब्दों में किन्हीं छः प्रश्नों का उत्तर देना होगा प्रत्येक प्रश्न 4 अंक का होगा। पूरा प्रश्न 24 अंकों का होगा।

3. पूरे पाठ्यक्रम में से 6 वस्तुनिष्ठ अनिवार्य प्रश्न पूछे जाएंगे। प्रत्येक प्रश्न एक-एक अंक का होगा।

सहायक ग्रंथों की सूची:

1. गांधी, महात्मा, हिंद स्वराज, नवजीवन प्रकाशन, अहमदाबाद।
2. गांधी, महात्मा, सत्य के प्रयोग अथवा आत्मकथा, नवजीवन प्रकाशन, अहमदाबाद।
3. कृपलानी कृष्ण गांधी एक जीवनी, राष्ट्रीय पुस्तक न्यास, नई दिल्ली।
4. कृपलानी जे. बी., जीवन और दर्शन, प्रकाशन, विभाग, नई दिल्ली।

5. गिरि, राजीव रंजन, गांधीवाद रहे न रहे. अनन्य प्रकाशन, नई दिल्ली।
6. आचार्य, नंद किशोर, अहिंसा की संस्कृति, राजकमल प्रकाशन, नई दिल्ली।
7. धर्माधिकारी, दादा गांधी की दृष्टि, सर्व सेवा संघ प्रकाशन, वाराणसी।
8. मिश्र, श्री प्रकाश, अहिंसा का उत्तर आधुनिक परिप्रेक्ष्य, प्राकृत भारती अकादमी, जयपुर।
9. मिश्र, दयानिधि, गांधी और हिंदी सृजन संदर्भ, सस्ता साहित्य मंडल, नई दिल्ली।
10. पारख भौखु, गांधी, ऑक्सफोर्ड यूनिवर्सिटी प्रेस, नयी दिल्ली।

241/PPAG/MD201

14

Semester II

MDC- 2: Citizenship in Global Perspective

	<b>Citizenship in Global Perspective</b>
<b>Semester II</b>	<b>Maximum Marks: 75</b>
<b>Credits: 3 (Hrs./week:3)</b>	<b>Theory Examination: 50</b>
<b>Time: 3 hours</b>	<b>Internal Assessment: 25</b>

**Course Outcome:**

**Understand:** Students will define disaster governance, including its features and significance.

**Analyze:** Students will analyze the roles and responsibilities of governmental bodies, the market, and civil society in disaster governance in India.

**Evaluate:** Students will evaluate the challenges faced by international organizations in global disaster governance.

**Creative:** Students will critique and propose improvements to existing disaster governance frameworks based on global perspectives.

**Note for External Examiner:**

1. Seven Questions will be set in all and students will be required to attempt 4 questions.
2. Question No. 1 will be compulsory and will consist of 7 short answer type questions of 2 marks spread over the entire syllabus (2x7=14 marks).
3. For the remaining six questions, students will attempt 1 out of 2 questions from each of the three units (12 marks each).

**Unit 1: Conceptual framework**

- a) Citizenship and social class
- b) Group differentiated citizenship
- c) Multicultural citizenship

**Unit 2: Citizenship beyond Nation-State**

- a) Flexible citizenship
- b) Dual citizenship
- c) Idea of cosmopolitan citizenship

**Unit 3- India and Citizenship**

- a) Theory and practice
- b) Indian Constitution and Citizenship laws

**Suggested Readings:**

1. Benhabib, S. (2004). *The Rights of Others: Aliens, Residents, and Citizens*. Cambridge University Press.
2. Hammar, T. (1990). *Democracy and the Nation-State: A Comparative Perspective*. Sage Publications.
3. Hollifield, J. F. (2004). *The Politics of Migration and Immigration in Europe*. Blackwell Publishing.
4. Jha, S. (2016). *Citizenship in India: Theory and Practice*. *Indian Journal of Political Science*, 77(2), 201-214.
5. Kumar, R. (2014). *The Indian Constitution and Citizenship Laws*. *Journal of Indian Law and Society*, 5(1), 25-41.
6. Kymlicka, W. (1995). *Multicultural Citizenship: A Liberal Theory of Minority Rights*. Oxford University Press.
7. Marshall, T. H. (1964). *Citizenship and Social Class*. Pluto Press.
8. Mishra, K. C. (2008). *Citizenship in India: Historical and Contemporary Perspectives*. *Indian Review of Books*, 9(3), 45-60.
9. Shapiro, I., & Hacker-Cordon, C. (1999). *Democracy's Edges*. Cambridge University Press.



241/MPSIR/MD201

## Semester II

## MDC-02: Political Economy

Course ID -	Political Economy
Semester II	Maximum Marks: 75
Credits: 3 (Hrs./week:3)	Theory Examination: 50
Time: 3 hours	Internal Assessment: 25

- Seven Questions will be set in all and students will be required to attempt 4 questions.
- Question No. 1 will be compulsory and will consist of 7 short answer type questions of 2 marks spread over the entire syllabus (2x7=14 marks).
- For the remaining six questions, students will attempt 1 out of 2 questions from each of the three units (12 marks each).

Unit-I

(a) Development of Classical Political Economy and its Contributors:

- Adam Smith
- David Ricardo
- J.S Mill

(b) Marxist and Neo- Marxist Political Economy and its Critique.

Unit-II

(a) State Intervention and Development;

- Keynes
- Hayek
- Amertya sen

(b) Developmental State; East Asian Model

Unit-III

- Democratic Developmental State; The Indian Model
- Challenges and Critique of The Indian Developmental Model.

dpm.

### Suggested readings:

- Samir Amin Unequal Development : An Essay on the Social Formation of Peripheral Capitalism, Haddocks: Harvester Press, 1976 Accumulators on a World Scale
- John s. Augustine Strategies for Third World Development, New Delhi : SagePublications, 1989.
- Hartmut Elsonhans Development and Underdevelopment : The History, Economics and Politics of North-South Relations, New Delhi : Sage Publications, 1991
- Stoessinger, John G. United Nations and the Super Powers : China USA and USSR Gordenker, Leon UN Secretary General and the Maintenance of Peace
- Pedelford, Norman J and The United Nations in the Balance Goodrich, L.M. (Eds.) Accomplishments and Prospects Institution.
- Samir Amin Unequal Development : An Essay on the Social Formation of Peripheral Capitalism, Haddocks : Harvester Press, 1976. Accumulators on a World Scale.
- John S. Augustine Strategiesforthird World Development, New Delhi : Sage Publications, 1989.
- Hartmut Elsonhans Development and Underdevelopment : The History, Economics and Politics of North-South Relations, New Delhi : Sage Publications, 1991.
- Andre Gunder Frank Capitalism & Underdevelop in Latin Wolterstein America, Penguin, 1971 Globalization of Capital, 1997.
- Andre Gunder Frank Capitalism & Underdevelop in Latin Wolterstein America, Penguin, 1971 Globalization of Capital, 1997.

Michael Chossodovsky Globalization of poverty, New Delhi : Other Indian Press, 1997

*dm.*

24/AE/MD201

24/AE/MD201

**MA. APPLIED ECONOMICS MDC**

24/AE/MD201

**SEMESTER II**

		<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>Data Analysis with Statistical Softwares</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>

**Max. Marks: 75**

**Practical Exam: 50**

**Credits: 3**

**Practical/ Internal Assessment: 25**

**Note For the paper Setter**

- Seven Questions will be set in all and students will be required to attempt 4 questions.
- Question No. 1 will be compulsory and will consist of 7 short answer type questions of 2 marks spread over the entire syllabus (2x7=14 marks).
- For the remaining four questions, students will attempt 1 out of 2 questions from each of the four units (12 marks each).

**Course objective**

The objective of the paper is to make students familiar with theory and application of statistical methods. This course covers the statistical foundations of data analysis including the statistical theory and its applications in Economics through MS Excel and SPSS.

**Course Outcomes**

- CO1: Understand the use of MS Excel and SPSS in data analysis.
- CO2: Develop research skills for in-depth analysis of Data
- CO3: Ability to use mathematical, statistical, financial, and graphical functions available in MS Excel and SPSS for various computational works related to economics and business.

**Unit- I**

**Data Collection and Fundamentals of Data Analytics**

Types of data: qualitative vs quantitative, primary vs. secondary. Use of various data collection techniques across various business domains, Qualitative data collection techniques (FGDs and Depth interviews), Quantitative data collection techniques (Survey), Quantitative data collection techniques (Experiments).

**Unit- II**

**Module I- MS-Excel:** Work sheet-entering data and creating work sheets and work book opening and formatting. Concept of Data-Record and File-types of Data-Data Entry-File handling and Operations like opening, appending and cascading-closing and attribute controls-Data Storage and Retrieval Data operations-Preparation and Formatting of Text, Tables and Graphs-Estimation of Descriptive Statistics.

