Four Year Under Graduate Programme (FYUGP)

As per provisions of NEP-2020

Vinoba Bhave University Hazaribag

Skill Enhancement Courses (SEC)

To be implemented from the Academic Year **2022-23**

(From session 2022-26)

Members of Board of Courses and Studies (BOCS)

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2. Prof. (Dr.) Gauri Shankar Jha, Director, IQAC, Central University, Ranchi	- External Expert
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13. Dr. Santosh Kumar Singh, Assistant Professor, Dept. of MCA, V.B.U., Hazaribag	- Member

The Skill Enhancement Courses are aimed to impart practical skills, hands-on training, soft skills, etc. to enhance the employability of students. These will be studied by the students of all the streams. The students will have to opt one skill enhancement course of three credits each in semester I, II and III from the pool of courses provided by the institution.

Semester	Skill Enhancement Course	No. of Credits	Total Marks	Pass Marks
I	SEC-1	3	75	30
II	SEC-2	3	75	30
III	SEC-3	3	75	30

The Skill Enhancement Courses may have practical as per the nature of the course.

List of Skill Enhancement Courses

Ser. No.	Name of the Course	No. of Credits
1.	Entrepreneurship	3
2.	Cyber defense	3
3.	Information Technology	3
4..	Digital Education	3
5	Mushroom Culture & Technology	3
6.	Food Science & Technology	3
7.	Biofertilizers & Organic Farming	3
8.	Digital Marketing	3
9.	Mathematical & Computational Thinking and Analysis	3
10.	Amanat	3
11.	Sustainable Development	3
12.	Disaster Management	3
13.	Geoinformatics	
14.	Financial Literacy	3
15.	Stock Market Operations	3
16.	Guidance and Counselling	3
17.	Gemmology and gem testing	3
18.	Food processing and Bakery	3
19.	Personality Development	3

1. Entrepreneurship

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:

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:

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:

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

(**08 Lecture)**

Unit 2 Entrepreneurship Development:

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

(**09 Lecture)**

Unit 3 Developing the Business Plan:

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).

(**08 Lecture)**

Unit 4 Sources of finance:

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

(**07 Lecture)**

Unit 5 Forms of business organisation:

Sole proprietorship, Partnership, Cooperative, Joint-Stock Company

(**07 Lecture)**

Unit 6 Intellectual Property Right:

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

(**06 Lecture)**

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

2. Cyber Defense

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:

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.

3. Information 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:

Information Technology will allow to streamline work processes and improve communication within the company/organization, thereby helping employees save time and making our operations much more efficient.

Course Learning Outcomes:

Identify, design, and analyse computer systems and implement and interpret the results from those systems.

Course Content:

1. **Computer Basics:**
   Von Neumann Architecture. Central. Memory Hierarchy, Random Access Memory (RAM), Types of RAM, Read Only Memory (ROM), Types of ROM, Characteristics of Computers, Evolution of computers, Generation of Computers, Classification of Computers, Computer System, Applications of Computers. Number Systems, Conversion between Number Bases, Arithmetic System, Signed and Unsigned Numbers, Concept of Overflow, Binary Coding, Logic Gates, Boolean algebra. Software, Hardware, Operating system concept.

   (9 Lectures)

2. **Data Communication, Computer Network & Internet Basics:**
   Introduction, Data Communication, Transmission Media, Computer Network, Network Topologies, Communication Protocols, Network devices. Evolution of Internet, Basic Internet Terms, Getting Connected to Internet, Internet Applications, Electronic Mail: An Introduction How E-Mail Works, Searching the Web (Search Engines), Languages of Internet, Internet and Viruses.

   (9 Lectures)

3. **Ms-word:**
   Features, File, editing, formatting, page setup, printing, mail merge, macro, view, table, how to insert picture, Book Marks.

   (9 Lectures)

4. **Ms Excel:**
   Features, File, editing, formatting, page setup, printing, view, function and is use, Types of chart and its use, use of formulae, how to insert picture.

   (9 Lectures)

5. **Ms Power point:**
   Features, File, editing, formatting, page setup, printing, how to add slide, view, Animation.

   (9 Lectures)

Suggested Readings:

1. Introduction to computer Science, ITL Education solution Limited, R&D Wing, PEARSON Education, Edition 2004.
2. Rajaraman V. – Fundamental of Computers, Prentice Hall of India Pvt. Ltd., New Delhi – 2nd edition, 1996.
3. Computer Rapidex.

