

FOUR-YEAR UNDERGRADUATE PROGRAMME (FYUGP)

SKILL ENHANCEMENT COURSE (SEC)


As per NEP 2020 and Learning Outcomes-based National Curriculum Framework
(Aligned with NCrF and NHEQF)

Effective From Academic Year 2025-2026



VINOBA BHAVE UNIVERSITY
HAZARIBAG – 825301, JHARKHAND, INDIA

Members of Board of Courses and Studies

Sl. No.	Name and Designation	Signature
1.	Prof. (Dr.) Chandra Bhushan Sharma, Vice-Chancellor, V.B.U., Hazaribag	
2.	Prof. (Dr.) Niradhar Dey, School of Education, IGNOU, New Delhi	Niradhar Dey 13/8/25
3.	Dr. Tarun Kumar Tyagi, Dept. of Education, South Bihar Central University, Gaya, Bihar	Tarun 13/8/25
4.	Mr. Amit Kumar, Secretary, Indian Yoga Association, Ranchi, Jharkhand	
5.	Principal, St. Columba's College, Hazaribag	Loun 13/08/25
6.	Principal, Chatra College, Chatra	mukherjee 13/8/25
7.	Dr. A. K. Saha, Head, University Dept. of Chemistry, and Member of Syndicate, V.B.U., Hazaribag	A. K. Saha 13.08.2025
8.	Dr. S. K. Agrawal, Head, University Dept. of Commerce, V.B.U., Hazaribag	S. K. Agrawal 13.8.25
9.	Dr. Santosh Kumar Srivastava, Assistant Professor, Univ. Dept. of Computer Application, V.B.U., Hazaribag	Santosh K. Srivastava 13/8/25
10.	Dr. Sanjiv Kumar Sharma, Assistant Professor, Univ. Dept. of Management, V.B.U., Hazaribag	Sanjiv 13/8/25
11.	Dr. Indrajit Kumar, Associate Professor, University Dept. of Chemistry & Nodal Officer, NEP-2020, V.B.U., Hazaribag	Indrajit 13/08/2025

Introduction:

The Skill Enhancement Courses (SEC) under FYUGP are designed to address the vital need for Computer Literacy among college students in Jharkhand to cultivate essential computer skills and related competencies in order to make them fit for modern job market and industry settings. To strengthen students' proficiency in multiple spheres of life, several other courses have also been introduced under the SEC category.

Distribution of Credits of Skill Enhancement Courses in various semesters

Semester	No. of Credits	Remarks
I	3	Fundamentals of Information and Communication Technology (Compulsory course for students of all streams)
II	3	Any two, one in each semester, to be selected from the basket of courses.
III	3	

Basket of SECs of 3 credits each

Ser. No.	Course
1	Fundamentals of Information and Communication Technology
2	Entrepreneurship
3	Cyber Defense
4	Life Skills
5	Digital Education
6	Mushroom Cultivation
7	Food Science and Technology
8	Biofertilizers and Organic Farming
9	Digital Marketing
10	Statistical Data Analysis
11	Land Survey Skill (Amini)
12	Online Teaching - Learning
13	Disaster Management
14	Fundamentals of Remote Sensing & GIS
15	Financial Literacy
16	Stock Market Operations
17	Guidance and Counselling
18	Content Writing for Digital Platforms
19	Food Processing & Marketing
20	Personality Development
21	Agribusiness Management
22	Tally
23	Graphic and Animation
24	Video Editing & Mixing

25	Applications of AI Tools
26	Website Interface Development
27	Desktop Publishing
28	Introduction to Fine Arts
29	Performing Arts: Dance
30	Performing Arts: Theatre
31	Performing Arts: Light Vocal
32	Performing Arts: Hindustani Classical (Vocal)
33	Vastushastra

1. Fundamentals of Information and Communication Technology

Semester	: I (Compulsory Paper)
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in each question of **group B**.

Course Objectives:

This course is designed to address the vital need for Computer Literacy among college students of Vinoba Bhave University to cultivate essential computer skills and related competencies in order to make them fit for modern job market and industry settings.

Course Learning Outcomes (CLOs)

After successful completion of this course, the student will be able to:

1. Explain the fundamental concepts, components, and applications of information technology.
2. Differentiate between various types of software, operating systems, and their roles in IT infrastructure.
3. Apply number system conversions and data representation techniques in computing.
4. Demonstrate understanding of computer networks, the internet, and basic cyber security measures.
5. Use MS Office tools (Word, Excel, PowerPoint) to create, edit, and present professional documents, spreadsheets, and presentations.

Unit 1.

Introduction to Information Technology (9 Lectures)

- i. Definition of IT, Scope and Importance in Modern Society
- ii. Overview of Computer Systems and IT Infrastructure
- iii. Computer Architecture, Features, Applications
- iv. Types & Generations of Computers
- v. Hardware, Software, Data & Information
- vi. Input Devices, Output Devices
- vii. Storage Devices: RAM, ROM, HDD, SSD, Optical Media (CD/DVD), Flash Drives, Cloud Storage
- viii. Ports & Connectors: USB, HDMI, VGA, Audio Jack, LAN Port
- ix. Graphics Cards and Common Hardware Issues

Unit 2.

Software & Operating Systems (9 Lectures)

- i. Definition and Role of Software in IT
- ii. Types of Software: System, Application, Utility
- iii. Open-Source vs Proprietary Software
- iv. Functions and Role of an Operating System
- v. Types of OS: Single-user, Multi-user, Network, Mobile OS
- vi. Basic File and Folder Management
- vii. Control Panel & Task Manager Essentials
- viii. Introduction to Mobile and Cloud-based OS
- ix. Troubleshooting Common OS Issues

Unit 3.

Number Systems & Data Representation (9 Lectures)

- i. Number Systems: Binary, Decimal, Octal, Hexadecimal
- ii. Conversions between Number Systems
- iii. Data Measurement: Bits, Bytes, KB, MB, GB, TB
- iv. ASCII and Unicode Basics
- v. Importance of Data Representation in IT
- vi. Binary Arithmetic (Addition, Subtraction)
- vii. Logic Gates Basics
- viii. Data Compression Concepts
- ix. Real-world Applications of Number Systems

Unit 4.

Computer Networks & Internet (9 Lectures)

- i. Basics of Networking: LAN, WAN, MAN
- ii. Internet: Uses & Applications in IT
- iii. Network Components: Modem, Router, Switch
- iv. IP Address, URL, Domain Names
- v. Email and Web Browsing Basics
- vi. Cyber Threats: Virus, Malware, Phishing, Ransomware
- vii. Network Security Basics

- viii. Cloud Computing Fundamentals
- ix. Emerging Networking Technologies (5G, IoT)

Unit 5.

Office Productivity Tools (9 Lectures)

MS Word (3 Lectures):

- i. Document Creation, Opening, Saving
- ii. Text & Paragraph Formatting, Bullets & Numbering
- iii. Page Layout, Inserting Tables, Images, Hyperlinks

MS Excel (3 Lectures):

- i. Workbook & Worksheet Basics
- ii. Data Entry, Formatting Cells
- iii. Basic Formulas, Charts, Sorting & Filtering

MS PowerPoint (3 Lectures):

- i. Creating Presentations with Themes & Templates
- ii. Adding & Formatting Text, Images, Videos
- iii. Slide Transitions, Animations, Printing Handouts

Suggested Readingas

1. Rajaraman, V. – *Fundamentals of Computers*, PHI Learning.
2. Balagurusamy, E. *Fundamentals of Computers*, McGraw Hill Education
3. Sinha, P.K. & Sinha, Priti – *Computer Fundamentals*, BPB Publications.
4. Peter Norton – *Introduction to Computers*, McGraw Hill Education.
5. Goel, Anita – *Computer Fundamentals*, Pearson Education.
6. Alexis Leon & Mathews Leon – *Fundamentals of Information Technology*, TMH.
7. Curtin, D.P. et al. – *Information Technology: The Breaking Wave*, McGraw Hill.
8. Sawyer, Stacey C., Williams, Brian K. – *Using Information Technology*, McGraw Hill.
9. Beekman, George & Quinn, Michael – *Tomorrow's Technology and You*, Pearson.

2. Entrepreneurship

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours:	45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered.

Question No.1 will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question**

No.2 & 3 will be short answer type of 5 marks each. Group B will contain descriptive type (Long answer type) seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in each question of group B.

Course Objectives (COs):

This course is designed:

- I. To have Understanding of the dynamic role of entrepreneurship and small businesses.
- II. To know about Organizing and Managing a Business
- III. To know about Financial Planning and Control
- IV. To know about Business Plan Creation
- V. To know about Forms of Ownership for Small Business.

Course Learning Outcomes (CLOs):

On successful completion of this course, the student will be able to have a knowledge how to start a business and to run it successfully with optimum profit.

Course Content:

Unit 1.

Introduction: (08 Lecture)

An Overview of Entrepreneurs and Entrepreneurship, Definition, Concept of Entrepreneurship & Intrapreneurship, Characteristics and skills of entrepreneurs.

Unit 2.

Entrepreneurship Development: (09 Lecture)

Entrepreneurship & Economic development, Contribution of Small and big enterprises to the economy, Entrepreneurial environment, Types of Entrepreneurs.

Unit 3.

Developing the Business Plan: (08 Lecture)

Identification of Business idea, Elements of a Business Plan, Building Competitive Advantage, conducting feasibility Analysis, Strategy and Planning for Starting Your Small Business, Problems of small business, Introduction to marketing mix (Product, Price, Place and Promotion).

Unit 4.

Sources of finance: (07 Lecture)

Equity vs. Debt Capital, Sources of Equity Finance, Institutional finance, Venture Capital, Lease Finance.

Unit 5.

Forms of business organisation: (07 Lecture)

Sole proprietorship, Partnership, Cooperative, Joint-Stock Company

Unit 6.

Intellectual Property Right: (06 Lecture)

Introduction to Intellectual Property Right, Importance of innovation, patents & trademarks in small businesses, Introduction to laws relating to IPR in India.

Suggested Readings:

1. Hisrich & Peters, "Entrepreneurship", Tata McGraw Hill
2. Roy, Rajeev, "Entrepreneurship", Oxford University Press
3. Norman M. Scarborough, "Essentials of Entrepreneurship & Small Business Management", 6th ed. Prentice Hall
4. Dutta, Bholanath, "Entrepreneurship" Excel Books.
5. Desai, Vasant Desai and Kaur, Kulveen "Entrepreneurship: Development and Management" Himalaya Publishing House
6. Gupta and Rana, Entrepreneurship, SBPD Publication Agra
7. S. K. Singh, Entrepreneurship, SBPD Publication Agra

3. Cyber Defense

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours:	45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered.

Note: There may be subdivisions in each question of **group B**.

Course Objectives (COs):

1. To understand various types of cyber-attacks and cyber-crimes.
2. To learn threats and risks within context of the cyber security.
3. To have an overview of the cyber laws.

Course Content:

1. Introduction:

Basic Cyber Security Concepts, layers of security, Vulnerability, threat, Harmful acts, Internet Governance – Challenges and Constraints, Computer Criminals, CIA Triad, Assets and Threat, motive of attackers, active attacks, passive attacks, Software attacks, hardware attacks, Cyber Threats-Cyber Warfare, Cyber Crime, Cyber terrorism, Cyber Espionage, etc., Comprehensive Cyber Security Policy.

(13 Lectures)

2. Cyberspace and the Law:

Introduction, Cyber Security Regulations, Roles of International Law. The INDIAN Cyberspace, National Cyber Security Policy.

(8 Lectures)

3. Cybercrime: Mobile and Wireless Devices:

Introduction, Proliferation of Mobile and Wireless Devices, Trends in Mobility, Credit card Frauds in Mobile and Wireless Computing Era, Security Challenges Posed by Mobile Devices.

(8 Lectures)

4. **Cyber Security: Organizational Implications:**

Introduction, cost of cybercrimes and IPR issues, web threats for organizations, security and privacy implications, social media marketing: security risks and perils for organizations.

(8 Lectures)

5. **Privacy Issues:**

Basic Data Privacy Concepts: Fundamental Concepts, Data Privacy Attacks, Data linking and profiling, privacy policies and their specifications.

(8 Lectures)

Suggested Readings:

1. Nina Godbole and Sunit Belapure, Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives, Wiley
2. B.B. Gupta, D.P. Agrawal, Haoxiang Wang, Computer and Cybersecurity: Principles, Algorithm, Applications, and Perspectives, CRC Press, ISBN 9780815371335, 2018.
3. Cyber Security Essentials, James Graham, Rick Howard and Ryan Otson, CRC Press.
4. Introduction to Computer Network & Cyber Security, Chwan-Hwa(John) Wu, J. David Irwin, CRC Press T & F Group.

4. Life Skills

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which **any four are to be answered**. There may be subdivisions in questions of group B.

Course Objectives (COs):

The course Life Skills will help the learners to –

- i. Understand various aspects of developing civic awareness.
- ii. Develop digital skills.
- iii. Conceptualize the importance of financial literacy and awareness.

- iv. Understand the concept and develop skills relating to governance, civic rights and responsibilities.
- v. Realize the importance of various career skills in life.

Course Learning Outcomes (CLOs):

The course Like Skill will make the learners able to –

- i. Apply different civic awareness such as human values, legal matters, public health, disability, etc. in their life and society.
- ii. Develop the digital skills such as use of ICT, cyber security, and digital ethics.
- iii. Acquire the skills relating to different financial literacy such as banking, saving, investment, etc.
- iv. Participate in different governance, civic rights and responsibilities related services implemented at the district and local levels.
- v. Acquire the skills and select a right career path by exploring various career opportunities, self-employment, and preparing themselves to develop a good CV and to attend interviews.