40

### Unit- III

**Module II- Cross Section & Panel Data Techniques and Methods using SPSS-** Groups, Tables, Graphs and Objects, Descriptive Statistics, One Way Tabulation, Cross Tables, One Sample T Test, Independent Sample Test, Paired Sample T Test, One Way ANOVA, Correlation-Bivariate Partial, Regression-Least Square, Binary & Logistic Regression, 2 Stage Least Square, Factor Analysis, Principal Component, Panel Regression Analysis.

#### Suggested Readings

- Ken Black, 2013, Business Statistics, New Delhi, Wiley.
- Lee, Cheng. et al., 2013, Statistics for Business and Financial Economics, New York: Heidelberg Dordrecht.
- Anderson, David R., Thomas A. Williams and Dennis J. Sweeney, 2012, Statistics for Business and Economics, New Delhi: South Western.
- Waller, Derek, 2008, Statistics for Business, London: BH Publications.
- Wayne L. Winston, 6<sup>th</sup> Edition, Microsoft Excel Data Analysis and Business Modeling.
- U Dinesh Kumar, 2021, Business Analytics: The Science of Data-Driven Decision-Making.
- James Evans, Business Analytics: 2nd Edition.

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241/MAT/MD201

241/MAT/MD201

**M.Sc. MATHEMATICS 2<sup>nd</sup> SEMESTER**  
**Aptitude Reasoning-II**

MDC-02

Credits: 3(2L+1T)

Max. Time: 2 hrs

Course ID:

Maximum Marks: 75

External Examination: 50

Internal Assessment: 25

**Note:** There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of five short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Students will have to attempt one question from each unit. Each question shall carry equal marks.

**Course Learning Outcomes:**

**CLO1** Acquire quantitative skills in averages, ages, surds, indices, percentages, and number-based problems.

**CLO2** Develop skills in logarithms, permutations, combinations, probability, time/work, ratios, mixtures, volumes, and boat/stream problems.

**CLO3** Analyze data using interpretation, pie charts, and Venn diagrams.

**CLO4** Deduce reasoning through coding-decoding, calendars, Venn diagrams, seating arrangements, syllogism, and mathematical operations.

**Unit-I**

**Quantitative Ability I:** Average, Problems on Ages, Surds & Indices, Percentages, Problems on Numbers.

**Unit-II**

**Quantitative Ability II:** Logarithm, Permutation and Combinations, Probability, Time & Work, Ratio and Proportion, Mixtures and Allegation, Volume, Problem on boat and stream.

**Unit-III**

**Data Interpretation:** Data Interpretation, Pie Chart, Venn Diagrams.

**Unit-IV**

**Logical Reasoning (Deductive Reasoning):** Coding – Decoding, Calendars, Venn Diagrams, Seating Arrangement, Syllogism, Mathematical Operations

**Reference Books:**

1. A Modern Approach To Verbal & Non Verbal Reasoning By R S Agarwal
2. Analytical and Logical reasoning By Sijwali B S
3. Quantitative aptitude for Competitive examination By R S Agarwal
4. Analytical and Logical reasoning for CAT and other management entrance test By Sijwali B S
5. Quantitative Aptitude by Competitive Examinations by AbhijitGuha 4 th edition

Mark

241/BOT/MD202

BOTANY: SEMESTER-II								
Course Code	Course ID	Course Title	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
MDC-02 3 credit		Conservation Biology	2	2	15	35	50	3 hrs.
			1	2	5	20	25	
<b>Course Learning Outcomes (CLO)</b>								
<ol style="list-style-type: none"> <li>Students will become aware and understand the concept and significance of different conventions and Protected Area Networks in relation to conservation of Biodiversity.</li> <li>Students will be able to develop own conservation values and ethics and appreciate the importance of biodiversity services.</li> <li>Student will be able to develop the skills necessary to work efficiently in areas like conservation, EIA, environment management and monitoring.</li> <li>After completion of the course, the student be able to formulate one's own scientific and realistic approach towards Conservation Biology.</li> </ol>								
<b>Instructions for Paper-Setter</b>								
<ol style="list-style-type: none"> <li>Nine questions will be set in all. All questions will carry equal marks.</li> <li>Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit.</li> </ol>								
UNIT	TOPICS							CONTACT HOURS
I	Principles, characteristics and importance of conservation biology Conservation values and ethics, Role of species in conservation							12
II	Global biodiversity I: Patterns and Processes Global biodiversity II: Losses, Pattern of species vulnerability, Habitat fragmentation and degradation, Synergistic interactions Biodiversity and ecosystem services							11
III	Biodiversity of wetlands, mangroves and coral reefs- A general account Biosphere reserves and RAMSAR sites in India, The Design of Conservation Reserves Major approaches to management, Indian case studies on conservation/management strategy (Project Tiger, Biosphere Reserves)							11
IV	Importance of genetic resources and conservation of crop genetic resources International and National efforts to conserve biodiversity: Convention on biological diversity, CITES, Ramsar convention; National Biodiversity strategy Role of remote sensing and GIS and biodiversity conservation							11
<b>Learning Resources</b>								
<ol style="list-style-type: none"> <li>Chape, S., Fish, L., Fox, P. And Spalding, M. 2003. United Nations list of protected areas. IUCN/UNEP/World Conservation Monitoring Centre, Gland, Switzerland/Cambridge</li> <li>Gopal, B. (ed.) 1987. Ecology and Management of Aquatic Vegetation of the Indian Subcontinent. W. Junk bv. The Hague.</li> <li>Heywood, V.(Ed.) (1995). Global Biodiversity Assessment. United Nations Environment Programme, Cambridge University Press, Cambridge, U.K.</li> <li>Hunter (Jr.) M.L. (1996); Fundamentals of Conservation Biology, Blackwell Science. Meffe G.K. and C. Ronals Corroll (1994) Principles of Conservation Biology, Sinaur Associates, Inc., Sunderland. Massachusetts.</li> <li>Huston, M.A. 1994. Biological Diversity: The Coexistence of Species on Changing Landscapes. Cambridge University Press, Cambridge.</li> <li>Peter H. Raven, P.H. and Berg, L. R. Berg. 2005. Environment, 5th Edition. John Wiley &amp; Sons Inc., New York.</li> <li>Singh, J.S., Singh, S.P. and Gupta, S.R. 2006. Ecology, Environment and Resource Conservation, Anamaya Publishers, New Delhi.</li> <li>Soule, M.E. (ed.) (1986) : Conservation Biology. The Science of Scarcity and Diversity. Sinaur Associates, Inc., Sunderland, Massachusetts.</li> <li>Turner, M.G., Gadner, R.H. and O'Neill, R.V. 2001. Landscape Ecology: In theory and Practice, Pattern and Processes. Springer Verlag, New York.</li> </ol>								

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241/MUS/MD201

241/MUS/MD201

SEMESTER 2 MDC MUSIC Pg

Name of the Subject – <b>Basic Elements of Indian Classical Music Theory and Practical</b>	Maximum theory marks: 50 (15+35) Time - 2 hour
Subject Code – 241/MUS/MD201	Maximum Practical Marks 25 (5+20)

**Theory Paper**

Instructions for External Examiner: The examiner is required to set 7 questions in total. This question paper shall be divided in two sections. The examiner is requested to set section A as a compulsory question containing 14 marks and from the entire syllabus (can be either objective or subjective). Section B will be in choice from two of the questions from each unit containing 7 marks each. The students will be required to attempt one question from each unit.

**Learning Objectives:**

- To know about raagas of Indian Music and basic instruments
- To know about taals and their layakarīs.
- to know about musicologists of Indian Music.

**Learning Outcomes:**

- On successful completion of this course, the students will be able to:
  - Gain the knowledge of raagas
  - Gain knowledge of the terminology of Indian Classical Music and Harmonium.
  - Gain the knowledge of writing the Musical compositions in the Notation system

**Unit 1:**

1. Notation of one Drut Khayal in the following Ragas:
  - i. Bhairav
  - ii. Kafi
2. Description of Harmonium Vadya

**Unit 2 :**

1. Description of ektaal and dadra taal
2. Layakari of ektaal and dadra taal in Dugun, tigon and chaugun.

**Unit 3:**

1. Description of raag Bhairav and Kafi
2. Biography of: i) Omkarnath Thakur, ii) Narayan Rao Vyas

## Practical Paper

### Learning Objectives

- to acquire the knowledge of raag presentation
- to know about light music
- to know the presentation of Taals

### Learning Outcomes

On successful completion of this course, the students will be able to:

- present the mentioned raags with aesthetic sense
- know and sing light music music.
- know and play the mentioned taals.