4. Digital Education

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:

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:

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 Content:

1. **Introduction to Digital Education:**
   Meaning & Evolution of Digital Systems. Role & Significance of Digital Technology, Offline Vs. Online education, Digital Education: advantages and disadvantages.
   (5 Lectures)

2. **Challenges with Digital Education in India:**
   Digital Device, Language Barrier, CWSN (Children with special need), Lack of training and Communication, Health issues.
   (3 Lectures)

3. **Digital Education Tools:**

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.)

(7 Lectures+ 5 Hands-on Sessions)

4. **Digital education in India:**
   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.

   (10 Lectures+ 5 Hands-on Sessions)

5. **E-Governance:**
   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.

   (10 Lectures)

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.

5. Mushroom Culture 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:

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:

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:

1. **Introduction:**
   History, Nutritional and medicinal value of edible mushrooms, Poisonous mushrooms, Types of edible mushrooms available in India - *Volvariella volvacea, Pleurotus citrinopileatus, Agaricus bisporus*.
   (10 Lectures)
2. **Cultivation Technology:**
   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.
   (15 Lectures)
3. **Storage and nutrition:**
   Short-term storage (Refrigeration – up to 24 hours) Long term Storage (canning, pickels, papads), drying, storage in salt solutions. Nutrition - Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content – Vitamins.
   (10 Lectures)
4. **Food Preparation:**
   Types of foods prepared from mushroom. Research Centres - National level and Regional level. Cost benefit ratio - Marketing in India and abroad, Export Value.
   (10 Lectures)

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.

6. 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:

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

Course Learning Outcomes:

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:

1. **Food microbiology Basics**
   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.

   (11 Lectures)

2. **Food spoilage and Fermented Foods:**
   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.

(11 Lectures)

3. **Food Chemistry and Nutrition:**
   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.

   (11 Lectures)

4. **Food Packaging and Quality control:**
   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.

   (12 Lectures)

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.

7. 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:

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

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.

Course Content:

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)

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)

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)

4. 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.

8. 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.*

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

Course Objectives:

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:

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.

Course Content:

1. **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

   (6 Lectures)
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.

   (9 Lectures)
3. **Digital Marketing Channels:**
   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.

   (9 Lectures)
4. **Website Optimization:**
   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)

(6 Lectures)

5. **Social Media Marketing:**
   - **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

(6 Lectures)

6. **Data Analysis and Metrics:**
   - **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

(6 Lectures)

7. **Legal and Ethical Considerations:**
   - a) Privacy and data protection
   - b) Intellectual property rights
   - c) Online advertising regulations
   - d) Ethical issues in digital marketing

(3 Lectures)

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.

9. Mathematical & Computational Thinking and Analysis

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:

The basic objective of this course is to make the students develop their analytical skills and logical thinking.

Course Learning Outcomes: This course will enable the students to:

This course will enable the students to:

1. Understand the notions of logic and Mathematical Induction.
2. Basic concepts of number systems.
3. Analytic approach toward the solution of algebraic equations.
4. Understand basic concept of Probability and statistics.

Course Content:

1. **Logic:**
   Statement, truth table, quantifiers, connectives and tautology, Mathematical induction.

   (10 Lectures)
2. **Number System:**
   Decimal system, binary system, octal system, hexadecimal system, arithmetic, conversion from binary to decimal and decimal to binary.

   (10 Lectures)
3. **Basics of Equations:**
   Relation between roots and coefficients, Transformation of equation, Symmetric functions of roots, Solutions of cubic and biquadratic equations.

   (10 Lectures)
4. **Statistics and Probability:**
   Data collection and presentation using bar chart, column chart, line chart, pie chart, scatter chart, surface chart. Calculation of frequency. Measure of central tendency, Mean, Median and Mode, Definition of Probability, Elementary properties, addition

theorem, multiplication theorem, independent events.

(15 Lectures)

Suggested Readings:

1. Miller and Freund's Probability and Statistics for Engineering – Richard Johnson, 9th edn., Pearson Education, 2020.
2. Fundamentals of Mathematical Statistics- S C Gupta, V K Kapoor, Sultan Chand & Sons, 12th edn., 2020.
3. A Text Book of Theory of Equations- Manoranjan Kr Singh, KNRN Publications,2020.
4. Modern Algebra, A. R. Vashishtha, Krishna Prakashan, Meerut, 2022.
5. Discrete Mathematical Structure, Kolman, Busby and Ross, Pearson Education Asia, 4th Ed., 2002.
6. Theory of Equation, N. K. Singh, Pragati Prakashan, 1st Ed., 2022.
7. Mathematical Statistics, J.N. Kapoor and H.C. Saxena, S. Chand Publication, 2022.

10. Amanat:

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 contain1 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.*

***Note:** There may be subdivisions in each question 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:

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.