Unit 1. Civic Awareness (9 Lectures)

- i. Universal Human Values (Understanding Human Values, Human Values from Individual to Universal Perspectives, Relevance of Human Values)
- ii. Legal Awareness (Transfer of property, Matrimonial Dispute and Inheritance Right, Criminal proceedings)
- iii. Public Health (Hygiene, First Aid, Mental Health, Care for Elders, Healthcare Delivery System in India, Communicable and non-communicable Diseases)
- iv. Disability (Approaches to Disability - The Charity Approach, The Medical Approach, The Social Approach; Types of Disabilities, Challenges Faced by Persons with Disabilities)

Unit 2. Digital Skills (9 Lectures)

- i. Information and Communication Technology
- ii. Digital Computer Skills
- iii. Cyber Security
- iv. Digital Ethics

Unit 3. Financial Literacy and Awareness (9 Lectures)

- i. Banking and Finance
- ii. Saving and Investment Options

Unit 4. Governance, Civil Rights and Responsibilities (9 Lectures)

- i. Services at the District Level
- ii. Services at the Local Level
- iii. Services by other Agencies

Unit 5. Career Skills (9 Lectures)

- i. Exploring Career Opportunities
- ii. Self-employment
- iii. Preparing for Interview and CV

Suggested readings and resources:

1. Dagar, B.S and Dhull, I. (1994). Perspectives in Moral Education. Uppal Publishing House, New Delhi.
2. Gogate, S.B. (2011). Human Values and Professional Ethics. Vikas Publishing House, New Delhi.
3. Sinha, K. (2021). Human Values and Virtues in Indian Perspectives. B.R. Publishing Corporation. Pradhan, Poonam, Family Law 1 and 2, Lexis Nexis, Gurgaon, 2002.
4. Ganguly, Ashok K, Landmark Judgements that changed India, Rupa Publications, New Delhi, 2018.
5. Laxmikanth, M, Indian Polity, McGraw Hill, Chennai, 2017.
6. Government of India. (2016). The rights of persons with disabilities act. Legislation Department: Ministry of Law and Justice. https://legislative.gov.in/sites/default/files/A2016-49_1.pdf
7. Air India. Concession for blind persons. Retrieved June 15, 2022 from <http://www.airindia.in/blind-person-concession.htm> Air India.
8. Locomotor Disability Concession. Retrieved June 15, 2022 from <http://www.airindia.in/Locomotor-Disability-Concession.htm> Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment, Government of India.
9. “Digital Literacy: Concepts, Methodologies, Tools, and Applications” by Information Resources Management Association “Computer Literacy Basics: A Comprehensive Guide to IC3” by Connie Morrison and Dolores Wells.
10. James, Weinstein., & Mendoza. Teaching digital citizens in today’s world: Research and insights behind the Common-Sense K–12 Digital Citizenship Curriculum. (Version 2).
11. Common Sense Media Education Commission of the States. Media Literacy and Digital Citizenship (2021).
12. Amit Kumar Singh (2023): ‘Financial Literacy’ published by Taxman Publications (P) Ltd. New Delhi.
13. Monika Halan, (2022): Let’s Talk Money, Harper Collins, Delhi Biswajit Das (2023): Basics of Banking, Notion Press, Chennai.
14. Ministry of Panchayati Raj (2022) Action Agenda for Panchayati Raj Institution Members for Rural Development. New Delhi: Government of India.
15. Ministry of Housing and Urban Affairs (2021). Swachh Bharat Mission - Urban 2.0: Making Cities Garbage Free, Operation Guidelines. New Delhi: Government of India.
16. National Health Authority. Beneficiary Identification Guidelines: Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) accessible at <https://cdnbbsr.s3waas.gov.in/s3169779d3852b32ce8b1a1724dbf5217d/uploads/2022/05/2022051092.pdf>
17. Lesikar, Raymond V & Marie E Flatley, Basic Business Communication Skills for Empowering the Internet Generation, (Ninth Edition), Tata Mcgraw – Hill, Delhi, 2002.
18. Mukherjee, Hory Sankar, Business Communication Connecting at Work, Oxford University Press, Delhi, 2013.
19. Raman, Meenakshi & Raman Singh, Business Communication, (Second Edition), Oxford University Press, Delhi, 2012.

5. Digital Education

Semester : II/III

No. of Credits : 3 (Theory: 03, Practical: 00)
Total Marks : 75
No. of Teaching Hours: 45
SIE : 00
ESE : 75 (3 hours)
Pass Marks : 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in each question of **group B**.

Course Objectives (COs):

Digital Education is a technique or method of learning which involves technology and digital devices. This is a new and broad technical sphere which shall help any student attain knowledge and gain information from any corner across the country.

Course Learning Outcomes (CLOs):

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

1. Identify, describe, and apply emerging technologies in teaching and learning environments.
2. Demonstrate knowledge, attitudes, and skills of digital age work and learning.
3. Plan, design, and assess effective learning environments and experiences.
4. Implement curriculum methods and strategies that use technology to maximize student learning.

Course Contents:

Unit 1. Introduction to Digital Education: (5 Lectures)

Meaning & Evolution of Digital Systems. Role & Significance of Digital Technology, Offline Vs. Online education, Digital Education: advantages and disadvantages.

Unit 2. Challenges with Digital Education in India: (3 Lectures)

Digital Device, Language Barrier, CWSN (Children with special need), Lack of training and Communication, Health issues.

Unit 3. Digital Education Tools: (7 Lectures+ 5 Hands-on Sessions)

Information & Communication Technology & Tools, Interactive tools- Microsoft Teams, Google Classroom, LinkedIn, ZOOM etc. Creative Tools – Google Forms, Google Slides, Google Spreadsheets, Google Drive, YouTube Channel etc.)

Unit 4. Digital education in India: (10 Lectures+ 5 Hands-on Sessions)

Government initiatives for Digital education in India: SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), E-PGPathshala, National digital library of India (NDL India), DigiLocker, DIKSHA, Virtual Lab, NPTEL, Pragyath.

Unit 5. E-Governance: (10 Lectures)

Introduction of E-Governance in India, Types of E-Governance-G2C (Government to Citizen), G2E (Government to Employee), G2B (Government to Business), G2G (Government to Government), E – Governance in Jharkhand.

Suggested Readings:

1. E-Governance in India: Initiatives and issues by R.P. Sinha
2. Information & Communication Technology (ICT) in Education by Dr. Vanaja M, Dr. S Rajasekar, Dr. S. Arulsamy.
3. Digital India: Understanding Information, Communication and Social Change by Pradip N.

6. Mushroom Cultivation:

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered.

Note: There may be subdivisions in each question of **group B**.

Course Objectives (COs):

On successful completion of this course the student should be able to understand:

1. Recalling various types and categories of mushrooms.
2. Demonstrating various types of mushroom cultivating technologies.
3. Examining various types of food technologies associated with mushroom industry.
4. Valuing the economic factors associated with mushroom cultivation.
5. To device new methods and strategies to contribute to mushroom production.

Course Learning Outcomes (CLOs):

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

1. Know history and nutritional values of mushroom.
2. Cultivate mushroom.
3. Store mushroom in the form of various edible items.

Course Content:

Unit 1.

Introduction: (10 Lectures)

History, Nutritional and medicinal value of edible mushrooms, Poisonous mushrooms, Types of edible mushrooms available in India - *Volvariella volvacea*, *Pleurotus citrinopileatus*, *Agaricus bisporus*.

Unit 2.

Cultivation Technology: (15 Lectures)

Infrastructure: substrates (locally available) Polythene bag, vessels, Inoculation hook, inoculation loop, low-cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag. Pure culture: Medium, Sterilization, preparations of spawn, multiplication. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation-Low-cost technology, Composting technology in mushroom production.

Unit 3.

Storage and nutrition: (10 Lectures)

Short-term storage (Refrigeration – up to 24 hours) Long term Storage (canning, pickles, papads), drying, storage in salt solutions. Nutrition - Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content – Vitamins.

Unit 4.

Food Preparation: (10 Lectures)

Types of foods prepared from mushroom. Research Centres - National level and regional level. Cost benefit ratio - Marketing in India and abroad, Export Value.

Suggested Readings:

1. Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
2. Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
3. Tewari, Pankaj and Kapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.
4. Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.

7. Food science and Technology:

No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours: 45	
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3 will be short answer type** of 5 marks each. **Group B will contain descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered.

Note: There may be subdivisions in each question of **group B**.

Course Objectives (COs):

The main objective of this course is to provide students with fundamental knowledge of the principles and practices involved in food production, preservation, packaging and nutrition.

Course Learning Outcomes (CLOs):

After the completion of the course, the students can opt for job's in various domains such as restaurants, hospitals, food processing companies, soft drink manufacturing firms, cereal and spice, rice mills, catering establishments, packaging industries and food research laboratories.

Course Content:

Unit 1.

Food microbiology Basics: (11 Lectures)

Microbiological history of food. Types of micro-organism normally associated with food- mold, yeast, and bacteria, Microbial growth pattern, physical and chemical factors influencing destruction of microorganisms. Microorganisms in natural food products and their control. Brief idea of Physical, Chemical and Biochemical changes caused by microorganisms, deterioration and spoilage of various types of food products. Analytical techniques in Microbiology- Screening and Enumeration of spoilage microorganisms.

Unit 2.

Food spoilage and Fermented Foods: (11 Lectures)

Microbial spoilage of foods – food borne pathogens, food poisoning, food infection and intoxication. Examples: *E. coli* O157:H7, *Salmonella*, *Campylobacter jejuni*, *Bacillus cereus*, *Shigella sp.*, *Clostridium sp.*, *Staphylococcus sp.*, *Norwalk like viruses*, Hepatitis Elementary idea of Detection of pathogens in food. Traditional fermented foods of India and other Asian countries; Probiotics and prebiotics; Fermented foods based on milk, meat and vegetables; Fermented beverages.

Unit 3.

Food Chemistry and Nutrition: (11 Lectures)

Importance of food. Scope of food chemistry. Introduction to different food groups: their classification and importance. Water in food, water activity and shelf life of food. Carbohydrates, Proteins, Lipids, Vitamins: Structure, classification and industrial uses. Minerals. Processing and preservation of food -preservation by low-temperature, heat, drying, chemical, non-thermal methods and irradiation. Food pigments and synthetic dyes Natural pigments, their occurrence and characteristic properties, applications. Enzymes used in food industry: Definition, importance, sources, nomenclature, classification and their applications in food processing.

Unit 4.

Food Packaging and Quality control: (12 Lectures)

Food packaging: Definitions, objectives and functions of packaging and packaging materials. Packaging requirements and selection of packaging materials; Types of packaging materials. Food packaging systems: Different forms of packaging and packaging systems for (a) dehydrated foods (b) frozen foods (c) dairy products (d) fresh fruits and vegetables (e) meat, poultry and sea foods. Packaging equipment and machinery: Elementary idea. Food Quality: importance and functions of quality control. Sanitation and hygiene, GMP, GLP, Food laws and standard, PFA, AGMARK. Food adulteration and food safety. HACCP, IPR and Patents, ISO system – 9001, 14001, 17025 and 22000.

Suggested readings:

1. Food Science: B. Srilakshmi (New Age International Publishers).3rd edition, 2017.
2. Food Science & Technology: B.K. Sakhala & N.A. Giri (Brillion Publishing), 3rd edition 2018.
3. Theoretical Approaches in Food Science & Technology: Anjineyulu Kothakota & R. Pandiselvam (Jain Brothers). 1st edition, 2021.
4. Food Microbiology (William C. Fraizer and Dennis C. Westhoff)- Mc Graw Hill education.5th edition, 2017.
5. Food Processing & Preservation (S. Sumathi) : B S Publication. 2nd edition 2018.

8. Biofertilizers and Organic farming:

No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours:	45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered.

Note: There may be subdivisions in each question of **group B**.

Course Objectives (COs):

This course is designed to enable students to :

1. Develop their understanding on the concept of bio-fertilizer.
2. Identify the different forms of biofertilizers and their uses.
3. Compose the Green manuring and organic fertilizers.
4. Develop the integrated management for better crop production by using both nitrogenous and phosphate bio fertilizers.

Course Learning Outcomes (CLOs):

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

1. Become completely familiar with biofertilizers.
2. Start their own start-up with Organic Farming.
3. Describe the ecological, economic, and health-related benefits of organic agriculture.
4. Articulate the role of biofertilizers in sustainable soil fertility management.
5. Identify key microbial groups (e.g., Rhizobium, Azotobacter, Mycorrhiza) and their functions.

Course Content:**Unit 1.**

General account about the microbes used as biofertilizer – Rhizobium – isolation, identification, mass multiplication, carrier-based inoculants, Actinorhizal symbiosis. *Azospirillum*: isolation and mass multiplication – carrier-based inoculant, associative effect of different microorganisms. *Azotobacter*: classification, characteristics – crop response to *Azotobacter* inoculum, maintenance and mass multiplication.

(15 Lectures)

Unit 2.

Cyanobacteria (blue green algae), *Azolla* and *Anabaena azollae* association, nitrogen fixation, factors affecting growth, blue green algae and *Azolla* in rice cultivation.

(10 Lectures)

Unit 3.

Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.

(10 Lectures)

Unit4.

Organic farming – Green manuring and organic fertilizers, Recycling of bio- degradable municipal, agricultural and Industrial wastes – biocompost making methods, types and method of vermicomposting – field Application.

(10 Lectures)

Suggested Readings:

1. Dubey, R.C. (2005). A Text book of Biotechnology S.Chand & Co, New Delhi.
2. John Jothi Prakash, E. (2004). Outlines of Plant Biotechnology. Emkay Publication, New Delhi.
3. Kumaresan, V .(2005). Biotechnology, Saras Publications, New Delhi.
4. NIIR Board. (2012). The complete Technology Book on Biofertilizer and organic farming. 2nd Edition. NIIR Project Consultancy Services.
5. Sathe, T.V. (2004) Vermiculture and Organic Farming. Daya publishers.
6. Subba Rao N.S. (2017). Biofertilizers in Agriculture and Forestry. Fourth Edition. Medtech.
7. Vayas,S.C, Vayas, S. and Modi, H.A. (1998). Bio-fertilizers and organic Farming Akta Prakashan, Nadiad.

9. Digital Marketing:

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Objectives (COs):

1. Understand the fundamental concepts and principles of digital marketing.
2. Develop strategies for effective online branding and communication.
3. Explore various digital marketing channels and their applications.

4. Learn techniques to optimize websites for search engines (SEO).
5. Implement paid advertising campaigns (PPC) for effective targeting and conversion.
6. Leverage social media platforms for marketing and engagement.
7. Analyze data and metrics to measure and improve digital marketing performance.
8. Understand legal and ethical considerations in digital marketing.

Course Learning Outcomes (CLOs):

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

1. Start their own start up in the field of digital marketing.
2. Know the various aspects of digital marketing.
3. Analyze consumer behavior and digital engagement strategies
4. Develop a comprehensive digital marketing plan for a product, service, or cause
5. Evaluate ethical, legal, and privacy considerations in digital marketing

Course Content:

Unit1.

Introduction to Digital Marketing (6 Hours)

- a) Overview of digital marketing.
- b) Importance and benefits of digital marketing.
- c) Key concepts and terminology.
- d) Digital marketing in the Indian education system

Unit 2.

Online Branding and Communication (9 Hours)

- a) Branding strategies in the digital age.
- b) Creating a brand identity.
- c) Crafting compelling content.
- d) Effective storytelling in digital marketing.
- e) Personal branding for professionals.

Unit 3.