### Unit 1:

1. Students have to prepare Chota/Drut khayal in raag Bhairav and Kafi.
2. Students have to present 5 Alankars based on the above mentioned raags

### Unit 2:

1. Sing any of the following: Geet, Ghazal, Bhajan, Folk, Film Music.

### Unit 3:

1. Present the following taals on tabla or hands : ektaal and dadra taal.

### SUGGESTED READINGS:

- a. Harish Chander Srivastava : Raag Parichaya , Part I, II & III
- b. Madhur Sawaralipi Sangrah : Harish Chander Shrivastava Part- I,II,III,IV
- c. Bhatkhande Sangeet Shastra- V. N. Bhatkhande
- d. Sangeet Visharad- Basant
- e. Kramik Pustak Mallika- Part II V. N. Bhatkhande
- f. Raag Vigyan – V. N. Patwardhan
- g. Bhartiya Sangeet Vadya-- Pt. Lal Mani Mishra
- h. Sangeet Bodh – Sharad Chandra Pranjpayee

241/PSY/MD201

M.Sc. Psychology/ M.A. Psychology  
Semester- II

MDC-2 Psychology of Happiness & Peace ( )  
Credits: 3

Maximum Marks:75  
Theory Examination: 35  
Internal Assessment: 15  
Practical Examination: 20

Practical Assessment: 05

Time: 3 hrs.

**Note:** The students will be required to attempt four questions in all. Question No. I will be compulsory comprising of 5 short answer type questions of 1 mark each and will cover the entire syllabus  $1 \times 5 = 5$  marks. In addition to it, Question Nos. II to VII will consist of long answer (essay type) questions, two Questions from each Unit with internal choice carrying 10 marks each i.e.  $3 \times 10 = 30$  marks thus making it the total weight age to 35 marks. Three questions to be attempted. One from each unit.

**Course Outcomes**

- Students will be able demonstrate an understanding of happiness from both Western psychological perspectives and Eastern philosophical traditions.
- Students will be able how social, cultural, and environmental factors influence individual and collective happiness.
- Students will be able apply knowledge of happiness to analyze contemporary issues such as social media impact, materialism, and mental health.

**Unit-1**

- Locating Happiness in Psychological Approaches- Psychological definitions of Happiness, Biology of happiness, Personality and happiness, Theories and models for attaining happiness, social markers of Happiness, Objective measurements of happiness

**Unit-2**

- Eastern Traditions of Happiness and its relationship with Peace-Buddhist and Hindu view of Happiness, Meditation and Mindfulness, Morality and Happiness

**Unit-3**

- Deconstructing Happiness in the Contemporary world-Happiness and social media, Cage of Materialism, Happiness-suicide paradox, Overt mobile based happiness- covert narcissist vulnerability

### *Suggested Readings:*

1. A, J. (2014). Towards a Developmental Understanding of Happiness. *Sociological Research Online*.
2. J, M. (2015). *Theories of Happiness: An Anthology*. Broadview Press.
3. L, L. (2014). Person-Oriented Conception of Happiness and Some Personality Theories. *Sage Open*.
4. N, L. (2016). The Views on Happiness: A Dialectic Approach. *Vision: The Journal of Business Perspective*.
5. S, O. (2013). Concepts of Happiness Across Time and Cultures. *Personality and Social Psychology Bulletin*.
6. T, C. (2011). Effects of Intensive Mobile Happiness Reporting in Daily Life. *Social Psychological and Personality Science*.
7. Batthyany, A., Russo-Netzer, P. (Eds.). (2014). *Meaning in Positive and Existential Psychology*. Springer.



241/MSW/MD201

241/MSW/MD201

**Master of Social Work  
Semester -**

**Master of Social Work  
Semester - II  
Environmental Concerns and Social Work**

**MDC-2**

**Credits: 3 (Hrs./Week: 3)**

**Maximum Marks: 75  
Theory Examination: 50  
Internal Assessment: 25**

**Note:** The students will be required to attempt four questions in all. Question No. I will be compulsory comprising of 4 short answer type questions of 2 marks each and will cover the entire syllabus 4X 2 = 8 marks. In addition to it, Question Nos. II to VII will consist of long answer (essay type) questions, two Questions from each Unit with internal choice carrying 14 marks each i.e. 3 X 14 = 42 marks thus making it the total weight age to 50 marks .Three questions to be attempted. One from each unit.

**Course Outcomes:**

- Demonstrate a nuanced understanding of the complex interrelationships between human societies and their environmental contexts.
- Critically analyse the differential impacts of environmental changes on marginalized groups
- Integrate Ecological Social Work principles and practices into the Social Work profession

**Unit-I**

**Understanding the Environment and Environmental Social Work**

- Definition and components of the environment
- Differential impact of environmental degradation on marginalized groups
- Context, significance, and scope of Environmental Social Work

**Unit-II**

**Environment, Development, and Sustainability**

- The interface between environment and development
- Implications of environmental sustainability for food security, livelihoods, energy, and community well-being
- Concept, potentialities, and challenges of Sustainable Development

### Unit-III

#### Global and National Environmental Issues

- Climate change: Social implications and consequences such as disasters, food shortages, migration, and conflict
- Constitutional provisions, policies, and legislative framework related to environmental conservation
- UN and Climate Change

### Unit-IV

#### Approaches to Environmental Conservation and Movements

- Deep Ecology, Eco-feminism, Eco-Socialism, and community-based natural resource management
- Typology and ideologies of environmental movements
- Role of civil society organizations in addressing environmental issues

#### Suggested Readings:

- Trivedi, V. (2011). *Environment and social concerns* (1st ed.). Concept Publishing Company Pvt. Ltd.
- Gray, M., Coates, J., & Hetherington, T. (Eds.). (2013). *Environmental social work* (1st ed.). Routledge.
- Yadav, S., Negm, A. M., & Yadava, R. N. (Eds.). (2024). *Environmental management in India: Waste to wealth*. Springer.
- Agnimitra, Neera., Bhatt, Sanjay. (2014). *Social Work Response to Environment and Disaster(Ed)*, Shipra Publication.
- Agnimitra Neera. (2014). *Going Green – Women and Grassroots Environmentalism*, Shipra Publication
- Dominelli, L. (2012). *Green social work – From environmental crises to environmental justice*. Rawat Publication
- Grey, M., Coates, J., & Hetherington, T. (2013). *Environmental social work*. New York: Routledge.
- Rogers, P., Jalal, K., & Boyd, J. (2008). *An introduction to sustainable development*. London: Earthscan.
- Agarwal, B. (2015). *Gender and green governance: the political economy of women's presence within and beyond community forestry*. Oxford: Oxford University Press.
- Carter, N. (2007). *The politics of the environment: Ideas, activism, policies* (2nd edition). London: Cambridge University Press.
- Roser, D., & Seidel, C. (2017). *Climate justice: An introduction*. New York: Routledge.
- Mies, M., & Shiva, V. (2010). *Ecofeminism*. Jaipur: Rawat Publications.
- Sessions, G. (1995). *Deep ecology for the 21st century: Readings on the philosophy and practice of the new environmentalism*. Boston: Shambhala Publications.
- Guha, R., & Alier, J. (1997). *Varieties of environmentalism: essays north and south*. New York: Routledge.
- Rangarajan, M. (2006). *Environmental issues in India*. New Delhi: Pearsons.



241/GEO/MD201

M.A. Geography 2

**Gurugram University Gurugram, Haryana(India)**  
PG Program: (Semester-II) Geography Subject MDC-2 Paper Syllabus  
(as per NEP 2020 w.e.f session 2024-25)  
(offered to the students of different discipline/Subject)

## **GEOGRAPHY OF HARYANA**

Paper Code: MDC-02 (Theory Paper)

Course Id: 24/GEO/MD201

Credit: 03 (2+1+0) L+T+P Hrs/Week	Total Marks	75
Time: 3 Hours	End Semester Exam:	50 Marks
<b>Note:</b> The question Paper will have five units. Four units of question paper will contain two essay type questions (having 10 marks of each question) from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The first unit having question no. 1 shall be compulsory and shall contain five short answer type questions (having 2 marks of each question) covering the entire syllabus. All questions carry equal marks.	Internal Assessment:	25 Marks
	Attendance	5
	Assignment	5
	Sessional Exam	15

### **Course Outcomes (COs):**

CO-01: The students shall have in-depth knowledge of the land and physical diversity of Haryana.

CO-02: They will understand and analyze the climate pattern and socio-cultural diversity of Haryana in Geographical perspective.

CO-03: They will be able to understand characteristics, Problems and Prospects of Agricultural in Haryana.

CO-04: Students will be able to understand and analyze the relevance and distribution of natural resources, industrial development and transport networks in Haryana.

### **UNIT-I**

Haryana: Location and Extent; Origin and Administrative setup of Haryana; Vegetation., Soils; Physiographic divisions of Haryana: Arawali Hills, Shiwalik Region, Plain and Desert; Geology of Haryana, Drainage System-Yamuna, Ghaggar, Sahibi and Krishnawati and others

### **UNIT-II**

Climate: Seasons; the climatic regions of Haryana. Rainfall patterns in Haryana; Population in Haryana: Population Distribution, Growth, Density, Sex Ratio, Literacy; Population Composition of Haryana: Age-Sex, Urban-Rural, Religion and Caste; Urbanisation in Haryana (1966-2021): Trends and associated Problems.

### **UNIT-III**

Irrigation Systems in Haryana: Wells, Tube wells and Canal; SYL canal dispute. Agriculture in Haryana: its characteristics and impact of Green revolution. Problems and Prospects of Haryana Agriculture: Major crops: Wheat, Rice, Cotton, Sugarcane. Agriculture regions on Haryana.