Learning outcome:

This course is concerned to provide basic and applied knowledge of Amanat survey which leads learners towards getting employment opportunity as surveyor in cadastral land and map survey.

1. **Unit -I**
   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)

2. **Unit – II**
   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 grunters 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 ;भू–मापन विधि एवं उसके तत्व , 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.

Unit - III (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).

11. Sustainable Development:

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:

1. Students will understand about the meaning, concept and approaches of Sustainable Development.
2. They will become aware of conservation of environment.
3. They will know about the exigencies of environmental degradation and amelioration measures through different awareness programs.

Learning Outcome:

After the completion of this course they will get to know about the importance and need of Sustainable approaches in today's consumerist era. They will also know about the efforts attempted on international as well as on national level for optimum utilization of resources through viable technique.

Unit –I

Sustainable Development: Meaning, Concept, Definition, History, Components and Scope; Ecology and Environmental conservation, Biodiversity loss and ecological imbalance; the role of higher education in sustainable development; Agenda 21 (1992); The Millennium Development Goals; Sustainable Development Goals. UNFCCC, COP, IPCC.

(15 Lecturers)

Unit –II

Challenges to Sustainable Development; Sustainable Agriculture and forestry; Sustainable resource utilization: Water, mineral, soil and forest; Human Development;

The human right to health and education; Poverty and disease; The Challenges of Health Coverage in Low-Income Countries; Sustainable Regional Development: Need and examples from Cities, Coastal, Rural and Mountainous area

(15 Lecturers)

Unit –III

Inclusive Development: Education, Health; Climate Change: Carrying Capacity; Sustainable Development Policies and Programmes; Summits related to environment: Stockholm conference, Montreal Protocol, Brundtland Commission, Earth Summit, Paris Agreement (COP 21); NITI Aayog and Sustainable Development; National Environmental Policy.

(15 Lecturers)

Suggested Readings:

1. G. Arjun, Sarkar A. & others (2019): Environmental Issues & Sustainable Development, Notion India Press, Chennai
2. Ahlawat, A. (2019): Sustainable development Goals, Notion India Press, Chennai
3. Ossewarde, M.J. (2018): Introduction to Sustainable Development, Sage Publication, New Delhi
4. Mishra, J. (2018): Growth with Sustainability, Notion India Press
5. Sedana, N. & Indapurkar, K.: Susainable Development Goals, Bloomsberry Publication House, London

12. 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.*

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

Course Objectives:

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.

Learning Outcome:

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.

Module-I

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- II

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-III

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

13. Geo-informatics:

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 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

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.

Learning outcome:

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 - I

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 - II

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 - III

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): Fundamentalsof Practical Geography, Sharda Pustak Bhawan, Allahabad

4. Monkhouse F.J and Wilkinson HR (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. Lilies and, 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) सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली के सिद्धांत, 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

14. 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.*

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

Course Objectives:

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

Learning Outcomes:

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

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

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 Content:

1. **Introduction**
   a) Meaning, importance and scope of financial literacy; Prerequisites of Financial Literacy – level ofeducation, numerical and communication ability; Various financial institutions – banks, insurancecompanies, Post Offices; Mobile App based services.
   b) Need of availing of financial services from banks, insurance companies and postal services.
2. **Financial Planning and Budgeting**
   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 formeeting deficit.

(9 Lectures)

3. **Banking Services**
   a) Types of banks; Banking products and services – Various services offered by banks; Types ofbank 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. andrelated 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.

(9 Lectures)

4. **Financial Services from Post Office:**
   a) Post office Savings Schemes: Savings Bank, Recurring Deposit, Term Deposit, Monthly IncomeScheme, 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, ElectronicClearance Services (ECS),

Money gram International Money Transfer, Indian Postal Order (IPO).

(9 Lectures)

5. **Protection and Investment Related Financial Services:**
   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.

(9 Lectures)

Practical Exercises: The learners are required to:

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 theseservices.
2. Fill up the forms to open accounts and to avail loans and shall attach photocopies of necessarydocuments.
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 PublicationsIndia 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 PublicationsIndia 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.

15. 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.*

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

Course Objectives:

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.

Learning Outcomes:

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:

1. **Introduction:**

   Concept and types of Securities; Concept of return; Concept, types and

measurement of risk;Development of Securities market in India.

(9 Lectures)

2. **Primary Market:**

   a) Concept, Functions and Importance; Functions of New Issue Market (IPO, FPO & OFS); Methodsof 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.

(9 Lectures)

3. **Secondary Market:**
   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.