Digital Marketing Channels: (9 Lectures)

- a) Search engine optimization (SEO).
- b) Pay- per-click (PPC) advertising.
- c) Email marketing.
- d) Social media marketing.
- e) Content marketing.
- f) Influencer marketing.
- g) Affiliate marketing.

Unit 4.

Website Optimization: (6 Lectures)

- a) Website design and user experience.
- b) On -page and off-page optimization.
- c) Keyword research and analysis
- d) Website analytics and tracking

- e) Conversion rate optimization (CRO)

Unit 5.

Social Media Marketing: (6Lectures)

- a) **Social** media platforms and their features.
- b) Social media strategy development
- c) Creating engaging content for social media
- d) Social media advertising and targeting
- e) Social media analytics and reporting

Unit 6.

Data Analysis and Metrics: (6Lectures)

- a) Understanding digital marketing metrics
- b) Google Analytics and other analytical tools
- c) Data-driven decision making
- d) A/B testing and optimization
- e) Reporting and performance measurement

Unit 7.

Legal and Ethical Considerations: (3 Lectures)

- a) Privacy and data protection
- b) Intellectual property rights
- c) Online advertising regulations
- d) Ethical issues in digital marketing

Suggested Readings:

1. "Digital Marketing: Strategy, Implementation and Practice" by Dave Chaffey and Fiona Ellis-Chadwick.
2. "The Art of SEO: Mastering Search Engine Optimization" by Eric Enge, Stephan Spencer, Jessie Stricchiola, and Rand Fishkin.
3. "Social Media Marketing: A Strategic Approach" by Melissa Barker, Donald I. Barker, Nicholas F. Bormann, and Debra Zahay.
4. "Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity" by Avinash Kaushik.

10. Statistical Data Analysis

Introduction:

This course introduces the Four Years Undergraduate Students (FYUG) to how to collect and present the data in education and real-life. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be acquainted with the different data sources and also be trained for univariate and bivariate data analysis manually as well as with the use of MS-Excel.

Course Objectives (COs):

This course will enable the students to:

1. explain the role of statistics in education and real-life.
2. develop the skills how to prepare univariate and bivariate frequency distributions.
3. understand the nature of data and discuss it critically based on measures -central tendency, position, dispersion and relation measures.
4. develop the skills for univariate and bivariate data analysis and its interpretation (manually and use of excel).
5. develop the skills to work on the excel spreadsheet (data feeding, analysis and interpretation)..
6. acquainted with the applications of normal probability curve (NPC) in education and real-life.
7. develop the statistical thinking skills to critically evaluate and interpret the results.

Course Learning Outcomes (CLOs):

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

1. define the term statistics.
2. explain the meaning of data and its types.
3. distinguish between univariate and bivariate data analysis.
4. read and interpret bar graphs, line graphs, and scatter plots.
5. describe and interpret the measures of central tendency- mean, median and mode.
6. describe and interpret the measures of positions – quartile, decile and percentile.
7. describe and interpret the measures of variability- range, quartile deviation and standard deviation.
8. calculate coefficient of correlations and interpretation.
9. define normal probability curve and apply its properties in solving problems.
10. explain standard scores and its interpretation in education.

Course Contents:

Unit1.

Fundamentals of Statistics

- i. Statistics: Meaning, nature and scope of statistics in education and real-life
- ii. Data and its nature: qualitative and quantitative
- iii. Variable and constant, Scales of measurement: Nominal, Ordinal, Interval and Ratio
- iv. Tabulation and graphical representation of data with bar-diagram, histogram, pie-diagram, frequency polygon and ogive through manual and using spreadsheets in Microsoft excel

Unit 2.

Univariate Data Analysis

- i. Measures of central tendency: Mean (arithmetic, geometric and harmonic mean), median & mode
- ii. Measures of position: Quartiles, deciles and percentiles
- iii. Measures of variability: Range, quartile deviation, average deviation and standard deviation

- iv. Calculation of measures of central tendency, position and variability through manual and using spreadsheets in Microsoft excel

Unit 3.

Bivariate Data Analysis

- i. Correlation: concept, types and characteristics
- ii. Coefficient of Correlation, correlation vs causation
- iii. Measures of relationship: Spearman rank difference method and Pearson product moment correlation method, interpretation of coefficient of correlation
- iv. Calculation of coefficient of correlations (Spearman and Pearson) through manual and using spreadsheets in Microsoft excel

Unit 4.

Normal Probability Curve

- i. Probability and its principle
- ii. Normal probability curve: historical concept, characteristics and applications
- iii. Measures of divergence from normality: skewness and kurtosis
- iv. Standard scores, Interpretation of standard scores- Z score & T score and its application
- v. Creation of normal probability curve and conversion of raw scores into standard scores through manual and using spreadsheets in Microsoft excel

Course-based activities

- i. Prepare the frequency distribution table of the last semester marks of the students in different subjects and represent graphically through histogram, frequency polygon and ogives
- ii. Compute the average performance of the students in your class and show the deviation of the marks from average.
- iii. Find out correlation coefficient between the marks of students of Mathematics and Science; History and Mathematics etc. and interpret the result.
- iv. Study the normality of the marks of the students in the respective class and its divergence.
- v. Apply NPC properties to find out the difficulty levels of the questions of last semester exam and also categorize the students of class in different groups based on their performance in specific course such as high, average and low performing groups.

Essential Readings:

1. Agrawal, Y. P. (1990). Statistical methods: Concepts, application and computation. New Delhi: Sterling Publishers Pvt. Ltd.
2. Garrett, H.E. (1988). Statistics in psychology and education. Bombay, Vakils, Feiffer & Semen's Ltd.
3. Guilford, J. P., & Fruchter, B (1987). Fundamental statistics in education and psychology. Tokyo: McGraw Hill.
4. Gupta, S. P. & Gupta Alka. (2013). Statistical methods in behavioural sciences, Sharda Pustak Bhawan, Allahabad. (Hindi)

Suggested Readings:

1. Asthana, H.S. & Bhushan, B. (2007): Statistics for social sciences. New Delhi: Prentice Hall of India.
2. Gokhar, S.C. (2009). Statistics in education and psychology, M.M. Publication, Panipu.
3. Henry, G.T. (1995). Graphing data: Techniques for display and analysis. Thousand oaks, CA: Sage.
4. Glass, G. V., & Hopkins, K. D. (1996). Statistical methods in education and psychology. Botson: Allyn & Bacon.

11. Land Survey Skill (Amini)

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily.*

***Question No.1 of Group A** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each.*

***Group B** will contain **descriptive type (Long answer type)** 5 questions of fifteen marks each, out of which any **3** are to be answered. There may be subdivisions in questions of **group B**.*

Course Description:

Aminee is an old occupation that is related to measurement of land. It is very relevant and significant to cadastral land survey in present era. This course has potential to learner's employability in various cadastral land survey of private as well as Govt. institutions.

Course Objectives (COs):

1. To provide basic and practical knowledge of surveying that are used in various land survey in general and cadastral in particular.
2. Learners will be able to comprehend the basic and practical knowledge of land survey in class as well as field survey.
3. To familiarize students with village and cadastral maps
4. To train students in legal and administrative aspects of land revenue systems
5. To encourage entrepreneurship and higher education in land management fields
6. Guide students toward careers in property management, legal services, or further studies.
7. Foster self-employment through skill-based training.

Course Learning Outcome (CLOs):

At the end of this course, learners will be able to:

1. Conduct accurate land surveys using standard instruments
2. Interpret and prepare cadastral and village maps
3. Apply knowledge of land revenue systems and legal frameworks
4. Prepare detailed site plans and documentation for land records
5. Resolve land-related disputes through informed analysis
6. Demonstrate workplace safety and ethical surveying practices
7. Pursue employment, apprenticeship, or entrepreneurship in land management

Unit 1.

Introduction, objective of study Amanat/Aminee, Scope of Survey, Historical Background of cadastral survey, the stages in the preparation of record of right and preparation of village maps, Principles of surveying.

(12 Lectures)

Unit 2.

Principle and evolution of Toposheet, GIS and, Remote sensing, Aerial survey and GPS, Present day importance of a Surveyor/Amin, Methodology of chain surveying (both chain and tape and gruners chain survey), Theodolite traversing, Plane Table Survey, Prismatic compass survey, Dumpy level survey.

(18 Lectures)

Suggested Books:

1. Walia, R.M. (2018): Amanat (vekur), Notion Press, Chennai.
2. Shrivastav, C.K. (2020): Bhoo Mapan Vidhi evam Uske Tatva (Hkw&ekiu fof/k ,oa mlds RkRo , Universal Law Publishing Co., New Delhi.
3. Sharma, J.P. (2018): Prayogik Bhoogol, Rastogi Prakashan, Meerut.
4. Singh, R. L. & Singh, Rana P.B. (Elements of Practical Geography, Kalyani Publishers, New Delhi.
5. Gopi, S., Sathikumar, R. & Madhu, N. (2007): Advanced surveying total station, GIS and Remote Sensing, Pearson, New Delhi.

Practical:

Experiment(s) : 20 Marks

Note-book + Viva-voce : 5 marks

Construction of scale: Simple, Diagonal and Comparative; Conventional Sign; Details of the unit of measurement, Area Calculation (Local system, British units and Metric unit), enlargement and reduction of plots, Measurement of land area with the help of Gunter's chain, Plane Table Survey intersection method, resection, Three point

problem (tracing paper, trial and error and Bessel's Method), A dumpy level survey (at least for recording the height of land surface/road for a length of 1000 feet and meter).

12. Online Teaching – Learning

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in each question of **group B**.*

Course Description

Many students possess valuable knowledge or skills in diverse areas—be it academic subjects, software tools, arts, or vocational skills. They aspire to teach online — to share what they know with the world. While they may have knowledge of coding, music, chemistry, or Photoshop, they often struggle with *how* to explain in a way that learners enjoy, understand, and remember. Knowing a subject does not automatically mean being able to teach it effectively online. This course is designed to bridge that gap. It focuses on helping learners develop practical competencies in planning, delivering, and improving engaging online lessons.

Course Objectives (COs):

This course will enable the students to:

1. Understand the essence of effective teaching for online platforms.
2. Identify and analyze audience needs for creating audience-focused content.
3. Structure lessons for clarity, simplicity, and engagement.
4. Use storytelling, examples, and analogies to make concepts memorable.
5. Apply basic digital tools to record and share online lessons.
6. Reflect on and refine their online teaching style over time.

Course Learning Outcomes (CLOs):

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

1. Analyze what makes successful online teaching engaging and relatable.

2. Design and structure lessons with a clear sequence and focus.
3. Explain complex topics in simple, learner-friendly language.
4. Deliver online lessons with clarity, confidence, and authenticity.
5. Record, edit, and publish basic-quality online lessons using free tools.
6. Evaluate feedback and make improvements for better online teaching.

Course Contents

Unit 1: Foundations of Online Teaching (12 Lectures)

- i. Difference between knowing a topic and teaching it.
- ii. Speaking style and voice modulation for online delivery (friendly, formal, fun, fast-paced, deep dive, etc.)
- iii. Understanding audience (age, interests, attention span).
- iv. Myths and realities of online teaching.

Unit 2: Planning Online Lessons (11 Lectures)

- i. Setting clear learning objectives.
- ii. Structuring content for online delivery (chunking & sequencing).
- iii. Writing effective scripts and outlines.
- iv. Creating lesson flow with examples, analogies, and visuals.

Unit 3: Tools & Technologies for Online Teaching (11 Lectures)

- i. Essentials for beginners: lighting, sound, and framing with basic equipment.
- ii. Choosing the right platform: YouTube, Instagram, Udemy, Zoom, etc.
- iii. Recording tools: smartphones, webcams, screen recorders (OBS Studio, Loom, etc.).
- iv. Editing basics: trimming, adding captions, visuals, and effects (Cap Cut, Open Shot, Canva).

Unit 4: Publishing, Branding & Improvement (11 Lectures)

- i. Basics of personal branding as an online teacher.
- ii. Creating a channel/profile and optimizing it (thumbnails, titles, tags, SEO).
- iii. Understanding audience feedback and analytics.
- iv. Iterative improvement of lessons based on feedback.

Course-based Activities:

1. Identify a topic you know well and prepare a short “concept map” for teaching it online.
2. Prepare a storyboard for a short lesson on a self-selected topic.
3. Record a 3–5-minute mini-lesson and share it for peer feedback.
4. Revise and record an improved version using feedback.
5. Publish a polished final lesson and reflect on the process.

Suggested Readings:

1. Anderson, T. (Ed.). (2011). *The theory and practice of online learning* (2nd ed.). AU Press, Athabasca University.
2. Budhai, S. S., & Skipwith, K. (2022). *Best practices in engaging online learners through active and experiential learning strategies* (2nd ed.). Routledge.

3. Page, C., & Vincent, A. (2025). Learning to learn online. Open Textbook Library.
<https://open.umn.edu/opentextbooks/textbooks/learning-to-learn-online>
4. Rayens, W., & Ellis, A. (2018). Creating Effective Online Learning Experiences.
5. Salmon, G. (2011). *E-moderating: The key to online teaching and learning* (3rd ed.). Routledge.

13. Disaster Management

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs):

1. The student will get to know about meaning, concept, types and difference between disaster and hazard.
2. Students will understand about the causes, distribution, mapping, preparedness and mitigation of different disasters in India including man-made disasters also.
3. They will study different major events related to man-made and natural hazards as a case study.

Course Learning Outcome (CLOs):

After the completion of this course the student will get acquainted to the meaning, concept and types of disaster and hazard. They will also get aware about the mitigation measures in different natural and man-made disaster and hazards and recent major events also.

Unit 1.

Disasters: Meaning, Definition and Concepts: Hazards and Disasters: Risk and Vulnerability; Classification; Disaster in India: **Flood, Cloud Burst, Glacial Lake Outburst Flood (GLOF):** Causes, Impact, Distribution, Mapping and Mitigation; **Landslide:** Causes, Impact, Distribution, Mapping and Mitigation; **Drought:** Causes, Impact, Distribution, Mapping and Mitigation.

(15 Lecturers)

Unit- 2.

Earthquake & Tsunami: Causes, Impact, Distribution, Mapping and Mitigation; **Cyclone:** Causes, Impact, Distribution, Mapping and Mitigation; **Lightening, Forest Fire and Pandemic: Mitigation Measures**

Manmade disasters (Terrorism-Human Bomb, War, Industrial Disaster, Rail and Road Accident): Causes, Impact, Distribution, Mapping and Mitigation,

(15 Lecturers)

Unit-3.