### **UNIT-IV**

Minerals and Power resources of Haryana;  
Major industries of Haryana: Agro-based, Automobile, Footware, Tourism and IT.  
Roadway and Railway Transportation Network of Haryana.

**Suggested Readings:**

1. Deshpande, C.D (1992): India- A Regional Interpretation, Northern Book Centre, New Delhi.
2. Hussain, Majid, (2020). Geography of India. McGraw Hill Education (India) Private Ltd.
3. Kumar, Sandeep (2021): Haryana Ka Bhugol (in Hindi), Kapila publication.
4. Singh, R.L. (1971), India: A Regional Geography, National Geographical Society of India, Varanasi.
5. Singh, Jagjeet (ed.): Haryana Digidarshan, Arihant Publications Ltd., New Delhi.
6. Singh, Jasbir (1976): An Agricultural Geography of Haryana, Vishal Publications, Kurukshetra
7. Singh Mandeep and Kaur, Harvinder, (2004): Economic Development of Haryana, Deep and Deep Publication Pvt. Ltd., Delhi.
8. Thussa, J.L.(2006): Geology of Haryana and Delhi, Geological Society of India.



**Semester-2****MDC-2- Rural Society: Structure and Change****Credit-3****Maximum Marks –75****Theory – 50****Internal Assessment – 25****Time – 3 hours**

The students will be required to attempt four questions in all. Question No. I will be compulsory comprising of 4 short answer type questions of 2 marks each and will cover the entire syllabus  $4 \times 2 = 8$  marks. In addition to it, Question Nos. II to VII will consist of long answer (essay type) questions, two Questions from each Unit with internal choice carrying 14 marks each i.e.  $3 \times 14 = 42$  marks thus making it the total weight age to 50 marks. Three questions to be attempted. One from each unit.

**Course Outcome:**

- Students would be acquainted with rural social structure.
- It will provide an understanding of rural economy and trends of change in rural society.
- Students will understand rural political structure & status of women in rural society.

**UNIT – I**

Rural Social Structure: Caste and Class in Rural Set Up, Inter Caste Relations and Jajmani System, Rural Family and Changing pattern

**UNIT – II**

Rural Economy: Land Tenure, Land Reforms, Green Revolution and Its Impact, Bonded and Migrant Labourers, Trends of Change in Rural Society

**UNIT – III**

Rural Political Structure: Traditional Caste Panchayats, Panchayat before and after 73rd Amendment, New Panchayati Raj and Empowerment of Women

**Readings :**

Jain , P.C. (2021), Rural Sociology: Indian Context, Jaipur: Rawat Publication

Beteille, A. (1974), Studies in Agrarian Social Structure, Delhi: Oxford University Press.

- Desai, A.R. (1969), Rural Sociology in India, Bombay : Popular Prakashan.
- Dube, S.C.(1955), Indian Village, London : Routledge and Kegan Paul.
- Doshi, S.L. and P.C.Jain (1999), Rural Sociology, Jaipur : Rawat Publication.
- Jodhka, S.S. (1995), Debt, Dependence and Agrarian Change, Jaipur : Rawat Publication.
- Sharma, K.L. (1997), Rural Society in India, Jaipur : Rawat Publication



241/200/MD202

ZOOLOGY: SEMESTER-II								
Course Code	Course ID	Course Title	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
MDC-02		Population Genetics & Evolution-II	2	2	15	15	35	
			1	2	05	20	25	

**Course Learning Outcomes (CLO)**

1. Students will be able to understand the use of inheritance pattern underlying genetic diseases.
2. Student gets familiar with types of genetic variations used to assess genetic traits/diseases.
3. Provides description of molecular divergence, molecular clocks, molecular drive and their complication in inferring phylogenetic trees.
4. Students will form concepts about mode of speciation, evolution, system, origination, extinction, and causes of differential rates of diversification.
5. Students will study the origin and diversification of eukaryotes, evolution of eukaryotic cell from prokaryotes, evolution of eukaryotic genomes

**Instructions for Paper-Setter**

1. Nine questions will be set in all. All questions will carry equal marks.
2. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit.

UNIT	TOPICS	CONTACT HOURS
I	Molecular evolution: molecular divergence and molecular clock. Patterns and mechanism of reproductive isolation, modes of speciation	8
II	Interrelationship among different phyla of Invertebrates and their evolutionary significance. Origin of Vertebrates: Pisces, Amphibia, Reptilia, Aves and Mammalia. Stages of primate evolution.	8
III	Genetics of quantitative traits in populations: Analysis of quantitative traits Quantitative traits and natural estimation of heritability	7
IV	Genotype-environment interactions Inbreeding depression and heterosis Molecular analysis of quantitative traits, phenotypic plasticity	7
Practical	<ol style="list-style-type: none"> <li>1. Demonstration of monohybrid and dihybrid cross, Co-dominance, Incomplete dominance and Epistasis with the help of beads and photographs.</li> <li>2. Study of genetic disorders with the help of photographs.</li> <li>3. Study of structural and numerical alteration of chromosomes: deletion, substitution, duplication etc.</li> </ol>	30

**Learning Resources**

1. *Genetics and the origin of species* by T. Dobzhansky, Columbia University Press; 1951.
2. *Organic Evolution* by Lull, MacMillan Co., New York; 1947.
3. *Time, life and Man* by R.A. Stirton, John Wiley and Sons, New York; 1959.
4. *Evolution of the Vertebrates* by E.H. Colbert, Willy Eastern Ltd., New Delhi; 1969.
5. Dobzhansky, Th., F.J. Ayala, G.L. Stebbins and J.M. Valentine. *Evolution*. Surjeet Publication, Delhi.
6. Futuyama, D.J. *Evolutionary Biology*, Suinaer Associates, INC Publishers, Dunderland.
7. Haldi, D.L. *A Primer of Population Genetics*. Sinauer Associates, Inc, Massachusetts.
8. Jha, A.P. *Genes and Evolution*. John Publication, New Delhi.
9. King, M. *Species Evolution-The role of chromosomal change*. The Cambridge University Press, Cambridge.

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home

241/SKT/MD202

**SEMESTER: II**  
**MULTIDISCIPLINARY COURSES**  
**MA (Sanskrit)**

Course Code		Credit	Structure			
			L	T	P	TOTAL CREDIT UNITS
Course Title	Nāṭyaśāstra		2	0	1	3

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

**Course Description:** This course provides an in-depth, hands-on exploration of the **Nāṭyaśāstra**, the foundational text of Indian performing arts. Through practical exercises, students will learn the principles of acting, dance, music, and stagecraft as described by Bharata Muni. The course bridges theory and practice, enabling students to internalize classical techniques and apply them in contemporary performance settings.

**Course Objectives:**

- To introduce the multi-facetedness of Indian dramaturgy through the reading of the texts of Nāṭyaśāstra.
- To familiarize the learners with the theory of Rasa or aesthetic relish.
- To Understand the practical application of key concepts from Nāṭyaśāstra, such as **Abhinaya (acting)**, **Rasa (aesthetics)**, and **Tāla (rhythm)**.
- To apply the principles of stagecraft, costume, and makeup to enhance performance.
- To Create performances that integrate traditional techniques with modern storytelling methods.

**Course Learning Outcomes:** After completion of this course the students:

- will form a basic understanding of some fundamental terminologies of the Natya and Kavya as presented by Bharata and Anandavardhana.
- will have acquired an in-depth knowledge of the theories of Rasa and Dhvani.
- will be able to understand and explain the prescribed text and the terms therein.
- will be successful in applying this knowledge for critical analysis in the light of suggestive meanings in drama and poetry.
- will be able to appreciate and enjoy the expressions of poetry

*Signature*

### इकाई 01: नाट्यशास्त्र का ऐतिहासिक परिप्रेक्ष्य

- नाट्यशास्त्र का उद्भव और महत्त्व।
- भरत मुनि और उनकी परंपरा।
- नाट्यशास्त्र के अध्यायों का परिचय (36 अध्यायों का सार)।
- नाट्य के उद्देश्य (लोकहित, धर्म, अर्थ, काम और मोक्ष)।

**इकाई 02:** नाट्यशास्त्र (अभिनवभारती-सम्मतव्याख्यान) षष्ठ अध्याय: रसविषयकप्रश्न, स्थायिभाव, सञ्चारिभाव, सात्त्विकभाव, नाट्याश्रित अभिनय, धर्मी, वृत्ति, प्रवृत्ति, नाट्याङ्ग-सिद्धि, स्वर, गान, आतोद्य।

### इकाई 03: व्यावहारिक

- नाट्यशास्त्र के श्लोकों का उच्चारण।
- संगीत और नाटक के साथ संवाद जोड़ना।
- छात्रों द्वारा मंच पर नाट्यशास्त्र आधारित नाटक का प्रदर्शन।
- सभी रसों का प्रदर्शन।

### Suggested Readings

- नाट्यशास्त्र - सम्पादक, बाबूलालशुक्ल, चौखम्बासंस्कृतसंस्थान, वाराणसी
- नाट्यशास्त्र - सम्पादक, बटुकनाथ शर्मा एवं पं. बलदेव उपाध्याय, काशीसंस्कृतसीरीज, वास
- नाट्यशास्त्र, व्याख्या व्रजमोहन चतुर्वेदी, विद्यानिधिप्र काशन, दिल्ली
- Deshpande, Ganesh Tryambak, Abhinavagupta (also Hindi Trans. by Mith Chaturvedi), Sahitya Akademi, New Delhi
- Gnoli, Raniero Aesthetic Experience, according to Abhinavagupta, Chowkhan Sanskrit Series Office, Varanasi, 1968

*Signature*

**SEMESTER: II**  
**SKILL ENHANCEMENT COURSES**  
**MA (Sanskrit)**

Course Code		Credit	Structure			
			L	T	P	TOTAL CREDIT UNITS
Course Title	<b>Introduction to Jyotish Shastra</b>		1	0	1	2

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

**Course Description:**

This foundational course provides a comprehensive introduction to the principles and practices of Jyotisha, the ancient Indian system of astrology. It bridges theoretical knowledge with practical applications, enabling students to understand celestial influences on human life and how to interpret them.