(9 Lectures)

4. **Regulatory Framework:**
   SEBI (Issue of Capital and Disclosure Requirements) Regulation 2018; Stock Exchanges andIntermediaries; SEBI and Investor Protection; Securities Contract Regulation Act and SEBI (Listing Obligations and Disclosure Requirements) Regulation 2015.

(9 Lectures)

5. **Demat Trading:**

   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.

(9 Lectures)

Practical Exercises: The learners are required to:

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 Virtualtrading 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 PublishingHouse.
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.

16. 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 contain1 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.*

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

Course Objectives:

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 outcomes:

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 Content:

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).

17. Gemmology and gem testing:

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:

1. Physical properties of gems
2. Theoretical knowledge of gem testing
3. Gem cutting techniques
4. Synthetic gemstones

Course learning outcomes:

The basic idea is to make students well versed with the different terminologies used in the gem industry and to provide skills to become a successful gemmologist. The course covers the various aspects of gem testing using both theoretical as well as laboratory work by dealing with basics to the advanced techniques of gemstone identification. The students will acquire skills which will be useful to them in the gem industry.

Course content:

1. **Gemmology**:

   Introduction to Gems, basic properties of gems, Formation of gem stones, Use of refractometers, Polariscope, Dichroscope, Methods of Specific Gravity determination, Causes of colours in gemstones, Introduction to special optical properties like chatoyancy, asterism, luminescence, play of colours, labradorescence, inclusions etc., Distinction between synthetic and natural gem stones.

   (20 Lectures)

2. **Use of Gem Testing Instruments**:
   Hand lens (10x), Detection of double refraction, by observing pleochroic colours with the Dichroscope, Identification of gemstones on the basis of pleochroic colours; Detection of double refraction, interference figures and internal strain with the Polariscope, study of the fluorescent colours exhibited by various gemstones under Ultraviolet (long wave and short wave) light, Measurement of refractiveindices and birefringence tests using a gem-testing Refractometer.

(25 Lectures)

Suggested Books:

1. Karanth R.V (2000) Gems and Gem Industry in India, Geological society of India
2. Read, P. G.(1991) Gemmology, Butterworth-Heinemann Ltd.
3. Webster, R. and edited by Anderson, B.W. (1983) Gems: Their Sources, Descriptionsand Identification, Butterworth-Heinemann Ltd
4. Sinkankas, J. (1969) Mineralogy: A First Course, Van Nostrand Reinhold Company.
5. Karanth R.V (2008) Gemstones Enchanting Gifts of Nature, Geological society ofIndia
6. Fareeduddin & R. H. Mitchell (2012) Diamonds and their Source rocks in India,Geological Society of India
7. Babu T.M (1998) Diamonds in India, Geological Society of India

18. Food processing and Bakery:

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 contain1 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.*

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

Course objectives:

1. To study the different method of preservation.
2. Obtain knowledge of spoilage of different food groups.
3. Understand the vital knowledge of processing.
4. To apply the knowledge of Baking and icing.

Course Learning Outcomes:

After successful completion of this course will enable students to

1. Able to explain the concept of preservation, processing spoilage, canning etc.
2. Identifying and understand different method of preservation, packaging etc.
3. Critically discuss and summarized the both fundamental and applied aspects of food preservation and Bakery.
4. To take the leadership roles in the field of entrepreneurship.

Course content:

1. **Food Preservation:**
   Introduction principles and importance of food preservation. Methods of food preservation- Physical method, Chemical method.
   (6 Lectures)
2. **Spoilage of different groups of food:**
   Importance of microorganism in food Fermentation technology, fermented vegetables, beer, vinegar and fermented soy products. Rice based and pulse based fermented products.
   (8 Lectures)
3. **Fruit and vegetables processing:**
   Canning of vegetables, principles of food concentration. Preparation of sauces, pickles jam, jelly, sauces and juices. Methods of packaging.
   (8 Lectures)
4. **Baking process and principles:**
   Baking standardization of items, methodology for baking. Preparation of bread, cakes, biscuits, cookies and pastries. Decoration of baked foods, Types of icing.
   (8 Lectures)

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

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:

1. Preparation of sauces, pickles, jams, juices and canning of selective vegetables, preparation of dried vegetables.
2. Preparation of bread, different types of vegetable and non-vegetable cakes, biscuits.
3. Application of fermentation technologies and preparation of Idli, Dhosa and Dhokla.
4. Practical experience of different types of icing.
5. Visit to nearby establishment bakery units and food processing Industries.

19. Personality Development:

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:

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

Learning Outcomes:

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 Content:

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

(9 Lectures)

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 Collius.
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.