Case studies related to major events: **Uttarakhand (Kedarnath) Tragedy 2013, Bhuj Earthquake 2002, Bhopal Gas Tragedy 1984, Tsunami in Indian Ocean 2004, Chas-nala (Coal Mine) Disaster, Super cyclone (Odisha Coast) Disaster,**

Mitigation and Role of NDMA and NIDM Response, Preparedness and Mitigation to Disasters and Hazards; Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts Do.

(15 Lecturers)

Suggested Readings:

1. Sharma, S.C. (2022): Disaster Management, Khanna Publication, New Delhi
2. Subramanian S. (2018): Disaster Management, Vikas Publishing House, Noida
3. Singh, S. (2018): Disaster Management, Pravalika Publications, Prayagraj
4. Pandey, M. (2014): Disaster Management, Wiley Publication, New Delhi.
5. Singh, N. (2008): Aapda Prabandhan, Radha Publication, New Delhi
6. Joshi, M. (2019): Aapda Prabandhan Jaagrukta Evam Aadhunikikaran, Akhand Publishing House, New Delhi

14. Fundamentals of Remote Sensing & GIS

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.

Course Description:

Maps are none other than the package of useful information of natural and cultural landscape of the earth surface. Map was the language of primitive society found in different caves for their hunt. Map is still useful for

all section of our society and necessary to know map for administrative units (state-nation) boundary as well as objects and phenomena spread over the earth surface.

Course Objectives (COs):

1. To understand the history, meaning& types of Map along with study of Globe.
2. To learn the method of construction of scale, map and finding the desired location on map.
3. To understand the importance of Toposheet and Map Projection.
4. To understanding the various aspects of digital mapping.
5. To learn about Various Indian Navigation satellites and navigation through Google earth.
6. To learn the Interpretation of Air borne and Satellite borne images.

Course Learning Outcome (CLOs):

After the completion of this course students will understand the basic information of mapping, Construction of scale, Enlargement and Reduction of Map, Understanding of Toposheets and Map Projection and use of map that leads to construction of maps. Students will learn, basics of GPS, determination of time, Interpretation of Toposheet and various instrumental surveying. They will understand the Application of Remote Sensing and modern techniques like GIS, Google Earth and learn elements of visual image interpretation through lab work.

Unit -1.

History of Map making; Map and voyages; Definition & types of Map(Map: Cadastral, Wall, Atlas, Google Map); Importance of Map in Modern Era; Study of Globe; Computer Cartography; UTM; Transverse Mercator's Projection Evolution of GPS; Determination of location by GPS; Geo-Coordinates; Concept of Shape and Size of the Earth; Map Projection: Cylindrical, Conical, Zenithal and Conventional.

(15 Lecturers)

Unit – 2.

Remote Sensing: Meaning and Types; Application in Modern Era; Electromagnetic-wave and Spectrum; Scanner (Along track & Across-track); Spectral Signature and Resolution; Remote Sensing Platforms ;Space Programme of India for Remote Sensing and Communication satellites. Finding Location on the Earth by Satellites; Various Navigation satellites: NavIC, IKONOS, IRNSS; Google Earth and Navigation; Evolution, Definition and Application of GIS; Components of GIS; Geographic Indication (GI).

(15 Lecturers)

Unit -3.

Determination of Date &Time by GMT, UTC, IST; Construction of scale: Simple, Diagonal and Comparative; Representative Fraction (R.F.), Enlargement and Reduction of Map; Distance measuring Units and Instruments; Understanding of Toposheets; Surveying: Types and Importance; Chain and Tape Surveying; Plane Table Surveying: Radiation and Intersection. Geo-tagging; Aerial Photo Interpretation, Satellite Image Interpretation, Geo-referencing; Acquaintance with Navigation on GPS; Survey of College campus based on GPS.

(15 Lecturers)

Suggested Readings:

1. Sharma, J.P. (2018): Prayogik Bhoogol, Rastogi Prakashan, Meerut.
2. Singh, R. L. & Singh, Rana P.B. (1999): (Elements of Practical Geography, Kalyani Publishers, New Delhi.
3. Singh, L. R (2013): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad
4. Monkhouse F.J and Wilkinson H.R (1952) Maps and Diagrams, their Compilations and Concentration, Muthuen & Co. London.
5. Sarkar A.K. (1997): Practical Geography: A Systematic Approach, Oriental Longman Calcutta
6. Gopi, S., Sathi Kumar, R. & Madhu, N. (2007): Advanced surveying total station, GIS and Remote Sensing, Pearson, New Delhi.
7. Lillesand, Keifer and Chipman (2004): Remote sensing and image interpretation, John Wiley and Sons, Singapore
8. Jensen, J.R. (1996): Remote sensing of the environment. An Earth resource perspective, Pearson Education, New Delhi
9. Campbell, J.B., 1996, Introduction to remote sensing, Taylor and Francis, London
10. Chauniyal, D. D, (2016) Iqanj laosnu ,oa HkkSxksfyd Iwpuk iz.kkyh ds fl)kar, Sharda Pustak Bhawan, Prayagraj
11. Rashid, S. M., (1993), Remote Sensing in Geography, Manak Publication, New Delhi
12. Bhatta, B., (2021) Remote Sensing and GIS, Oxford University Press, New Delhi
13. Reddy, M.Anji (2008): Remote sensing and Geographical Information system, B.S. publication.

15. Financial Literacy

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs):

The course aims to offer an integrated approach to understand the concepts and applications of financial planning.

Course Learning Outcomes (CLOs):

After completion of the course, learners will be able to:

1. Describe the importance of financial literacy and list out the institutions providing financial

services;

2. Prepare financial plan and budget and manage personal finances;
3. Open, avail, and manage/operate services offered by banks;
4. Open, avail, and manage/operate services offered by post offices;
5. Plan for life insurance and property insurance;
6. Select instrument for investment in shares.

Course Contents:

Unit-1. Introduction (9 Lectures)

- a) Meaning, importance and scope of financial literacy; Prerequisites of Financial Literacy – level of education, numerical and communication ability; Various financial institutions – banks, insurance companies, Post Offices; Mobile App based services.
- b) Need of availing of financial services from banks, insurance companies and postal services.

Unit-2. Financial Planning and Budgeting (9 Lectures)

Concept of economic wants and means for satisfying these needs; Balancing between economic wants and resources; Meaning, importance and need for financial planning; Personal Budget, Family Budget, Business Budget and National Budget; Procedure for financial planning and preparing budget; Budget surplus and Budget deficit, avenues for savings from surplus, sources for meeting deficit.

Unit-3. Banking Services (9 Lectures)

- a) Types of banks; Banking products and services – Various services offered by banks; Types of bank deposit accounts – Savings Bank Account, Term Deposit, Current Account, Recurring Deposit, PPF, NSC etc.;
- b) Formalities to open various types of bank accounts, PAN Card, Address proof, KYC norm;
- c) Various types of loans – short term, medium term, long term, micro finance, agricultural etc. and related interest rates offered by various nationalized banks and post office;
- d) Cashless banking, e-banking, Check Counterfeit Currency; CIBIL, ATM, Debit and Credit Card, and APP based Payment system; Banking complaints and Ombudsman.

Unit-4. Financial Services from Post Office (9 Lectures)

- a) Post office Savings Schemes: Savings Bank, Recurring Deposit, Term Deposit, Monthly Income Scheme, Kishan Vikas Patra, NSC, PPF, Senior Citizen Savings Scheme (SCSS), Sukanya Samriddhi Yojana/Account (SSY/SSA); India Post Payments Bank (IPPB).
- b) Money Transfer: Money Order, E-Money order. Instant Money Order, collaboration with the Western Union Financial Services; MO Videsh, International Money Transfer Service, Electronic Clearance Services (ECS), Money gram International Money Transfer, Indian Postal Order (IPO).

Unit -5. Protection and Investment Related Financial Services (9 Lectures)

- a) Insurance Services: Life Insurance Policies: Life Insurance, Term Life Insurance, Endowment Policies, Pension Policies, ULIP, Health Insurance and its Plans, Comparison of policies offered by various life insurance companies.
- b) Property Insurance: Policies offered by various general insurance companies. Post office

lifeInsurance Schemes: Postal Life Insurance and Rural Postal Life Insurance (PLI/RPLI).

- c) Housing Loans: Institutions providing housing loans, Loans under Pradhan Mantri Awas Yojana –Rural and Urban.
- d) Investment avenues in Equity and Debt Instruments: Portfolio Management: Meaning and importance; Share Market and Debt Market, Sensex and its significance; Investment in Shares – selection procedure for investment in shares; Risk element; Investment Management -Services from brokers and Institutions, and self-management;
- e) Mutual Fund.

Course Based Suggested Activities:

1. Visit banks, post offices, and insurance companies to collect information and required documents related to the services offered by these institutions and to know the procedure of availing of these services.
2. Fill up the forms to open accounts and to avail loans and shall attach photocopies of necessary documents.
3. Prepare personal and family budget for one/six/ twelve month on imaginary figures.

Suggested Readings:

1. Pandey, M. Financial Market, Vikash Publication.
2. Khan, M.Y & Jain, P.K.-Financial Management, Tata Mc Grow Hill Education.
3. Chandra, Prasanna- Financial Management, Tata Mc Grow Hill Education.
4. Gupta, S. P. Financial Management- Sahitya Bhawan Publication
5. Pandey, I.M.-Financial Management- Vikash Publication
6. Mukherjee, Sushil –Profile of Financial Management –B.B. Kundu Grandsons.
7. Sharma, F.C.- Financial Management, SBPD Publications.
8. Kothari, R. (2010). Financial Services in India-Concept and Application. New Delhi: Sage Publications India Pvt. Ltd.
9. Milling, B. E. (2003). The Basics of Finance: Financial Tools for Non-Financial Managers. Indiana: Universe Company.
10. Mittra, S., Rai, S. K., Sahu, A. P., &Starn, H. J. (2015). Financial Planning. New Delhi: Sage Publications India Pvt. Ltd.
11. Chandra, P. (2012). Investment Game: How to Win. New Delhi: Tata McGraw Hill Education.
12. Zokaityte, A. (2017). Financial Literacy Education. London: Palgrave Macmillan.
13. Avadhani, V. A. (2019). Investment Management. Mumbai: Himalaya Publishing House Pvt. Ltd.

16. Stock Market Operations:

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Objectives (COs):

The course aims to impart basic knowledge about the structure and functioning of the stockmarket in India and to learn trading on the stock exchange.

Course Learning Outcomes (CLOs):

After completion of the course, learners will be able to:

1. Explain the basic concept of securities market;
2. Practice trading on stock market;
3. Analyse the legal framework of securities market;
4. Explain different segment of Stock Exchange;
5. Perform demat trading.

Course Contents:

Unit-1. Introduction (9 Lectures)

Concept and types of Securities; Concept of return; Concept, types and measurement of risk; Development of Securities market in India.

Unit-2. Primary Market (9 Lectures)

- a) Concept, Functions and Importance; Functions of New Issue Market (IPO, FPO & OFS); Methods of Floatation- fix price method and book building method;
- b) Pricing of Issues; Offer Documents;
- c) Appointment and Role of Merchant Bankers, Underwriters, Lead Managers, Syndicate Members, Brokers, Registrars, Bankers, ASBA; SME IPOs and Listing of Securities.

Unit -3. Secondary Market (9 Lectures)

Concept; Functions and Importance; Mechanics of Stock Market Trading-Different Types of Orders, Screen Based Trading, Internet-Based Trading and Settlement Procedure; Types of Brokers.

Unit -4. Regulatory Framework (9 Lectures)

SEBI (Issue of Capital and Disclosure Requirements) Regulation 2018; Stock Exchanges and Intermediaries; SEBI and Investor Protection; Securities Contract Regulation Act and SEBI (Listing Obligations and Disclosure Requirements) Regulation 2015.

Unit -5. Demat Trading (9 Lectures)

Concept and Significance; Role of Depositories and Custodian of Securities in Demat Trading; SEBI Guidelines and other Regulations Relating to Demat Trading; Procedure of Demat Trading.

Course Based Suggested Activities:

1. Prepare the steps involved in pre and post management of hypothetical case of IPO/FPO.
2. Make a comparative analysis of IPOs to identify parameters of success and causes of failure.
3. Expose themselves to trading screen of National Stock Exchange (www.nseindia.com) and demonstrate: i. Procedure of placing buying /selling order. ii. Trading Workstation Station (TWS) of spot market and financial derivative markets (Futures and Options).
4. Learn demat trading and investment with the help of relevant software (Working on Virtual trading platform).

Suggested Readings:

1. Agrawal, V.P., Financial Market Operations, Sahitya Bhawan Publications
2. Goyal, Alok & Gopal Mridula, Financial market Operation, V.K. Gopal Publication.
3. Gordon, E., & Natarajan, K. (2019). Financial Markets and Services. New Delhi: Himalaya Publishing House.
4. Benjamin, G. (1949). The Intelligent Investor. New York: Harper Publishing.
5. Dalton, J. M. (2001). How The Stock Market Works? New York: Prentice Hall 6.
6. Press.Machiraju, H. R. (2019). Merchant Banking. New Delhi: New Age Publishers.

17. Guidance and Counselling:

No. of Credits	: 3 (Theory: 02, Practical: 01)
Total Marks	: 50 (Theory) + 25 (Practical)
No. of Teaching Hours: 30 (Theory) + 30 (Practical)	
SIE	: 00
ESE	: 50 (2 Hours Theory) + 25 (3 Hours Practical)
Pass Marks	: 20 (Theory) + 10 (Practical)

Instruction to question Setter:

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain **1** question which is to be answered compulsorily. **Question No.1 of Group A** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Group B** will contain **descriptive type (Long answer type) 5** questions of fifteen marks each, out of which any **3** are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs):

On successful completion of this course the student should be able:

1. To develop a basic understanding of Guidance and Counselling as a profession.
2. To gain knowledge of basic approaches, theories and techniques in Guidance and Counselling.
3. To develop awareness about the contemporary issues and challenges in Counselling.
4. To know recent trends in therapy like solution focused therapy, narrative therapy, etc.

Course Learning Outcomes (CLOs):

On successful completion of this course:

1. The students will become a perfect counsellor.
2. The students will be able to solve day to day problems of the clients.
3. The students will become able to solve social problems.

Course Contents:

1. Introduction to Guidance and Counselling:

- a) Nature
- b) Principle
- c) Goal
- d) Adjustment Problem.

(6 Lectures)

2. Approaches to Guidance and Counselling I

- a) Personal Centered approach

- b) Psychodynamic approach
- c) Behavioural approach
- d) Cognitive behavioural approach: CBT, REBT.