**Course Objectives:**

- To explore the historical, philosophical, and cultural roots of Jyotisha and its relevance in modern times.
- To familiarize students with key texts and scriptures related to astrology, such as the *Brihat Parashara Hora Shastra* and *Saravali*.
- To provide a comprehensive understanding of planetary positions, zodiac signs, and their significance.
- To study the Panchang (Hindu almanac) and its components: Tithi, Vara, Nakshatra, Yoga, and Karana.
- To teach the role of time, place, and date in astrological calculations.
- To demonstrate how to assess and predict life events through case studies and real-life examples.
- To introduce traditional remedies such as mantra chanting, gemstone recommendations, and rituals for planetary pacification.
- To understand the connections between Jyotisha and related fields like Ayurveda, Yoga, and Vastu Shastra.

**Learning Objectives:** By the end of the course, students will:

- Understand the historical and philosophical roots of Jyotisha.

*Mangal Singh*

- Learn the fundamental concepts of planetary positions, houses, and zodiac signs.
- Gain proficiency in constructing and analyzing a birth chart (kundali).
- Apply astrological principles to assess aspects of life such as health, career, relationships, and spirituality.
- Explore practical remedies like mantras, gemstones, and rituals for balancing planetary influences.

### इकाई 01:

- ज्योतिष शास्त्र का परिचय
- ज्योतिष का इतिहास और विकास।
- वैदिक, पारंपरिक और आधुनिक ज्योतिष का परिचय।
- ज्योतिष और अन्य विद्या जैसे आयुर्वेद, वास्तु से संबंध।

### इकाई 02:

- ग्रह, नक्षत्र, राशि और उनके गुण।
- पंचांग का परिचय (वार, तिथि, नक्षत्र, योग, करण)।
- सूर्य और चंद्र कैलेंडर का उपयोग।
- कुंडली क्या है और इसके प्रकार।

### इकाई 03: (व्यावहारिक)

- सॉफ्टवेयर और मैन्युअल विधियों से कुंडली बनाना।
- व्यक्ति के स्वास्थ्य, शिक्षा, विवाह, करियर और धन पर ग्रहों का प्रभाव।
- मंत्र, रत्न और यंत्र का उपयोग।
- व्रत और धार्मिक अनुष्ठान।
- ग्रह शांति के उपाय।

### Suggested Readings

1. भारतीय ज्योतिषशास्त्र का इतिहास-गोरखप्रसाद, हिन्दी संस्थान, लखनऊ।
2. भारतीय ज्योतिषशास्त्र का इतिहास-नेमिचंद्रशास्त्री, भारतीयज्ञानपीठ, नई दिल्ली।
3. भारतीय ज्योतिषशास्त्र का इतिहास शंकर बालकृष्ण दीक्षित (अनु.), शिवनाथ झारखण्डी, हिन्दी संस्थान, लखनऊ।
4. भारतीय कुण्डली विज्ञान ओझा, मीठालाल हिम्मतराम, देवर्षि प्रकाशन, वाराणसी।
5. भारतीय कुण्डली विज्ञान-झा, सुरकांत, चौखंभा संस्कृत सीरीज ऑफिस, वाराणसी
6. भारतीय ज्योतिष शास्त्री, नेमिचन्द्र, भारतीय ज्ञानपीठ प्रकाशन, नईदिल्ली- 1987
7. History of Indian Astronomy - Sankar Balkrishna Dikshit, Government of India Book Dept., Calcutta.
8. Tucker, W.M. Astrology for Everyman, Sagar Publication, New Delhi.

241/HS/MD202

**SEMESTER: II**  
**MULTIDISCIPLINARY COURSES**  
**M. A HINDU STUDIES**

Course Code	241/HS/MD202	Credit	Structure			
			L	T	P	TOTAL CREDIT UNITS
Course Title	<b>Introduction to Purāṇa texts: Viṣṇu Purāṇa, and Agni Purāṇa</b>		3	0	0	3

**Course Description:**

This course offers an in-depth exploration of two key texts within the Purāṇic corpus: the Viṣṇu Purāṇa and the Agni Purāṇa. Students will engage with the narratives, cosmologies, and philosophical teachings that have shaped Hindu religious traditions and cultural practices for centuries.

**Course Objectives:**

- To introduce the Viṣṇu Purāṇa and Agni Purāṇa as key texts within the Puranic corpus.
- To examine the historical and cultural context in which these texts were composed.
- To explore the central themes, teachings, and cosmologies presented in these Puranas.
- To understand their influence on later Hindu traditions, rituals, and sectarian movements.

**Learning Outcomes:** By the end of this course, students will be able to:

- Understand the Structure and Content of Purāṇic Texts
- Critically engage with core theological themes such as the nature of Vishnu, the concept of avatars, and the role of Agni in rituals, while exploring the cosmologies, creation myths, and ethical frameworks presented in both texts.
- Compare and Contrast Purāṇic Traditions and discuss the continuing relevance of these texts in modern Hindu religious practices, festivals, and temple rituals, and how they continue to shape cultural and religious identity today.

**Unit 1: Introduction to Purāṇa Literature**

- 1.1 Definition and Meaning of Purāṇa in Hindu Tradition
- 1.2 Structure and Classification of the 18 Major Purāṇas

*Pradyumn Prasad*

1.3 Historical and Cultural Significance of Purāṇas

1.4 Role of Purāṇas in Preserving Dharma, History, and Philosophy

## **Unit 2: Viṣṇu Purāṇa**

2.1 Overview of the Structure and Content of Viṣṇu Purāṇa

2.2 Major Themes: Creation, Preservation, and the Avatars of Viṣṇu

2.3 Key Characters and Narratives: Visnu, Lakṣmī and the Avatāras

2.4 Philosophical Teachings and the Concept of Bhakti in Viṣṇu Purāṇa

## **Unit 3: Agni Purāṇa**

3.1 Overview of the Structure and Content of Agni Purāṇa

3.2 Major Themes: Rituals, Iconography, and Dharma

3.3 Key Sections: Worship of Deities, Rituals, and Sacrifices

3.4 Practical Teachings on Yoga, Medicine, and Astrology in Agni Purāṇa

## **Suggested Readings:**

- विष्णुपुराण, नागप्रकाशन
- विष्णुपुराण, सम्पा, टी.सी. उप्रेती, परिमल पब्लिकेशन्स, दिल्ली, 2005
- विष्णुधर्मोत्तरपुराण, अनु. शिवप्रसाद द्विवेदी, चौखम्बा सुरभारतीप्रकाशन, दिल्ली, 2016
- अग्निपुराण गीताप्रेस गोरखपुर, 1 January 2015
- Shah, Priyabala Vishnudharmottara Purana-III, parimal publications, 2009

*Pradyumn*

**SEMESTER: II**  
**SKILL ENHANCEMENT COURSES**  
**MA HINDU STUDIES**

Course Code		Credit	Structure			
			L	T	P	TOTAL CREDIT UNITS
Course Title	<b>Introduction to Jyotish Shastra</b>		1	0	1	2

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

**Course Description:**

This foundational course provides a comprehensive introduction to the principles and practices of Jyotisha, the ancient Indian system of astrology. It bridges theoretical knowledge with practical applications, enabling students to understand celestial influences on human life and how to interpret them.

**Course Objectives:**

- To explore the historical, philosophical, and cultural roots of Jyotisha and its relevance in modern times.
- To familiarize students with key texts and scriptures related to astrology, such as the *Brihat Parashara Hora Shastra* and *Saravali*.
- To provide a comprehensive understanding of planetary positions, zodiac signs, and their significance.
- To study the Panchang (Hindu almanac) and its components: Tithi, Vara, Nakshatra, Yoga, and Karana.
- To teach the role of time, place, and date in astrological calculations.
- To demonstrate how to assess and predict life events through case studies and real-life examples.
- To introduce traditional remedies such as mantra chanting, gemstone recommendations, and rituals for planetary pacification.
- To understand the connections between Jyotisha and related fields like Ayurveda, Yoga, and Vastu Shastra.

**Learning Objectives:** By the end of the course, students will:

- Understand the historical and philosophical roots of Jyotisha.

*Signature*

- Learn the fundamental concepts of planetary positions, houses, and zodiac signs.
- Gain proficiency in constructing and analyzing a birth chart (kundali).
- Apply astrological principles to assess aspects of life such as health, career, relationships, and spirituality.
- Explore practical remedies like mantras, gemstones, and rituals for balancing planetary influences.

#### इकाई 01:

- ज्योतिष शास्त्र का परिचय
- ज्योतिष का इतिहास और विकास।
- वैदिक, पारंपरिक और आधुनिक ज्योतिष का परिचय।
- ज्योतिष और अन्य विद्या जैसे आयुर्वेद, वास्तु से संबंध।

#### इकाई 02:

- ग्रह, नक्षत्र, राशि और उनके गुण।
- पंचांग का परिचय (वार, तिथि, नक्षत्र, योग, करण)।
- सूर्य और चंद्र कैलेंडर का उपयोग।
- कुंडली क्या है और इसके प्रकार।

#### इकाई 03: (व्यावहारिक)

- सॉफ्टवेयर और मैन्युअल विधियों से कुंडली बनाना।
- व्यक्ति के स्वास्थ्य, शिक्षा, विवाह, करियर और धन पर ग्रहों का प्रभाव।
- मंत्र, रत्न और यंत्र का उपयोग।
- व्रत और धार्मिक अनुष्ठान।
- ग्रह शांति के उपाय।

#### Suggested Readings

1. भारतीय ज्योतिषशास्त्र का इतिहास-गोरखप्रसाद, हिन्दी संस्थान, लखनऊ।
2. भारतीय ज्योतिषशास्त्र का इतिहास-नेमिचंद्रशास्त्री, भारतीयज्ञानपीठ, नई दिल्ली।
3. भारतीय ज्योतिषशास्त्र का इतिहास शंकर बालकृष्ण दीक्षित (अनु.), शिवनाथ झारखण्डी, हिन्दी संस्थान, लखनऊ।
4. भारतीय कुण्डली विज्ञान ओझा, मीठालाल हिम्मतराम, देवर्षि प्रकाशन, वाराणसी।
5. भारतीय कुण्डली विज्ञान-झा, सुरकांत, चौखंभा संस्कृत सीरीज ऑफिस, वाराणसी
6. भारतीय ज्योतिष शास्त्री, नेमिचन्द्र, भारतीय ज्ञानपीठ प्रकाशन, नईदिल्ली- 1987
7. History of Indian Astronomy - Sankar Balkrishna Dikshit, Government of India Book Dept., Calcutta.
8. Tucker, W.M. Astrology for Everyman, Sagar Publication, New Delhi.

**Unit-I**

- Health Education: Concept, Definition- Role and Importance
- Approaches to Health Education
- Methods of Health Education Schemes related to Health Education.

**Unit-II**

- Models of Health Education
- Content of Health Education
- Principles of Health Education
- Practice to Health Education

**Unit-III**

- Communication- Meaning, Definition, concept, Principles, models and forms
- Health education and Role of IEC
- Development of I E C Material

**Unit-IV**

- Health information system- Concept
- Component- Uses of Health Information system
- Sources of Health Information System
- Indian Health information System

**Books:**

- Goldstein D., Expanding Horizons in Medical Social Work
- Goldstein D., Readings in the Theory and Practice in Medical Social Work
- Mishra P.D., Social Work, Philosophy and Methods
- Sharon D.P., Social Work and Community Practice, Apple Academic Press 2011

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MA- EDUCATION (Sem-II)  
ANDRAGOGY AND EDUCATION

MDC-2 Andragogy and Education  
Credits: 3

Maximum Marks:75  
Theory Examination: 35  
Internal Assessment: 15  
Practical Examination: 20  
Practical Assessment: 05  
Time: 3 hrs.

### Course Outcomes

After completing the course, students will be able to:

1. Characterize the genesis and evolution of andragogy and its basic concepts.
2. Discuss the specifics of the educational needs of adults.
3. Characterize contemporary theories, methods, and forms of adult education.
4. Recognize the educational needs of specific groups of adults.
5. Develop positive attitudes toward the challenges of adult education.
6. Conduct guidance in various areas of adult education.

#### Unit-1: Foundations of Andragogy

- **Andragogy: Concepts, Assumptions, and Principles**
- **Adults and Their Development:** Life phases, opportunities, skills, and motivation for growth
- **Teaching Adults:** Historical development and evolution of andragogy
- **Forms of Education:** Key elements of education during various life phases
- **Role and Tasks of Andragogy:** Addressing adult learning needs in modern education
- **Self-Directed Learning:** Importance of autonomy in learning with the role of Information and Communication Technology (ICT)

#### Unit 2: Applications of Andragogy in Modern Life

- **Preparation for Adult Roles:** Equipping adults for professional and social responsibilities in alignment with societal principles
- **Leisure Time Organization:** Strategies for utilizing leisure time effectively to foster personal interests
- **Cultural and Educational Activities:** Engaging adults in meaningful activities that promote lifelong learning

- **Volunteering as an Activity:** Encouraging volunteering to stay active and contribute to the community
- **Human Activities in Work and Beyond:** Exploring elements that enhance the overall existence and well-being of adults
- **The Educational Role of Adults:** Adults as facilitators and contributors to community education

**Practicum: Do any four**

**Survey on Adult Learning Needs:** Conduct a survey to identify educational needs and preferences of adults.

**Case Study Analysis:** Analyze a case study of an adult learner and prepare a brief report.

**Designing a Learning Plan:** Create a self-directed learning plan using ICT tools for adults.

**Community-Based Volunteering Project:** Plan and present a project proposal for cultural or educational engagement.

**Evaluation of Adult Education Programs:** Visit and evaluate an adult education program, documenting observations.

**Workshop/Presentation:** Conduct a short workshop or presentation on the principles and applications of andragogy.

**Transaction Mode**

*Simulation, Lecture method, lecture-cum-demonstration, group discussion, seminars and focused group discussion*

**Suggested Readings**

- Jarvis, P. (2010) *Adult Education and Lifelong Learning: Theory and Practice*, London, New York: Routledge
- Knowles M.S., Holton E.F., Swanson R.A., (2011), *The Adult Learner*
- Michael w. Galbraith, (2015), *Adult learning methods: a guide for effective instruction*,
- Peter Jarvis, (2010), *Adult Education and Lifelong Learning: Theory and Practice*
- Sharan B. Merriam, Laura L. Bierema, (2013), *Adult Learning: Linking Theory and Practice*
- Sharan B. Merriam, Rosemary S. Caffarella, (1991), *Learning in Adulthood: A Comprehensive Guide*

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PG-MDC

Sem-2

**MDC-02: Drug Design and Discovery**

Course Code MDC-02			Course Title Drug Design and Discovery				Course ID				
L	T	P	L	T	P	Total Credits	MARKS				
(Hrs)			Credits				TI	TE	PI	PE	Total
3			3			3	25	50	-	-	75
							-	-			
<b>Examination Duration:</b>			<b>Theory: 2 Hrs</b>								
<b>Course Objectives</b>			<ol style="list-style-type: none"> <li>1. To provide a foundational understanding of drug discovery, development, SAR, and the design of analogues, isosteres, and bioisosteres.</li> <li>2. To explain drug action mechanisms, including receptor roles, neurotransmitters, ion channels, and enzyme interactions.</li> <li>3. To introduce pharmacokinetics, pharmacodynamics, therapeutic indices, and the concept of prodrugs.</li> <li>4. To explore the synthesis, action, and medicinal uses of drugs across key categories like antineoplastics, antimalarials, and anti-HIV agents.</li> <li>5. To develop skills to analyze drug structure-function relationships and their therapeutic applications in medicinal chemistry.</li> </ol>								
<b>Course Outcomes:</b>			<p>After the completion of this course, student will be able to:</p> <ol style="list-style-type: none"> <li>1. Demonstrate an understanding of drug discovery, SAR, and the design of analogues, isosteres, and bioisosteres.</li> <li>2. Explain the mechanisms of drug action and the roles of receptors, neurotransmitters, and enzymes in pharmacology.</li> <li>3. Apply knowledge of pharmacokinetics, pharmacodynamics, therapeutic indices, and prodrug concepts to drug development.</li> <li>4. Analyze the synthesis, mode of action, and therapeutic uses of key drug categories like antineoplastics, antimalarials, and anti-HIV agents.</li> <li>5. Evaluate drug structure-function relationships and their implications in medicinal chemistry and therapeutic innovation.</li> </ol>								
<b>COURSE SYLLABUS</b>											
<p><b>Note:</b> 1. Question no. 1 is compulsory, which contains short answer type questions and to be set from the entire syllabus.</p> <p>2. Eight questions will be set, two from each of the sections A, B, C &amp; D. The candidates are required to attempt four questions in all selecting at least one question from each section. All questions shall carry equal marks.</p> <p>3. The question paper must be set in consonance with course outcomes.</p>											
Unit No.	Contents										Contact Hrs
I	<b>Fundamentals of Drug Design</b> Classification and discovery of new drugs, Drug development: screening of natural products, isolation and purification, structure determination, structure-activity relationships (SAR), synthetic analogues, isosteres, and bioisosteres. Concept of lead compounds, therapeutic index, LD <sub>50</sub> , and ED <sub>50</sub> . Elementary idea about drug action: receptor role, neurotransmitters and receptors, ion channels,										11