(8 Lectures)

3. Approaches to Guidance and Counselling II

- a) Narrative therapy
- b) Solution focused therapy
- c) Music therapy
- d) Yoga and meditation

(8 Lectures)

4. Applications:

- a) Child Counselling
- b) Family Counselling
- c) Career Counselling
- d) Crisis intervention: suicide, grief and sexual abuse

(8 Lectures)

Suggested Readings:

1. Aguilera, D. C. (1998). Crisis intervention: Theory and methodology (8th Ed.) Philadelphia: Mosby.
2. Belkin, G. S. (1998). Introduction to Counselling (3rd Ed.) Iowa: W. C. Brown.
3. Capuzzi, D. & Gross, D. R. (2007). Counselling and Psychotherapy: Theories and interventions (4th Ed). New Delhi. Pearson.
4. Corey, G. (2009) Counselling and Psychotherapy: Theory and practise. (7th Ed.) New Delhi: Cengage Learning.
5. Friedlander, M. L. and Diamond, G. M. (2012). Couple and Family Therapy. In E.M. Altmaier and J. C.
6. Gibson, R. L., & Mitchell, M. H. (2009). Introduction to Counselling and Guidance (7th Ed) New Delhi: PHI Learning Pvt. Ltd.
7. Hansen (Eds.) The Oxford Handbook of Counselling Psychology. New York: Oxford University Press
8. Kapur, M. (2011). Counselling Children with Psychological Problems. New Delhi, Pearson.
9. Parti, V. R. (2008). Counselling Psychology. New Delhi: Authors Press.
10. Rao, S. N. Sahajpal, P. (2013). Counselling and Guidance, New Delhi: Tata Mc Graw- Hill.
11. Rao, S. N. (2004). Guidance and Counselling. New Delhi: Discovery Publishing House.
12. Sharf, R. S. (2012). Theories of Psychotherapy and Counselling: Concepts and Cases. 5th Edition. Belmont: Brooks/Cole (Cengage Learning).
13. S. Brown & R. Lent (Eds.). Handbook of Counselling Psychology (4th Ed) (pp. 267-283). NY: Wiley.
14. Sharma, R.A. (2014). Fundamentals of Guidance and Counselling, Meerut: R. Lall Book Depot.

Practical

Credit – 1

30 Lectures

Experiment(s) : 20 Marks

Note-book + Viva-voce : 5 marks

Time: 3 Hours

Pass Marks: 10

Two practicals from the following list are to be done:

- a) Raven Progressive Matrices – Rave
- b) Adjustment Scale by Shamshad and Moshin.
- c) Thematic Apperception Test.
- d) Mental Health Check List – Pramod Kumar.

Suggested Readings:

1. Mohsin, SM (1998). Experiments in Psychology. Patna: Motilal Banarsidas.
2. Postman and Egan (1964). Experimental Psychology. New York: Ronal Press.
3. Singh A. K. (2006). Advanced Psychology Experiments and Testing. Patna: Motilal Banarsidas Publication. (In Hindi).
4. Suleman, M. (1996). Manovigyan Me Prayog Parikshan. Patna: Motilal Banarsidas. (In Hindi).

18. Content Writing for Digital Platforms

Semester : II/III

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Objective (COs):

A standard content writing for digital platform course syllabus encompasses the essentials of writing, research and content marketing, featuring distinct courses on diverse content types such as blogs, website content, and social media content. It encompasses instruction in copywriting, editing, and establishing a profession in content writing.

Course Learning Outcome(s):

After the completion of the course, students will be equipped with:

1. CO 1: the basic concepts of Content Writing
2. the knowledge of various styles and techniques of writing and editing
3. a nourishment of their creative skills
4. a skill extremely useful for bloggers
5. a creation of an industry-academia interface through institutional support

Course Content:

Unit 1.

Introduction to Content Writing: (11 Lectures)

- i. Overview: What is content writing? Why is it important in today's digital landscape?
- ii. Types of Content: Exploring different formats like blogs, articles, website copy, social media posts, and more.
- iii. Audience and Objectives: Understanding your target audience and defining clear content goals.
- iv. Basics of Writing: Grammar, punctuation, style, and building a strong writing voice.
- v. Problems Faced in Content Writing

Unit 2.

Writing for Different Platforms: (13 Lectures)

- i. Blog Writing: Crafting engaging blog posts, including headlines, subheadings, and formatting.
- ii. Website Content: Writing compelling website copy, including landing pages, product descriptions, and more.
- iii. Social Media Content: Creating effective content for various platforms like Facebook, Instagram, and LinkedIn.
- iv. E-commerce Content: Developing product descriptions, category pages, and other content for online stores.
- v. Political Contents: Different Political Parties hires political analysts for advertisement, speeches, agenda setting etc.
- vi. Lead Magnet Content: Writing ebooks, guides, infographics, and other lead generation materials.

Unit 3.

Editing and Proofreading: (11 Lectures)

- i. Grammar and Punctuation: Ensuring accuracy and clarity in your writing.
- ii. Style and Tone: Maintaining consistency and adapting your style to the content.
- iii. Proofreading Techniques: Identifying and correcting errors before publishing.
- iv. Plagiarism Detection

Unit 4.

Building a Content Writing Career: (10 Lectures)

- i. Freelancing vs. Full-time: Exploring different career paths.
- ii. Creating a Portfolio: Showcasing your best work to potential clients.
- iii. Networking: Building connections with other writers and clients.
- iv. Content Strategy: Developing a comprehensive content plan for your brand.

Suggested Readings:

1. The Ultimate Guide to Content Writing by Tushar Mangal
2. The Ultimate Beginner's Guide to Content Writing by John Ajayi
3. Content Writing for the Web by Kristine Halverson
4. The Content Strategy Toolkit by Kristine Halverson, Melissa Rach, Megan Casey

19. Food Processing & Marketing:

Semester : II/III

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instructions to question Setter:

There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily.

Question No.1 of Group A will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each.

Group B will contain **descriptive type (Long answer type)** 5 questions of fifteen marks each, out of which any 3 are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs):

This course is designed

1. To provide an understanding of the principles and techniques of food processing, preservation, and value addition.
2. To familiarize students with post-harvest handling, storage, and packaging methods for enhancing shelf life and quality of foods.
3. To develop knowledge about food safety, quality control, and regulatory standards in food industries.
4. To impart skills for entrepreneurship, product development, and innovation in food processing.
5. To introduce concepts of agri-food supply chains, distribution channels, and market linkages.
6. To encourage self-employment and start-ups in food processing and marketing sectors.
7. To equip students with practical knowledge of marketing tools, branding, and promotion for food products.

Course Learning Outcomes (CLOs):

After successful completion of this course will enable students to

1. Understand principles of food processing, preservation, and value addition.
2. Apply knowledge of food safety, quality control, and regulatory standards.
3. Develop skills in product development, packaging, and supply chain management.
4. Analyze consumer behaviour and implement effective food marketing strategies.
5. Demonstrate entrepreneurial abilities for self-employment and agri-business ventures.

Course contents:

Unit 1. Introduction to Food Processing (07 Lectures)

- a) Importance and scope of food processing in India
- b) Principles of food preservation (thermal, cold storage, dehydration, chemical)
- c) Value addition and minimal processing (7 lecture)

Unit 2. Processing and Preservation of Different Foods (18 Lectures)

- a) Spoilage of different groups of food: Importance of microorganism in food Fermentation technology.
- b) Fermented vegetables, beer, vinegar and fermented soy products.
- c) Preservation and processing of cereals and cereals Products.
- d) Preservation and processing of Milk and Milk Products.
- e) Preservation and processing of Fruits and Vegetables.
- f) Preservation and processing of Meat and meat Products.

Unit 3. Food Safety and Quality Standards (07 Lectures)

- a) Food regulations, Codex Alimentarius, HACCP principles
- b) Quality control in food industries
- c) Nutritional labelling and consumer protection (7 Lecture)

Unit 4. Marketing of Food Products (10 Lectures)

- a) Basics of agri-food marketing and supply chain management
- b) Consumer behaviour and demand analysis
- c) Pricing, branding, and promotion strategies
- d) E-commerce and digital marketing in food business

Unit 5. Entrepreneurship and Government Support

- a) Entrepreneurial opportunities in food processing

- b) Case studies of successful food enterprises
- c) Government schemes and policies (PMFME, MSME, Make in India, etc.) (8 Lecture)

Suggested Readings:

1. Shrivastava Shyam Sundar (2001): Fruits preservation: Principles and methods; Kitab Mahal Agencies, 22 Sarojini Naidu Marg, Allahabad 211001
2. Sahgal, Anita: Food preservation, Shiva Prakashan, Shri Ganesh Market, Khajauri Bazar, Indore. Mobile 9827056900.
3. Manay, N. Shakuntala, and M. Shadaksharaswamy. Foods: Facts & Principles. 5th ed., New Age International Publishers, 2023.
4. Fellows, P. (2009). Food Processing Technology: Principles and Practice. Woodhead Publishing.
5. Potter, N. N., & Hotchkiss, J. H. (2012). Food Science. Springer.
6. Pandey, P. H. (2014). Post-Harvest Technology of Fruits and Vegetables. Saroj Prakashan.
7. Acharya, S. S., & Agarwal, N. L. (2011). Agricultural Marketing in India. Oxford & IBH.
8. Government of India – FSSAI Manuals and Regulations (www.fssai.gov.in).

Practical

Experiment(s) : 20 Marks

Note-book + Viva-voce : 5 Marks

Time: 3 Hours

Pass Marks: 10

Two practicals from the following list are to be done:

1. Preparation of Value-added Products (e.g., sauces, pickles, jams, juices and canning of selective vegetables, preparation of dried vegetables.)
2. Application of fermentation technologies and preparation of Idli, Dhosa and Dhokla.
3. Designing a food package with proper labelling (ingredients, nutrition, expiry, FSSI guidelines).
4. Quality Evaluation: Sensory evaluation (taste, color, texture, aroma) and basic quality tests.
5. Marketing Exercise: Preparation of a simple marketing plan including product pricing, branding, and promotion strategy.

20. Personality Development:

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Objectives (COs):

The course aims to offer an integrated approach to understand the concepts personality developmen. This will promote the development of positive psychological traits

Course Learning Outcomes (CLOs):

After the completion of this course, the learner will be able to:

1. Develop understanding of the concepts and principles of basic psychological skills
2. Apply techniques and methods to enhance productivity and time management
3. Develop critical thinking skill
4. Organize human resources with improved leadership qualities.

Course Contents:

1. Interpersonal Skills:

- a) Communication-Concept and characteristics
- b) Effective communication
- c) Skills for successful interview
- d) Leadership

(9 Lectures)

2. Self-development skills:

- a) Introduction to personality
- b) Types of personality
- c) Trace of personality
- d) Self-confidence

3. Dealing Negativity:

- a) Work-life balance
- b) Stress management
- c) Coping with failures and depression.

(9Lectures)

4. Critical Thinking and Human resources:

- a) Logical fallacies
- b) Cognitive biases
- c) Mental Model
- d) Critical Thinking
- e) Evaluation and improvement

(9 Lectures)

5. Goal-setting

- a) Concept of goal-setting
- b) Importance of goal-setting
- c) Types of goal
- d) Time-management

Suggested Readings:

1. Bast, F. (2016). Crux of time management for students. Available at: <https://www.ias.ac.in/article/fulltext/reso/021/01/0071-0088>
2. Cialdini, R.B. (2001). Influence: The Psychology of Persuasion, Revised Edition. Harper Collis.
3. Green, C.J. (2015). Leadership and soft skills for students: Empowered to succeed in High School, College and beyond. Dog Ear Publishing.
4. Velayudhan, A. and Amudhadevi, N. V. (2012). Personality Development for College Students. LAP Lambert Academic Publishing.

21. Agribusiness Management

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily. **Question No.1 of Group A** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Group B** will contain **descriptive type (Long answer type)** 5 questions of fifteen marks each, out of which any 3

are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs):

1. Equip students to build profitable agri-enterprises
2. Strengthen value chains
3. Develop region-specific strategies for rural economic growth.

Course Learning Outcomes (CLOs):

1. Understand how policies impact business decisions.
2. Ability to prepare budgets and manage farm finances
3. Reduce post-harvest losses and design efficient supply chains
4. Launch products successfully in rural and urban markets
5. Access finance and manage business risks effectively
6. Ability to use technology for better planning, decision-making, and ensuring transparency in farming operations.
7. Lead farmer collectives and run successful rural enterprises
8. Identify region-specific opportunities for enterprise development
9. Launch of student-led agri-enterprises
10. Skilled managers for agri-processing, logistics, and export businesses
11. Increased farmer income through practical solutions and FPO strengthening

Course Contents:

Unit 1. Indian Agriculture & Policy Landscape (03 Lectures)

- a) Agro-climatic zones and crop patterns
- b) APMC reforms, e-NAM, MSP system, FPO policies

Unit 2. Business Management for Agri-Entrepreneurs (03 Lectures)

- a) Financial literacy: costing, pricing, working capital
- b) Inventory and cash flow management for seasonal crops farm finances

Unit 3. Agri Value Chain & Logistics (04 Lectures)

- a) Farm-to-market models and aggregation
- b) Basics of warehousing, cold-chain, and post-harvest handling

Unit 4. Marketing & Sales Strategies (04 Lectures)

- a) Rural marketing techniques and dealer management
- b) Branding, packaging, and digital marketing for agri-products

Unit 5. Agri-Finance & Risk Management (04 Lectures)

- a) Sources of credit (NABARD, banks, warehouse receipts)

- b) Risk mitigation: crop insurance, commodity hedging

Unit 6. Technology Integration in Agriculture (04 Lectures)

- a) Smart Farming Tools & Mobile Applications Learn about mobile-based platforms for crop advisory, traceability, and direct procurement. Example: Apps providing weather forecasts, soil health updates, and mandi price alerts.
- b) GIS Mapping & Basic Data Dashboards Introduction to Geographic Information Systems for mapping farms and analyzing resources.