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	and their control, Membrane-bound enzymes: activation/deactivation.	
II	<b>Drug development</b> Screening of natural products, isolation and purification, structure determination structure-activity relationships (SAR), synthetic analogues, isosteres and bioisosteres, concept of lead compounds. Brief overview of pharmacokinetics and pharmacodynamics, concept of prodrugs.	11
III	<b>Specialized Drugs and Their Applications-I</b> <b>Antineoplastic Agents:</b> Synthesis, general mode of action and medicinal uses of Mechlorethamine, Chlorambucil, Cyclophosphamide, Carmustine, Aminopterin, 6-Mercaptopurine, Paclitaxel (synthesis of paclitaxel excluded). <b>Antimalarials:</b> Synthesis, general mode of action and medicinal uses of Chloroquine, Primaquine, Chloroguanide, Pyrimethamine.	12
IV	<b>Specialized Drugs and Their Applications-II</b> <b>Analgesics, Antipyretics, and Anti-inflammatory Agents:</b> Synthesis, general mode of action and medicinal uses of Morphine and related compounds (Codeine and Heroin), Meperidine, Methadone, Aspirin, Acetaminophen, Phenylbutazone, Mefenamic Acid, Ibuprofen, Diclofenac, Naproxen, Celecoxib.	11
<b>Suggested Books</b>	<ol style="list-style-type: none"> <li>1. Wilson and Gisvold's Text book of Organic Medicinal and Pharmaceutical Chemistry, Ed. Robert F. Dorge.</li> <li>2. Burger's Medicinal Chemistry and Drug Discovery Vol-I Ed. M.E. Wolf, John Wiley.</li> <li>3. Goodman and Gilman's Pharmacological Basis of Therapeutics, McGraw-Hill.</li> <li>4. Organic Chemistry Vol.-2 I. L. Finar, ELBS.</li> <li>5. R. B. Silverman, The Organic Chemistry of Drug Design and Drug Action, 3<sup>rd</sup> Edition. Academic Press, 2014.</li> <li>6. G. L. Patrick, An Introduction to Medicinal Chemistry, 5th Edition. Oxford University Press, 2013.</li> <li>7. D. Sriram and P. Yogeshwari, Medicinal Chemistry, 2<sup>nd</sup> Edition. Pearson, 2012.</li> <li>8. Ed. Robert F. Dorge, Wilson and Gisvold's Text Book of Organic Medicinal and Pharmaceutical Chemistry, 12<sup>th</sup> Edition, 2010.</li> <li>9. Ed. M. E. Wolff, Burger's Medicinal Chemistry and Drug Discovery, Volume 1, 7<sup>th</sup> Edition. John Wiley, 2010.</li> </ol>	
	<b>Assessment and Evaluation</b>	
<b>Theory</b>	Internal Assessment: 25 Marks	<ul style="list-style-type: none"> <li>• Class Participation: 05 Marks</li> <li>• Seminar/Presentation/ Assignment: 05 Marks</li> <li>• Mid Term Exam: 15 Marks</li> </ul>
	External Assessment: 50 Marks (02 Hours)	<ul style="list-style-type: none"> <li>• End Term Exam: 50 Marks</li> </ul>

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MA. ECONOMICS (MDC )

SEMESTER II

Multidisciplinary Courses

Course ID	Sem	Courses	Credits L	Credits Tutorial	Total Credits
	2	Financial Institutions and Market	2	1	3

Financial Institutions and Market

Max Marks: 75

Credits: 3

Note for the paper setter

Written Exam:50

Internal Assessment: 25

1. Seven Questions will be set in all and students will be required to attempt 4 questions.
2. Questions No.1 will be compulsory and will consist of 7 short answer type questions of 2 marks spread over the entire syllabus (2x7= 14 marks)
3. For the remaining 3 questions, students will attempt 1 out of 2 questions from each of the three units (12 marks each)

**Course Objectives:** The objective of this paper is to introduce students to role and functioning of financial markets, financial products that are traded in such financial markets and institutions associated with financial markets. It explains the role of financial system on economic development. This will enable students to take the rational decision in financial environment.

UNIT-I

**Structure of Indian Financial System**

An overview of the Indian financial system. Commercial Banking: Role of Banks. RBI: objectives and functions. NBFCs: types and difference between Banks and NBFCs, SEBI: objectives and functions.

UNIT-II

**Introduction to Financial Markets in India**

Role and Importance of Financial Markets, Types of Financial Markets: Money Market; Call money market; treasury bill market; Capital Market; Linkages Between Economy and Financial Markets.

### UNIT-III

#### Introduction to Stock Markets

Major Instruments traded in stock markets: Equity Shares, Debentures, Exchange Traded Funds. Mutual Fund: types of Mutual Funds and different types of schemes. Corporate Bonds vs. Government Bonds.



**(Semester II) MULTIDISCIPLINARY COURSE: NEUROPSYCHOLOGY**

Note: This syllabus provides a comprehensive overview of the field of neuropsychology, covering the basics of brain structure and function, cognitive processes, neuropsychological disorders, assessment and diagnosis, rehabilitation, and special topics.

Multidisciplinary Course (Lectures 40)	Maximum Theory Marks: 75
Time Allowed: 2 Hrs	External Marks: 50
Credits: 3	Internal Assessment: 25

**Instructions for Paper Setter:** The examiner will set nine questions in all with two questions from each section. Q. No. 1 consisting of very short answer type questions and covering the entire syllabus will be compulsory. Each question will be divided into parts and the distribution of marks will be indicated part-wise. The candidates will be required to attempt Q. No. 1 & four others, selecting one from each section.

**Unit-I****Lectures: 10**

Introduction to Neuropsychology: Definition and scope of neuropsychology; Historical background and key figures; Relationships between brain, behavior, and cognition; Brain Structure and Function: Overview of brain anatomy and neurophysiology; Cerebral cortex, basal ganglia, limbic system, and brainstem; Neurotransmitters and neural transmission

**Unit-II****Lectures: 10**

Cognitive Processes: Attention and executive functions; Memory (types, models, and disorders); Language processing and aphasia; Visuospatial perception and spatial cognition; Decision-making and judgment

**Unit-III****Lectures: 10**

Neuropsychological Disorders: Traumatic brain injury and concussion, stroke and cerebrovascular disorders, Alzheimer's disease and other dementias, Parkinson's disease and movement disorders, Neuropsychiatric conditions (e.g., depression, anxiety); Neurodevelopmental disorders (e.g., ADHD, autism); Neurological disorders (e.g., multiple sclerosis, epilepsy)

**Unit-IV****Lectures: 10**

Neuropsychological testing and evaluation: Clinical interviews and behavioral observations; Neuroimaging techniques (e.g., MRI, CT, fMRI); Diagnostic criteria and case studies; Rehabilitation and Intervention: Cognitive training and remediation, Behavioral therapy and management, Pharmacological interventions, Neuroplasticity and recovery

**Suggested Books:**

1. "Textbook of Clinical Neuropsychology": Organized around syndromes, disorders, and related clinical phenomena.
2. "Clinical Neuropsychology": Comprehensively reviews the major neurobehavioral disorders associated with brain dysfunction.
3. "Fundamentals of Human Neuropsychology": Gives students access to an extraordinary amount of cutting-edge research.
4. "Diagnostic Clinical Neuropsychology": A handbook for neuropsychological assessment that includes the evaluation of both cognitive and emotional aspects of

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functioning in the patient.

5. "Neuroanatomy Through Clinical Cases": Brings a pioneering interactive approach to the teaching of neuroanatomy.
6. "APA Handbook of Neuropsychology": Provides foundational information on neuropsychology, identifies pressing research questions related to neuropsychological disorders and conditions.
7. "Encyclopedia of Clinical Neuropsychology": The first and only encyclopedia of clinical neuropsychology covering assessment, treatment, and rehabilitation.