Unit 7. Entrepreneurship & FPO Management (04 Lectures)

- a) Building business models for agri-enterprises
- b) FPO governance, compliance, and scaling strategies

Unit 8. Region-Wise Opportunity Mapping (04 Lectures)

- a) North: Cereals, dairy, basmati rice exports
- b) East: Maize, jute, inland fisheries, vegetables, Forest & Livestock's resources, tea
- c) West: Cotton, spices, guar gum, grapes
- d) South: Millets, coconut, aquaculture, plantation crops- Coffee, Cocoa, Banana
- e) NE & Himalayan: Tea, bamboo, organic spices, medicinal plants

Suggested Readings:

1. Agribusiness Management in India – S. L. Goel Detailed insight into the functioning and management of agribusiness in the Indian context.
2. Agri-Business and Rural Management – C.S.G. Krishnamacharyulu & Lalitha Ramakrishnan Covers rural markets, supply chains, and farmer-producer organisation management in India.
3. Agricultural Marketing in India – S.S. Acharya & N.L. Agarwal Explains market reforms, price systems, and marketing strategies tailored for Indian conditions.
4. Indian Agriculture: Institutional Structure and Reforms – B.D. Dhawan Discusses policy impact, institutional frameworks, and reforms in Indian agriculture.
5. Global Agricultural Trade and Developing Countries – M. Ataman Aksoy & John C. Beghin Provides understanding of international trade and export opportunities for developing nations.
6. Value Chains in Agriculture – Gábor Gereffi & Karina Fernández-Stark Explores global value chains and competitiveness in agri-exports.

Policy & Government Publications

1. NABARD Annual Report – Key trends in rural credit and agri-finance.
2. APEDA Agri Export Policy Documents – Guidelines for agri-exports from India.
3. Government of India Agri Policy Papers – Includes e-NAM, MSP, and FPO policies.

Practical Engagement:

Field Work : 20 Marks

Note-book + Viva-voce : 5 marks

Field Practicum: Minimum 30 days with FPOs or agri-business firms.

1. Mini Projects: Post-harvest solutions, market linkages possibilities, branding assignments
2. Capstone Project: Business plan for a region-specific agri-enterprise, validated with field data
3. Recommended Partnerships: KVKs, NABARD, APEDA, FPO federations, agri-exporters, cold-chain companies, and agri-tech startups.

22. Tally:

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily.

Question No.1 of Group A will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each.

Group B will contain **descriptive type (Long answer type) 5** questions of fifteen marks each, out of which any **3** are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives

1. To impart practical knowledge regarding concepts of Financial Accounting. Tally is an accounting package that is used for learning to maintain books of accounts.
2. This course helps students to work with well-known accounting software i.e. Tally ERP.9.
3. To make students capable of creating a company, enter accounting voucher entries including advance voucher entries, reconciling bank statements, doing accrual adjustments, printing financial statements, etc. in Tally ERP.9 software.

Learning Outcomes

1. After successfully qualifying practical examination, students will be awarded the certificate to work with well-known accounting software i.e. Tally ERP.9
2. Students on their own will create the company, enter accounting voucher entries including advance voucher entries, reconcile bank statements, do accrual adjustments, and also print financial statements, etc. in Tally ERP.9 software.
3. Students will possess the required skills and can also be employed as Tally data entry operators.

Course Contents:**Unit 1. Financial Accounting (10 Lectures)**

Basic Accounting, Fundamental of TALLY ERP 9,
Company creation, gateway of tally,
Account Master & voucher, Report,
cashbook, journal book, banking, Balance sheet, Profit and loss account

Unit 2. Invoicing and inventory (10 Lectures)

Inventory master, inventory voucher,
invoicing, inventory report, order,

Unit 3. Tax Accounting Model (10 Lectures)

Tax deducted at source, The introduction of GST,
TALLY with GST, VAT, Excise Duty, TCS

Suggested Readings:

1. Tally. ERP 9 with GST: DT Editorial service, Dream Lech Press
2. Omdex Tally. Erp 9 Course Kit with GST and MS Excel; Dream Lech Press
3. Financial Accounting with Tally. ERP 9 (In Hindi) / टैली के साथ वित्तीय लेखांकन) हिन्दी में). Dr Abhishek Srivastava

Practical related to theory mentioned above

Practical	: 20 Marks
Viva-voce	: 5 Marks

23. Graphic and Animation:

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Objectives (COs):

By the end of the course, the learner will be able to:

1. Provide students with a strong foundation in the concepts, techniques and tools of animation and graphics.
2. Develop creative and technical skills for producing 2D,3D and motion graphics.
3. Prepare students for professional careers.

Course Learning Outcomes (CLOs):

After successful completion of the course, the learner will be able to:

1. Understand and apply design principles in graphics and animation
2. Use industry-standard tools for 2D & 3D animation
3. Develop creative storyboards and animated sequences
4. Apply visual effects and motion graphics techniques
5. Build a professional portfolio suitable for jobs or freelancing

Course Contents:

UNIT 1: Introduction to Animation and Graphics (7 Lectures)

Definition, History, and Evolution of animation and computer graphics. Types of animation: 2D, 3D, stop-motion, motion graphics. Applications of animation in education, entertainment, business, and simulations.

UNIT 2: Elements, Principles of Design, Drawing & Storyboarding (8 Lectures)

Elements of design: line, shape, colour, texture, space. Principles of design: balance, contrast, rhythm, emphasis, unity, Colour theory and psychology, Typography basics. Basic drawing skills

and sketching for animation, Character design and environment design, Storyboarding techniques, Script to storyboard conversion.

UNIT 3: Computer Graphics Fundamentals (7 Lectures)

Raster vs. vector graphics, Image resolution, file formats, compression. Introduction to graphic software (Photoshop, Illustrator, GIMP, Inkscape). Image editing, digital painting, and vector illustrations.

UNIT 4: 2D Animation & 3D Animation (7 Lectures)

Principles of animation (squash & stretch, timing, anticipation, etc.). Frame-by-frame animation, Rotoscoping and tweening techniques, 2D animation software (Adobe Animate, Toon Boom, Pencil2D, Synfig Studio). Basics of 3D modelling, texturing, rigging, lighting, Keyframe animation and motion paths. Rendering techniques, 3D software (Blender, Maya, 3ds Max).

Unit 5: Motion Graphics, Visual Effects & Interactive Graphics (9 Lectures)

Introduction to motion graphics, Compositing and layering techniques, Particle systems and simulations, Introduction to VFX software (After Effects, Nuke, Fusion). Basics of interactive design, Animation for games and web, Virtual Reality (VR) and Augmented Reality (AR) basics.

Unit 6: Project & Portfolio Development (7 Lectures)

Creating a short animation film / motion graphics project, Preparing showreel and professional portfolio, Presentation and critique.

Suggested Readings:

1. David J. Eck-Introduction to computer Graphics
2. Blender Foundation-Blender Manual & open Courseware

24. Video Editing and Mixing:

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out

*of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Objectives (COs):

By the end of the course, the learner will be able to:

1. To develop the knowledge & skill of Editing Techniques in Video.
2. Students can function either as an entrepreneur.
3. Students can take up jobs in Multimedia industry.

Course Learning Outcomes (CLOs):

After successful completion of the course, the learner will be able to:

1. Understand video production workflow.
2. Perform basic and advanced editing.
3. Edit and mix audio effectively.
4. Work with advanced editing tools.
5. Export professionals-quality videos.

UNIT 1: Introduction to Video Production (07 Lectures)

Basics of video production workflow, understanding video formats, resolutions, and frame rates, overview of editing software (Adobe Premiere Pro, Final Cut Pro, DaVinci Resolve, etc.), Hardware requirements for video editing.

UNIT 2: Fundamentals of Editing (07 Lectures)

Importing and organizing media, Timeline and sequence creation, Cutting, trimming, and joining clips, Understanding transitions and effects, Audio & video synchronization

UNIT 3: Visual Enhancement Techniques (07 Lectures)

Colour correction and colour grading, Using LUTs (Look-Up Tables), Image Stabilization, Adding titles, captions, and lower thirds, Slow motion, time-lapse, and reverse effects, Layers, Filters, and Effects, File Formats and Image Optimization for Print.

UNIT 4: Audio Editing & Mixing (07 Lectures)

Basics of audio tracks and channels, Noise reduction & audio cleanup, Voice-over recording and syncing, Music selection and mixing, Equalization (EQ), compression, and volume levelling, Adding sound effects (SFX).

Unit 5: Advanced Editing Techniques (10 Lectures)

Multi-camera editing, Motion graphics and animations (with After Effects or Similar), Green screen (chroma key) compositing, Split screen, picture-in-picture effects, Advanced transitions and masking.

Unit 6: File Management & Export (07 Lectures)

Organizing project files, export settings for different platforms (YouTube, TV, cinema, OTT), Codecs and compression, Archiving projects.

Suggested Readings:

1. Open-source Video Editing for Beginners (Kenlon)
2. Guide to Open-Source Video Editing using Kdenlive

25. Applications of AI tools:

Semester	: II/III
No. of Credits	: 3 (Theory: 03, Practical: 00)
Total Marks	: 75
No. of Teaching Hours	: 45
SIE	: 00
ESE	: 75 (3 hours)
Pass Marks	: 30

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs):

1. To provide conceptual understanding of AI tools and their applications.
2. To study different categories of AI tools for text, image, audio, and video.
3. To analyze the role of AI tools in various domains such as education, business, and creative industries.
4. To evaluate ethical, legal, and social aspects of AI tool usage.

Course Learning Outcomes (CLOs):

After completion of all the modules of the course, learners will be able to:

1. explain the classification and working principles of AI tools
2. describe AI applications in text, image, audio, video, and data domains
3. compare and contrast different AI tools and platforms
4. assess the opportunities and challenges of AI tool adoption in industry and society
5. analyze ethical and legal concerns in AI-generated content.

Unit 1: Introduction to AI Tools (9 Hours)

Evolution of Artificial Intelligence and its applications, Categories of AI tools: Text, Image, Audio, Video, Data, Automation, Open-source vs. proprietary tools, Overview of popular platforms like ChatGPT, Google Gemini, Copilot etc.

Unit 2: AI Tools for Text Processing (9 Hours)

Prompt engineering: techniques and strategies, Text summarization, paraphrasing, grammar correction, AI-assisted writing and content generation, Case studies: ChatGPT, Quillbot, Grammarly etc.

Unit 3: AI Tools for Image Processing (9 Hours)

Principles of text-to-image generation, Image enhancement, background removal, and style transfer, AI in design, marketing, and creativity, Copyright and ethical issues in AI image generation, Case study-Canva AI

Unit 4: AI Tools for Audio & Video (9 Hours)

Speech-to-text and text-to-speech concepts, Voice cloning and AI-generated speech, AI in podcasting and music generation, Video creation from text prompts, Video summarization, captioning, and editing, Deepfake technology: risks and regulations

Unit 5: Ethical, Legal, and Social Aspects of AI Tools (9 Hours)

Data privacy and security concerns, Intellectual property and copyright issues, Misinformation and ethical dilemmas, Global AI ethics frameworks like OECD, UNESCO, EU AI Act, etc., Responsible AI adoption strategies

Suggested Books and Readings:

1. Poole, D.L., & Mackworth, A.K. (2017). *Artificial Intelligence: Foundations of Computational Agents*. Cambridge Univ. Press.
2. Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach*. Pearson.
3. *Gemini API | Google AI for Developers*. (n.d.). Google AI for Developers.
<https://ai.google.dev/gemini-api/docs>
4. OpenAI. (n.d.). *Overview* [Web page]. OpenAI Platform. Retrieved August 18, 2025, from <https://platform.openai.com/docs/overview>
5. QuillBot. (n.d.). *Tools* [Web page]. QuillBot. Retrieved August 18, 2025, from <https://quillbot.com/tools>
6. Grammarly. (n.d.). *Grammarly Editor user guide* [Web page]. Grammarly Support. Retrieved August 18, 2025, from <https://support.grammarly.com/hc/en-us/articles/360003474732-Grammarly-Editor-user-guide>
7. Ramesh, A. et al. (2021). "Zero-Shot Text-to-Image Generation." *arXiv:2102.12092*.
8. Canva. (n.d.). *Help Center* [Web page]. Canva. Retrieved August 18, 2025, from <https://www.canva.com/help/>
9. Synthesia. (n.d.). *Synthesia – Free AI video generator* [Web page]. Synthesia. Retrieved August 18, 2025, from <https://www.synthesia.io/>.

10. Runway AI, Inc. (n.d.). *Runway | Tools for human imagination* [Web page]. Runway. Retrieved August 18, 2025, from <https://runwayml.com/>.
11. UNESCO. (2022). *Recommendation on the Ethics of Artificial Intelligence* [Recommendation]. UNESCO. Retrieved August 18, 2025, from <https://unesdoc.unesco.org/ark:/48223/pf0000381137>.
12. Organisation for Economic Co-operation and Development. (n.d.). *AI principles* [Web page]. OECD. Retrieved August 18, 2025, from <https://www.oecd.org/en/topics/sub-issues/ai-principles.html>.
13. EU Artificial Intelligence Act. (n.d.). *EU Artificial Intelligence Act: Up-to-date developments and analyses* [Web page]. Retrieved August 18, 2025, from <https://artificialintelligenceact.eu/>

26. Website Interface Development

No. of Credits	: 3 (Theory: 02, Practical: 01)
Total Marks	: 50 (Theory) + 25 (Practical)
No. of Teaching Hours:	30 (Theory) + 30 (Practical)
SIE	: 00
ESE	: 50 (2 Hours Theory) + 25 (3 Hours Practical)
Pass Marks	: 20 (Theory) + 10 (Practical)

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily. **Question No.1 of Group A** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Group B** will contain **descriptive type (Long answer type) 5** questions of fifteen marks each, out of which any **3** are to be answered. There may be subdivisions in questions of **group B**.*

Course Introduction

A Website User Interface (UI) course covers foundational principles of user-centered design including user research, interaction design, visual design, information architecture, prototyping, wireframing and usability testing. A good Website user interface development is about creating a good user experience (UX) by creating an appealing visual design and more natural cognitively user-friendly human-computer interaction system that aligns with human cognitive processes. Web interface designing relies on core technologies like **HTML (Hyper Text Markup Language)** for providing structure and content of web pages, **CSS (Cascading Style Sheets)** for styling and layouts for enabling responsive design, and **JavaScript (JS)** for adding dynamic features and interactivity to web pages.

Web development is a profession that is in high demand across industries, both in Government and private companies, for various domains - technology, finance, healthcare, retail, education, e-commerce, etc. to name some. These industries are seeking web development talent to boost their business by enhancing their digital presence. Many companies are offering work from home with flexible schedules that is a significant advantage too.

Course Objectives (COs):

This course is designed to enable students:

1. To impart knowledge on the different aspects of Web User-Interface design and implementation
2. To equip students with foundational skills in designing and developing user-friendly website interfaces.
3. To introduce core web technologies including HTML, CSS, and basic JavaScript.
4. To foster design thinking, responsiveness, and accessibility in web interface creation.
5. To prepare students for internships, freelancing, or entrepreneurship in web development.

Course Learning Outcomes (CLOs):

At the end of this course, students will be able to:

1. Understand Web Client-Server environment
2. Understand the different aspects of client-side User-Interface design, development and deployment with their associated tools.
3. Understand importance of user experience to build a user-friendly Interface
4. Build structured, interactive and user-friendly web pages using HTML, CSS. And JavaScript
5. Deploy a functional website interface and document the process.
6. Demonstrate digital confidence and readiness for web-based job roles.

Course Contents:

Unit 1. Introduction to Web Interfaces designing

- a) Web architecture - Client/Server (Web Browser – Web Server) development environment
- b) Introduction to Uniform Resource Locator (URL), Domain Name Server (DNS), HTTP vs HTTPS, Cookies and Sessions
- c) Definition of Web User Interface (UI) and User Experience (UX)
- d) Definition and importance of Wireframing and prototyping in User Interface Design
- e) Introduction to basic Web User Interface development technologies – HTML, CSS and JavaScript

(5 Lectures)

Unit 2. Hyper Text Markup Language (HTML) Fundamentals

- a) Introduction to HTML and HTML Structure
- b) HTML Elements – Head element, Block-level elements, Inline elements, Parent-child element, Link element and Comments in HTML
- c) Important Tags in HTML

- d) Attributes of HTML elements – name/value pair, Important Attributes – (Headings, Paragraphs, Styles, Tables, Lists, DIV, etc.)
- e) HTML Formatting and Quotations
- f) Meaning of RGB (Red-Green-Blue) and its values for creating colors

(5 Lectures)

Unit 3. HTML Cascading Style Sheet (CSS) for Presentation Styling

- a) Role of CSS in HTML
- b) Component of CSS – Style declarations, Selectors, Inheritance and cascading rules
- c) CSS Layout Techniques with advantages and disadvantages – CSS framework, CSS float property, CSS flexbox and CSS grid
- d) Responsive design

(5 Lectures)

Unit 4. Basic JavaScript for Interactivity

- a) Introduction to client-side JavaScript
- b) Variables, Functions and Events
- c) Data structure of JavaScript
- d) Browser and Document Model (DOM)
- e) Regular expression and validation
- f) Exception and Error handling

(5 Lectures)

Unit 5. Website Design Principles and Accessibility

- a) Typography in HTML
- b) Web navigation best practices
- c) Mobile-first design
- d) WCAG (Web Content Accessibility Guidelines) basics
- e) Documentation
- f) Peer review

(5 Lectures)

Unit 6. Tools for Website Design, Development and Publishing

(Select any softwares required from this list for teaching and project development)

- a) Light weight source code editor - Notepad++ , MS HTML Editor Free
- b) Source code editor for writing, running, and debugging - Visual Studio Code,
- c) Manage code editing, version control (track changes), bug tracking, collaborative development – Git and GitHub
- d) Creating a free website -W3Schools Spaces

- e) Website creation software for building and publishing web pages - Adobe Dreamweaver CC
- f) Learn to integrate GitHub with other tools like Visual Studio Code (VS Code), W3Schools Spaces, etc.
- g) Interface prototyping and wireframes design tools - Figma

(5 Lectures)

Practical (30 Hours)

Note Book : 5 Marks

Designing and Deploying Responsive Web Interfaces : 20 Marks

Suggested Readings & Resources:

1. *Web Design with HTML & CSS: HTML & CSS Complete Beginner's Guide* by Prem Kumar, Notion Press Media Pvt Ltd, Chennai, India
2. *Mastering UX Design with Effective Prototyping: Turn your ideas into reality with UX prototyping*, Apurvo Ghosh, BPB Publications, New Delhi, India
3. *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics*, Jennifer Robbins, O'Reilly Media Inc
4. *HTML, CSS, and JavaScript All in One*, Meloni and Kyrin, Pearson
5. *HTML5 and CSS3 All-in-One for Dummies*, Andy Harris, O'Reilly Media Inc
6. *A Hand Book n Web Development: From Basics of HTML to JavaScript and PHP*, Pritma Jashnani, Notion Press Media Pvt Ltd, Chennai, India
7. *HTML & CSS: Design and Build Websites* by Jon Duckett, Wiley
8. *The Design of Everyday Things*, Don Norman, Basic Books, New York city
9. *Smashing UX Design*, Jesmond J. Allen and James J. Chudley, John Wiley & Sons, USA
10. Mozilla Developer Network (MDN) Web Docs
11. W3Schools Tutorials
12. Google Web Fundamentals

27. Desktop Publishing

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily. **Question No.1 of Group A** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Group B** will contain **descriptive type (Long answer type) 5**

*questions of fifteen marks each, out of which any 3 are to be answered. There may be subdivisions in questions of **group B**.*

Course Objectives (COs):

By the end of the course, the learner will be able to:

1. Understand the fundamental concepts and principles of Desktop Publishing.
2. Explore and apply various DTP tools for creating professional layouts and documents.
3. Develop skills in image editing, page design, and typesetting using industry-standard software.
4. Prepare print-ready and digital publications adhering to design standards. Course

Learning Outcomes (CLOs):

After successful completion of the course, the learner will be able to:

1. Explain the key components and processes of desktop publishing.
2. Create and format professional documents using DTP software.
3. Design and layout brochures, newsletters, and other publications with visual impact.
4. Edit images and integrate multimedia elements into print designs.
5. Export, package, and manage files for printing and digital distribution.
6. Apply design principles like alignment, contrast, and typography in real-world projects.

Course Contents:

Unit 1: Introduction to Desktop Publishing

Concept and History of DTP, Difference between Word Processing and DTP, Applications and Scope of DTP in Various Industries, Introduction to Page Layout and Design Principles, File Formats and Color Models (RGB, CMYK, Pantone)

Unit 2: Typography and Design Principles

Introduction to Typography: Fonts, Styles, and Readability, Principles of Design: Balance, Contrast, Alignment, Proximity, Working with Grids and Guides, Color Theory and Usage in Print Design, Effective Use of White Space and Hierarchy

Unit 3: Graphics and Image Editing

Basics of Raster and Vector Graphics, Introduction to Image Editing Software (e.g., Adobe Photoshop / GIMP), Cropping, Resizing, and Retouching Images, Layers, Filters, and Effects, File Formats and Image Optimization for Print

Unit 4: Page Layout and Design Tools, Publishing and Output

Introduction to Layout Software (e.g., Adobe InDesign / CorelDRAW / Scribus), Creating and Managing Master Pages, Inserting and Formatting Text and Images, Using Styles, Columns, and Tables, Working with Templates and Custom Page Sizes, Proofing and Preflight Checks,

Exporting Files: PDF/X and Print Settings, Printing Techniques: Offset vs Digital, Packaging Files for Professional Printing, Basics of E-Publishing (eBooks, PDFs, Online Publications)

Practical

Experiment : 20 Marks

Note-book + Viva-voce : 05 Marks

Each student will undertake practical assignments based on:

1. Designing a Letterhead and Business Card
2. Creating a Multi-Page Newsletter/Brochure
3. Image Editing and Poster Design
4. Magazine Cover Page Design
5. Final Project: Complete Publication (e.g., Portfolio, Mini Magazine)

Suggested Software:

1. Adobe InDesign / Scribus (Open Source)
2. Adobe Photoshop / GIMP
3. CorelDRAW
4. Microsoft Publisher

Suggested Readings:

1. "Desktop Publishing in Easy Steps" – Brian Austin
2. "The Non-Designer's Design Book" – Robin Williams
3. "Adobe InDesign Classroom in a Book" – Adobe Creative Team
4. "Graphic Design School" – David Dabner et al.

28. Introduction to Fine Arts

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain 1 question which is to be answered compulsorily. **Question No.1 of Group A** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Group B** will contain **descriptive type (Long answer type) 5** questions of fifteen marks each, out of which any **3** are to be answered. There may be subdivisions in questions of **group B**.

Course Description:

“Introduction to Fine Arts” is designed for undergraduate students under the NEP-2020 framework as Skill Enhancement Course. It emphasizes hands-on learning, aesthetic appreciation, and interdisciplinary exposure, aligning with the goals of holistic and skill-based education.

Course Objectives (COs):

This course is designed to enable students to

1. Promote creative expression and aesthetic sensibility
2. Encourage multidisciplinary engagement
3. Integrate Indian Knowledge Systems and local art traditions
4. Support vocational and experiential learning

Course Learning Outcomes (CLOs)

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

1. Develop foundational understanding of visual, performing, and applied arts
2. Explore the cultural and historical significance of Indian fine arts
3. Acquire basic skills in drawing, design, and performance
4. Appreciate the role of fine arts in personal growth and societal development

Course Contents:

Unit 1. Foundations of Fine Arts (10 Lectures)

- a) Definition and scope: Visual, Performing, and Applied Arts
- b) Elements of art: Line, shape, color, texture, space, form
- c) Principles of design: Balance, contrast, rhythm, harmony, emphasis
- d) Role of fine arts in education and society

Unit 2. Practical Skills and Creative Expression (10 Lectures)

- a) Basic drawing and sketching techniques
- b) Introduction to color theory and composition
- c) Hands-on activity: Create a folk-art piece or design motif
- d) Optional: Basic rhythm or movement exercises from classical dance

Unit 3. Contemporary Applications and Careers (10 Lectures)

- a) Fine arts in media, advertising, fashion, and design
- b) Art therapy and wellness
- c) Careers in curation, illustration, animation, and performance
- d) Portfolio building and presentation skills

Suggested Readings / Resources:

1. The Story of Indian Art – Sheila Kanungo
2. Art: A World History – DK Publishing
3. NCERT Fine Arts textbooks (Class XI–XII)

4. IGNCA and Lalit Kala Akademi publications
5. Documentaries and virtual museum tours (e.g., NGMA, Bharat Kala Bhavan)

Practical

The practical will be based on following activities:

Experiential Learning Activities

1. Visit to local art gallery or museum
2. Interaction with practicing artists or artisans
3. Thematic poster or mural creation
4. Reflective journal on personal aesthetic experiences

Local Integration

1. Encourage use of regional languages in art titles or descriptions
2. Promote local art forms and community engagement
3. Optional bilingual module handouts (English + Hindi or regional language)

29. Performing Arts: Dance

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Content:

Theory

50 Marks

1. General introduction to seven Indian Classical Dance styles :
 - a) Kathak
 - b) Odissi
 - c) Manipuri
 - d) KathaKali
 - e) Bharat Natyam
 - f) Kuchipudi

- g) Mohini Atyam. (9 Lectures)
2. General introduction of Tribal and Folk Dances of India:
 a) Paika Dance (Jharkhand)
 b) Chhau (Bengal)
 c) Bihu (Assam)
 d) Kalbelia (Rajasthan)
 e) Garava (Gujrat)
 f) Bhangra & Giddha (Punjab)
 g) Lavani (Maharashtra)
 (Knowledge regarding Costumes, Instruments, Traditional Festival etc.) (8 Lectures)
3. Basic knowledge of Dance-Drama tradition. (3 Lectures)
4. Bhav Nrityas:
 a) Makhan Chori
 b) Draupadi Cheer Haran
 c) Gaj Grah Yudh (10 Lectures)

Practical

25 Marks

1. Learning and practice of any Classical Dance of India. (14 Lectures)
2. Performance of any two Folk or Tribal Dances. (10 Lectures)
3. Presentation of any Bhav-Nritya. (6 Lectures)

30. Performing Arts: Theatre

No. of Credits	: 3 (Theory: 02, Practical: 01)
Total Marks	: 50 (Theory) + 25 (Practical)
No. of Teaching Hours:	30 (Theory) + 30 (Practical)
SIE	: 00
ESE	: 50 (2 Hours Theory) + 25 (3 Hours Practical)
Pass Marks	: 20 (Theory) + 10 (Practical)

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.

Course Objectives (COs)

This course is designed to enable students

1. To introduce students to the basic concepts and forms of theatre.
2. To develop appreciation for performing arts and their cultural relevance.
3. To encourage self-expression, collaboration and creativity through practical theatre activities.

Course Learning Outcomes (CLOs)

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

1. Understand the Fundamentals of Theatre
2. Identify and Analyze Dramatic Elements
3. Appreciate Diverse Theatre Traditions
4. Develop Basic Performance Skills
5. Collaborate and Reflect Creatively
6. Connect Theatre to Real-Life Contexts

Course Content:

Theory

50 Marks

Unit 1. Understanding Theatre

(10 Lectures)

1. What is theatre? Key definitions and distinctions (Theatre, Drama, Performance)
2. Brief history of Indian and Western theatre
3. Importance of theatre in society and education

Unit 2. Elements of Drama

(10 Lectures)

1. Acting and its types such as Plot, Character, Dialogue, Theme, Spectacle, Tragedy, Comedy, etc.
2. Basics of script writing and scene creation
3. Basic introduction to one-act plays, mime, skit and mimicry

Unit 3. Forms and Traditions

(10 Lectures)

1. Different forms of stage-proscenium, thrust, arena and flexible/black box
2. Street Theatre (Nukkad Natak) and its importance to social awareness and educate public.
3. Detail reading of *Aadhe -adhure* & *Aashadh ka ek din*.

Practical

25 Marks

Activities:

1. Voice and body warm-up exercises (6 Hours)
2. Body movement and body language (6 Hours)
3. Script reading, pronunciation (6 Hours)
4. Monologue and scene creation (6 Hours)

5. Basic backstage work (props, costume, lighting) and stage craft

(6 Hours)

Assessment Criteria

1. Participation and teamwork
2. Creativity and expression
3. Clarity of speech and movement
4. Reflective journal or viva

Suggested Readings:

1. *Paanch Parde: Mohan Rakesh*
2. *Natyashastra* (selected excerpts)
3. Selected Indian plays: *Andha Yug, Pagla Ghoda, Court Martial, Aadhe -adhure, Aashadh ka ek din, etc.*

3. Performing Arts: Light Vocal

No. of Credits : 3 (Theory: 02, Practical: 01)

Total Marks : 50 (Theory) + 25 (Practical)

No. of Teaching Hours: 30 (Theory) + 30 (Practical)

SIE : 00

ESE : 50 (2 Hours Theory) + 25 (3 Hours Practical)

Pass Marks : 20 (Theory) + 10 (Practical)

Instruction to question Setter:

There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered.

Note: There may be subdivisions in each question of **group B**.