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MDC-2	Historical Applications of Tourism
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**Credit: 3 (Hrs/week:3)****Maximum Marks: 75****Theory Examination: 50****Internal Assessment: 25****Time: 3 Hours**

**Course Outcome:** After completion of the course, the students will be able:

- To familiarize with the knowledge related to tourism vis a vis types, services, determinants and destination.
- Understanding of relation of history and tourism, infrastructures and hurdles in tourism growth.
- Able to compare some important tourist destinations in terms of their specialities .
- Have a greater knowledge of tourism in Haryana and its culture

**Note:** The students will be required to attempt four questions in all. Question No. I will be compulsory comprising of 5 short answer type questions of 2 marks each and will cover the entire syllabus  $5 \times 2 = 10$  marks. In addition to it, Question Nos. II to VII will consist of long answer (essay type) questions, two Questions from each Unit with internal choice carrying 10 marks each i.e.  $4 \times 10 = 40$  marks thus making it the total weight age to 50 marks. Three questions to be attempted. One from each unit.

#### **Unit I : Meaning and Nature of Tourism :**

Tourism: Defining, Forms and types, tourism products and services, tours, tourists and the tourist destination, basic determinants of tourism, brief history of tourism in India

#### **Unit II: Development of travel and tourism**

History as Tourism product , Use of History in tourism, infrastructural development, threats and obstacles to tourism

#### **Unit III: Types of Tourist destination in India –**

Monuments- Museums- Hill resorts, Sarais- Beaches- Wild life Sanctuaries, Important Heritage Circuits of India(case study of any one)

- Delhi- Agra-Jaipur {Golden Triangle}
- Sanchi-khajuraho
- Belur-Halebidu- Hampi
- Mahabalipuram – Kanchipuram- Tanjore

#### **Unit IV: Tourism in Haryana**

Socio- Cultural Heritage of Haryana: tourist spots,Dance Styles, Performing Arts- Fairs and Festivals, Folk Cultures- Handicrafts and food.

#### **Suggested Readings**

- Jafari, Jafar (Chief Editor), Encyclopaedia of Tourism, Routledge Publisher, London, 2000
- IGNOU Reading material (units) on Tourism.
- Archaeological Survey of India, Guide Books for Monuments

241/PHY/MD201

## Detailed Syllabi of Pool Courses for M. Sc. (Physics)

### Semester-II

#### Multi-Disciplinary Course

COURSE ID:

### SPECTROSCOPIC TECHNIQUES

Marks (Theory): 50

Credits: 3

Marks (Internal Assessment): 25

Time: 3 Hours

*Note: The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist of at least 4 parts covering entire syllabus. The question paper is expected to contain problems to the extent of 20% of total marks. The examinee will be required to attempt 5 questions; selecting one question from each unit and the compulsory.*

#### Course Outcomes:

*After successful completion of the course on Spectroscopic Techniques, a student will be able to:*

- *Understand the fundamental aspects of spectroscopy.*
- *Understand the basics, working principles and working of Optical and Thermal Characterization Techniques*
- *Carry out experimental and theoretical studies on atoms and molecules, with a focus on the Magnetic Characterization Techniques.*
- *Apply and analyze the electron microscopic techniques for real life problems.*

#### Unit-I

Fundamentals of Spectroscopy: Recapitulation and role of Quantum Mechanics, Electromagnetic Spectrum, Interaction of Electromagnetic Radiations with Matter, Heisenberg's Uncertainty Principle, Basic elements of Spectroscopy and its advantages, Einstein Coefficients, Transition Dipole Moment, Selection Rule based on Symmetry

#### Unit-II

**Optical and Thermal Characterization Techniques:** UV-Visible spectroscopy, Infrared spectroscopy, Atomic absorption spectroscopy (AAS), Raman spectroscopy, Thermo gravimetric analysis (TGA), Differential thermal analysis (DTA), Differential Scanning Calorimetry (DSC).

#### Unit-III

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**Magnetic Characterization Techniques:** Mass spectroscopy, Nuclear Magnetic Resonance (NMR) and Electron Spin Resonance (ESR) spectroscopy, Mössbauer Spectroscopy.

**Surface Analysis:** X-ray absorption spectroscopy (XAS), X-ray photoelectron spectroscopy (XPS).

#### Unit-IV

**Electron Microscopy:** Interaction of electrons with solids, Scanning electron microscopy (SEM), Transmission electron microscopy (TEM), Scanning Probe Microscope (SPM): Atomic force microscopy (AFM), scanning tunneling microscopy (STM).

#### References/Books:

1. Fundamentals of molecular spectroscopy, Colin N. Banwell & Elaine M. McCash, Tata McGraw –Hill publishing company limited.
2. Molecular structure & spectroscopy, G. Aruldas; Prentice – Hall of India, New Delhi.
3. Introduction to Molecular Spectroscopy by Gordon M Barrow, McGraw-Hill Inc. US.
4. Advanced Techniques for Materials Characterization, Materials Science Foundations (monograph series) A. K. Tyagi, Mainak Roy, S. K. Kulshreshtha and S. Banerjee, Volumes 49 – 51 (2009).

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**M.Sc. ENVIRONMENTAL SCIENCE – SEMESTER- III**  
**SUBJECT NAME: NATURAL HAZARDS AND DISASTER MANAGEMENT**  
**Course code: MDC-3**  
**Course ID: . . . . .**  
**NO. OF CREDITS: 3**

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**TI : 25**  
**TE : 50**  
**Total : 75**

**Note:** 1. Nine questions will be set in all. All questions will carry equal marks.  
 2. Question no. 1 which will be short answer type, covering the entire syllabus will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each unit I to IV. The candidates will be required to attempt question no.1 and four more questions.

**COURSE OUTCOMES:**

On completion of the course, the students will be able to:

CO1: Describe hazard, emergency, disaster, vulnerability, disaster management and risk,

CO2: Gain insight into different types of disasters/hazards, their implication on environment and to identify the main hazards to which our region is, or may be, vulnerable.

CO3: Differentiate, assess and apply the theoretical knowledge of disaster and emergency management activities and risk assessment to reduce the effects of disasters on vulnerable groups.

CO4: Critically analyze the influence of new emergent technologies on the disaster management.

**UNIT-I: INTRODUCTION TO DISASTERS**

Introduction to Natural and Manmade Disasters; Floods, flood hazards, urbanization and flooding, flood hydrographs, Drought, Landslides; Coastal hazards – tropical cyclone, coastal erosion, sea level changes, coastal zone management; Earthquakes - Seismic waves, quake resistant buildings; Tsunamis; Volcanoes; Wild fires; Oil spills; Urban hazards and disasters.

**UNIT-II: RISK ASSESSMENT**

Pre-Disaster Management activities; Hazard and vulnerability analysis; capability assessment; emergency/contingency planning and post-disaster management activities; Development planning, types of plans, MBO, SWOT analysis.

**UNIT-III: GEOINFORMATICS IN DISASTER MANAGEMENT**

Role of GPS, GIS and Remote Sensing in disaster management - Landslides, Volcanoes, Tsunami, Cyclones, Urban and Forest fires, Landslides; Decision-making models and processes; Hazard monitoring, tracking and modelling; Early warning systems; Indian space programme, future satellites for disaster management; Case studies.

**UNIT-IV: LEGISLATIONS AND POLICIES FOR DISASTER MANAGEMENT**

India Disaster Resource Network; Organization and structure for Emergency

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**UNIT-IV: BIORESOURCES**

Definition, types and significance of biodiversity; Values and threats; Biodiversity conservation strategies; Bioprospecting and biopiracy; REDD+; Conventions and protocols; Wildlife resources and their conservation measures

**REFERENCE BOOKS:**

1. Anderson, D. A. (2013). *Environmental economics and natural resource management*. Routledge.
2. Beckman, D. (2012). *Marine environmental biology and conservation*. Jones & Bartlett Publishers.
3. Grigg, N. S. (2009). *Water resources management: principles, regulations, and cases* (No. 631.7 G72). New York: McGraw-Hill.
4. Kudrow, N. J. (2009). *Conservation of Natural Resources*. Nova Science Publishers, Incorporated.
5. Kumar, H. D. (2001). *Forest Resources: Conservation and Management*. Affiliated East-West Press.
6. Lynch, D. R. (2009). *Sustainable natural resource management: For scientists and engineers*. Cambridge University Press.
7. Peacock, K. W. (2008). *Natural resources and sustainable development*. Infobase Publishing.
8. Primack, R. B. (2002). *Essentials of conservation biology*. 5th ed. Sunderland: Sinauer Associates
9. Sampson, R. N. (2010). *Natural resources for the 21<sup>st</sup> century*. Island Press.
10. Singh, G., & Ahuja, V. (1992). *Land resource management: a case study of Goa*. Land resource management: a case study of Goa.


**SUGGESTED WEB SOURCES:**


1. [http://envis.nic.in/ENVIS\\_html/ENVISSubject/subject.html](http://envis.nic.in/ENVIS_html/ENVISSubject/subject.html)
2. <https://www.iucn.org/>
3. <https://www.cbd.int/>
4. <https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=14>
5. <http://moef.gov.in/en/#>

**MODE OF TRANSACTION:**

Lecture, Demonstration, PowerPoint presentation, E-tutoring, Discussion, Assignments, Case study;

**LMS/ICT TOOLS:** Digital Classrooms, DLMS, ZOOM, G-Suite, MS Power-Point, Online Resources

  
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