Course Content:

Theory

50 Marks

1. Definitions of
 - a) Sangeet
 - b) Swar
 - c) Tal
 - d) Matra
 - e) Saptak
2. Definitions of
 - a) Rag
 - b) Laya
 - c) Vibhag

(2 Lectures)

- d) Sam
 - e) Khali
- (2 Lectures)**
3. Brief life sketch of
 - a) Begam Akhtar
 - b) Girija Devi
 - c) Shobha Gutru
 - d) Pt. Chhamulal Mishra
- (6 Lectures)**
4. General idea of famous Indian folk singers.
- (8 Lectures)**
5. Basic knowledge of
 - a) Thumri
 - b) Bhajan
 - c) Gazal
 - d) Folk Song
 - e) Religious Song
 - f) Community Song
 - g) Patriotic Song
 - h) National Anthem
 - i) National Song
- (12 Lectures)**

Practical

25 Marks

1. Prepare any five Alankars.
- (6 Lectures)**
2. Prepare Prayers / Saraswati Vandana.
- (4 Lectures)**
3. Prepare Song
 - a) Jhumar
 - b) Chaiti
 - c) Holi
 - d) Festive Song
 - e) Thumri
 - f) Bhajan
 - g) Gazal
- (12 Lectures)**
4. Thekas of Tal
 - a) Dadra
 - b) Rupak
 - c) Kaharwa
 - d) Trital
 - e) Jhaptal
- (8 Lectures)**

32. Performing Arts: Hindustani Classical (Vocal)

No. of Credits	: 3 (Theory: 02, Practical: 01)
Total Marks	: 50 (Theory) + 25 (Practical)
No. of Teaching Hours	: 30 (Theory) + 30 (Practical)
SIE	: 00
ESE	: 50 (2 Hours Theory) + 25 (3 Hours Practical)
Pass Marks	: 20 (Theory) + 10 (Practical)

Instruction to question Setter:

*There will be **two** group of questions. **Group A** will contain three questions in which all are to be answered. **Question No.1** will be **very short answer type (not MCQ)** consisting of five questions of 1 mark each. **Question No.2 & 3** will be **short answer type** of 5 marks each. **Group B** will contain **descriptive type (Long answer type)** seven questions of fifteen marks each, out of which any four are to be answered. There may be subdivisions in questions of **group B**.*

Course Content:

Theory 50 Marks

1. Brief history of Indian Music – Ancient Period, Medieval Period and Modern Period.
(6 Lectures)
2. Complete Knowledge of: Rag Parichaya, Sthayi, Antra, Aroh, Awaroh, Vadi, Samvadi, Pakad, Alap, Jati etc. with examples.
(4 Lectures)
3. Detailed study of notation system of Pt. Bhat Kande.
(8 Lectures)
4. Basic knowledge of: Khyal (b) Dhrupad (c) Tarana (d) Dhamar (e) Chaturang and Trivat.
(8 Lectures)
5. Use of classical music in filmy songs.
(4 Lectures)

Practical 25 Marks

1. Choice Ragas :
 - a) Yaman
 - b) Bhupati
 - c) Kafi
 - d) Bhairav
 - e) Asavari
 - f) Durga
 - g) Desh
 - h) Malkosh.

(Prepare Chhota Khyal with Sthayi, Antra and Tan)

(16 Lectures)

2. Basic knowledge of Tal for Dhrupad style:

- a) Trivra (7 matra)
- b) Sool Tal (10 matra)
- c) Chautal (12 matra)
- d) Dhamar (14 matra)

(8 Lectures)

3. Identification and recognition of 10 thaats.

(6 Lectures)

33. Vastushastra

Semester : II/III

No. of Credits : 3 (Theory: 03, Practical: 00)

Total Marks : 75

No. of Teaching Hours: 45 (30 Hours Theory + 15 Hours Tutorials)

SIE : 00

ESE : 75 (3 hours)

Pass Marks : 30

अध्ययन उद्देश्य (Course Objectives)

इस पाठ्यक्रम का उद्देश्य छात्रों को भारतीय वास्तुकला के मूल सिद्धांतों से परिचित कराना है। साथ ही, इसका उद्देश्य वास्तुविकता की प्रारंभिक समझ प्रदान करना और छात्रों को वास्तु पर संस्कृत ग्रंथों के माध्यम से आवासीय भवन निर्माण की शिक्षा प्रदान करना है।

अध्ययन अधिगम परिणाम (Course Learning Outcomes)

यह खंड वास्तुकला विज्ञान (वास्तुशास्त्र) के मूलभूत सिद्धांतों से संबंधित है, छात्रगण इसके अध्ययन से निर्माण में तत्वों एवं महाभूतों के समन्वय के बारे में जागरूक हो जाएंगे।

इकाई 1 (10 L+ 3 T)

भूमि एवं निर्माण का चयन

भूमि व भूमिपरीक्षा – (बृहद्वास्तुमाला 1/13–17),

भूमि के लक्षण – (बृहद्वास्तुमाला 1/27,28,29,32),

भूमि के प्रकार – गजपृष्ठ, कूर्मपृष्ठ, दैत्यपृष्ठ व नागपृष्ठ (बृहद्वास्तुमाला 1/82–89),

भूमि के प्लवत्त्वानुसार नामकरण – गोवीथी, जलवीथी, यमवीथी, भूतवीथी, नागवीथी, वैश्वानरी और

धनवीथी (बृहद्वास्तुमाला 1/41–46)

इकाई 2 (9 L+ 2 T)

भूमिशोधन (बृहद्वास्तुमाला 1/106–111),

गृहारम्भ – भूमिपूजा (बृहद्वास्तुमाला 1/116–117),

शिलान्यासविधि – (बृहद्वास्तुमाला 1/124),

स्तम्भस्थापन – (बृहद्वास्तुमाला 1/125–127),

इकाई 3 (9 L+ 3 T)

गृहविभाग – (बृहद्वास्तुमाला 1/150–156),

दिक्ज्ञान – (बृहद्वास्तुमाला 2/7–10),

वास्तुनिवेशन व कालशुद्धि – (बृहद्वास्तुमाला 3/46–50, 65–73),

द्वारनिर्णय – (बृहद्वास्तुमाला 3/149,152–158, 162–166),

इकाई 4 (7 L+ 2 T)

वास्तुशास्त्र का महत्त्व व गृहसज्जा

द्वारसज्जा – (बृहद्वास्तुमाला 3/159),

पशुगृहनिर्माण – (बृहद्वास्तुमाला 5/1–2),

ग्राह्य व निषिद्ध वृक्ष –

(बृहद्वास्तुमाला 5/12, 20, 24, 25),

कूपनिर्माण – (बृहद्वास्तुमाला 5/115), मांगलिक वृक्षारोपण – (बृहद्वास्तुमाला 6/3)

अनुशंसित पुस्तकें :-

- बृहद्वास्तुमाला रामनिहोर द्विवेदी द्वारा संगृहीत तथा हिन्दी भाषा में अनूदित।
पं. ब्रह्मानन्द –त्रिपाठी द्वारा संशोधित व सम्पादित। चौखम्बा सुरभारती प्रकाशन।
- वास्तुरत्नाकर – अहिलबलचक्र सहित श्री विन्ध्येश्वरी प्रसाद द्विवेदी। चौखम्बा संस्कृत सीरीज आफिस ,वाराणसी।
- समराङ्गनसूत्रधार – श्री भोजदेव कृत । चौखम्बा संस्कृत सीरीज आफिस ,वाराणसी।
- वास्तुमण्डनम् – श्रीकृष्ण जुगनू। चौखम्बा सुरभारती प्रकाशन।
- विश्वकर्मा प्रकाश – पं गणेश दत्त पाठक। चौखम्बा सुरभारती प्रकाशन।
- भारतीय वास्तुशास्त्र (वर्तमान समय में समग्र परिशीलन)) – शुकदेव चतुर्वेदी।

प्रश्न संबंधी आवश्यक निर्देश :-

मुख्य परीक्षा हेतु निर्देश :-

(उत्तीर्णांक - 30)

पूर्णांक - 75

‘ए’ - ग्रुप ‘ए’ में तीन प्रश्न होंगे और तीनों प्रश्न अनिवार्य होंगे। **(5 x 3 = 15)**

- प्रथम प्रश्न में सम्पूर्ण पाठ्यक्रम पर आधारित पाँच अतिलघूत्तरीय वस्तुनिष्ठ प्रश्न होंगे। **(1 x 5 = 5)**
- द्वितीय प्रश्न में इकाई - 1 एवं इकाई - 2 से दो लघूत्तरीय प्रश्नों के उत्तर देय होंगे।

कुल चार प्रश्न पूछे जाएँगे। **(2.5 x 2 = 5)**

- तृतीय प्रश्न में इकाई - 3 एवं इकाई - 4 से दो लघूत्तरीय प्रश्नों के उत्तर देय होंगे।

कुल चार प्रश्न पूछे जाएँगे। **(2.5 x 2 = 5)**

ग्रुप ‘बी’ : ग्रुप ‘बी’ में सम्पूर्ण पाठ्यक्रम पर आधारित कुल छः प्रश्न पूछे जाएँगे, जिनमें किन्हीं

चार प्रश्नों के उत्तर देय होंगे। **(15x 4 = 60)**

- चतुर्थ प्रश्न में सम्पूर्ण पाठ्यक्रम पर आधारित 6 महत्वपूर्ण टिप्पणियाँ पूछी जाएँगी, जिनमें से तीन टिप्पणियाँ अपेक्षित होंगी। **(5 x 3 = 15)**
- पंचम प्रश्न में सम्पूर्ण पाठ्यक्रम पर आधारित तीन लघूत्तरीय प्रश्नों के उत्तर देय होंगे। कुल छः प्रश्न पूछे जाएँगे। **(5 x 3 = 15)**
- षष्ठ प्रश्न में इकाई- 1 पर आधारित एक दीर्घ उत्तरीय प्रश्न पूछा जाएगा। 15 अंक
- सप्तम प्रश्न में इकाई- 2 पर आधारित एक दीर्घ उत्तरीय प्रश्न पूछा जाएगा। 15 अंक
- अष्टम प्रश्न में इकाई- 3 पर आधारित एक दीर्घ उत्तरीय प्रश्न पूछा जाएगा। 15 अंक
- नवम प्रश्न में इकाई- 4 पर आधारित एक दीर्घ उत्तरीय प्रश्न पूछा जाएगा। 15 अंक

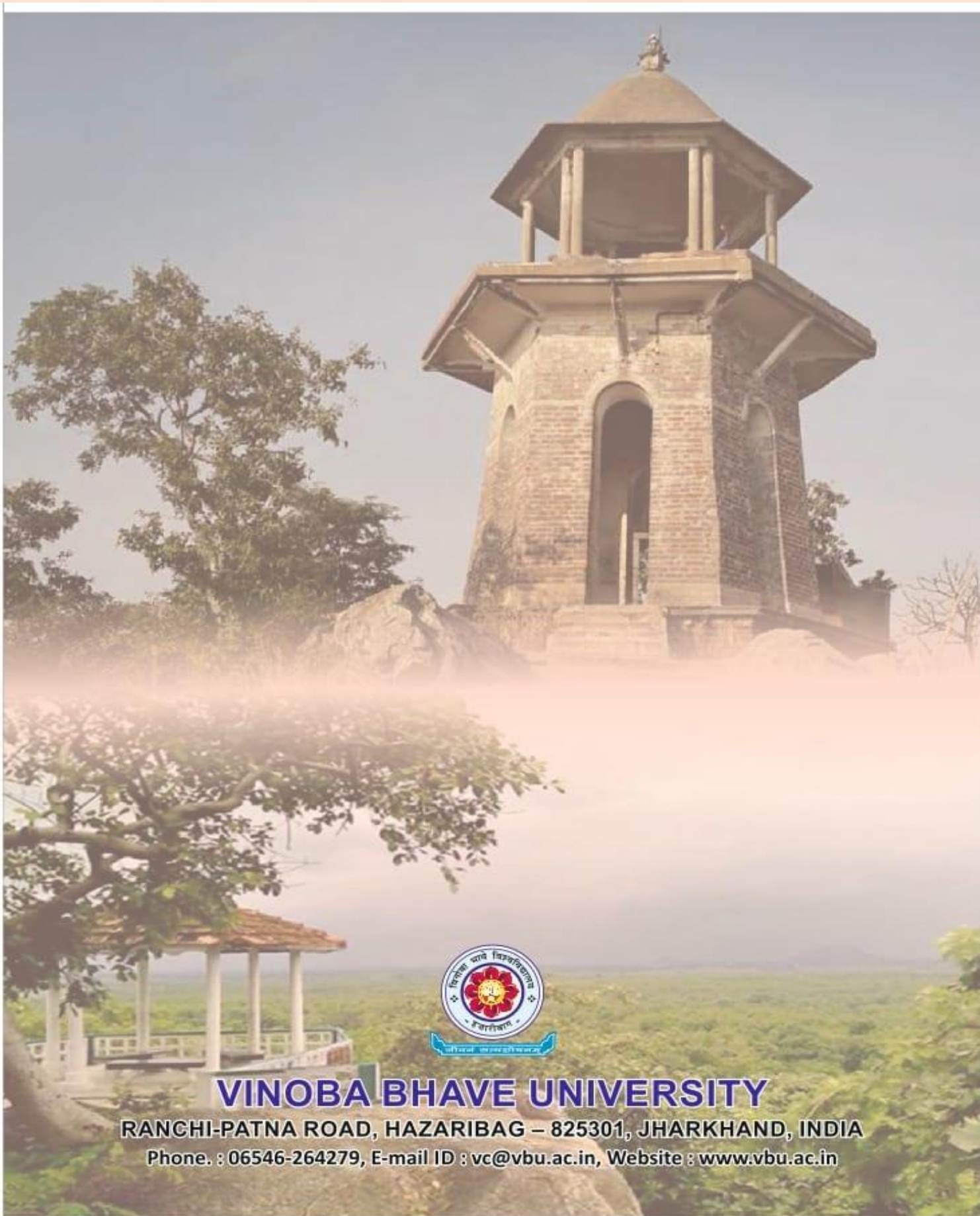
15 साप्ताहिक (45 घंटे की संभावित) अध्यापन योजना

प्रथम सप्ताह	इकाई - 1
द्वितीय सप्ताह	इकाई - 1
तृतीय सप्ताह	इकाई - 1
चतुर्थ सप्ताह	इकाई - 1
पंचम सप्ताह	इकाई - 1

षष्ठ सप्ताह	इकाई - 2
सप्तम सप्ताह	इकाई - 2
अष्टम सप्ताह	इकाई - 2
नवम सप्ताह	इकाई - 2
दशम सप्ताह	इकाई - 3

एकादश सप्ताह	इकाई - 3
द्वादश सप्ताह	इकाई - 3
त्रयोदश सप्ताह	इकाई - 4
चतुर्दश सप्ताह	इकाई - 4
पंचदश सप्ताह	इकाई - 4

विशेष :- विषय अध्यापन के क्रम में शिक्षक द्वारा आवश्यकतानुसार इस संभावित कार्ययोजना में परिवर्तन संभव हैं



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