

NEHRU GRAM BHARATI

(Deemed to be University)



SKILL ENHANCEMENT COURSES

04 Years Under Graduate Programmes
[SEC As per NEP-2020]

POOL C COURSES

SKILL ENHANCEMENT COURSES

S.N.	SEC Code	Title of SEC / Vocational Courses	Level	COM./ELE	Credits (L/T+P)
1	SEC-001	Digital Marketing	NSQF 5	ELE.	1+2
2	SEC-002	Culinary Arts	NSQF 5	ELE.	1+2
3	SEC-003	Tourism & Travel Management	NSQF 5	ELE.	1+2
4	SEC-004	Early Childhood Education	NSQF 5	ELE.	1+2
5	SEC-005	Sports Coaching	NSQF 5	ELE.	1+2
6	SEC-006	Financial accounting & Taxation	NSQF 5	ELE.	1+2
7	SEC-007	Retail Management	NSQF 5	ELE.	1+2
8	SEC-008	Supply Chain Management	NSQF 5	ELE.	1+2
9	SEC-009	Digital Photography & Videography	NSQF 5	ELE.	1+2
10	SEC-010	Yoga and Nutrition Expert	NSQF 5	ELE.	1+2
11	SEC-011	Disaster Management	NSQF 5	ELE.	1+2
12	SEC-012	Digital Library Establishment	NSQF 5	ELE.	1+2
13	SEC-013	Computerized Accounting (Tally)ERP-9/Prime)	NSQF 5	ELE.	1+2
14	SEC-014	Apiculture	NSQF 5	ELE.	1+2
15	SEC-015	Aquaculture	NSQF 5	ELE.	1+2
16	SEC-016	Vermiculture	NSQF 5	ELE.	1+2
17	SEC-017	Sericulture	NSQF 5	ELE.	1+2
18	SEC-018	Horticulture	NSQF 5	ELE.	1+2
19	SEC-019	Mushroom Cultivation	NSQF 5	ELE.	1+2
20	SEC-020	Herbal Technology	NSQF 5	ELE.	1+2
21	SEC-021	Basic Instrumentation Skills	NSQF 5	ELE.	1+2
22	SEC-022	Digital Electronics	NSQF 5	ELE.	1+2
23	SEC-023	Organic Farming	NSQF 5	ELE.	1+2
24	SEC-026	Industrial Chemistry	NSQF 5	ELE.	1+2
25	SEC-027	Archaeological Excavation Skills	NSQF 5	ELE.	1+2
26	SEC-028	Jyotish Shastra & Karmakand	NSQF 5	ELE.	1+2
27	SEC-029	Radio Jockey CCRJ	NSQF 5	ELE.	1+2
28	SEC-030	Fundamentals of Computers & Office Automation	NSQF 5	ELE.	1+2

Course : Digital Marketing [SEC-001]

Credits (L+T+P) : 1+0+2

Semester-I Digital Marketing P-I

Course Objective: The course "Certificate in Digital Marketing" aims to provide students with a comprehensive understanding of the digital marketing landscape and equip them with the knowledge and skills necessary to excel in the field.

Course Outcome:

CO1 Foundational Understanding of Digital Marketing: By the end of the course, students should have a solid grasp of the fundamental concepts and principles of digital marketing.

CO2 In-Depth Understanding of Market Research and Consumer Behavior: By the end of the course, students should have a comprehensive understanding of the principles and methodologies of market research, as well as the factors that influence consumer behavior in the digital age.

CO3 Proficiency in Search Engine Optimization: By the end of the course, students should be proficient in the principles and techniques of SEO, including on-page and off-page optimization, keyword research, technical SEO, and content optimization.

CO4: Proficiency in SEM and PPC Campaign Management: By the end of the course, students should be proficient in the strategies and techniques of search engine marketing and pay-per-click advertising.

CO5 Strategic Social Media Proficiency: By the end of the course, students should be proficient in developing and executing effective social media marketing strategies.

Unit 1. Introduction to Digital Marketing:

- Overview of digital marketing landscape
- Evolution and importance of digital marketing
- Digital marketing channels and strategies
- Key performance indicators (KPIs) in digital marketing
- Legal and ethical considerations in digital marketing

Unit 2. Market Research and Consumer Behavior:

- Conducting market research
- Understanding target audience and buyer personas
- Analyzing consumer behavior and decision-making process
- Competitive analysis and benchmarking
- Data-driven decision making

Unit 3. Search Engine Optimization (SEO):

- Introduction to search engines and search engine algorithms
- Keyword research and optimization
- On-page and off-page optimization techniques
- Technical SEO and website performance optimization
- SEO analytics and reporting

Unit 4. Search Engine Marketing (SEM) and Pay-Per-Click (PPC) Advertising:

- Introduction to search engine marketing and PPC advertising
- Google Ads and Bing Ads platforms
- Keyword bidding and ad targeting strategies
- Ad copywriting and optimization
- Campaign management and optimization

Unit 5. Social Media Marketing:

- Overview of major social media platforms (e.g., Facebook, Instagram, Twitter, LinkedIn)
- Social media strategy development
- Content creation and curation for social media
- Social media advertising and targeting options
- Social media analytics and performance tracking

Books Recommended:

1. "Digital Marketing for Dummies" by Ryan Deiss and Russ Henneberry: This comprehensive guide offers a solid introduction to digital marketing, covering everything from SEO and content marketing to social media and email marketing.
2. "Influence: The Psychology of Persuasion" by Robert Cialdini: While not specifically a digital marketing book, it provides valuable insights into the psychology of persuasion and how it can be applied to digital marketing.
3. "Contagious: How to Build Word of Mouth in the Digital Age" by Jonah Berger: This book delves into why certain content goes viral and how you can make your digital marketing campaigns more shareable.
4. "Jab, Jab, Jab, Right Hook: How to Tell Your Story in a Noisy Social World" by Gary Vaynerchuk: A book focused on social media marketing, it provides insights into crafting compelling content on platforms like Facebook, Instagram, and Twitter.
5. "Epic Content Marketing" by Joe Pulizzi: This book emphasizes the importance of content marketing and provides a framework for creating content that attracts and engages your target audience.
6. "SEO 2022: Learn Search Engine Optimization with Smart Internet Marketing Strategies" by Adam Clarke: An up-to-date guide to SEO techniques and strategies for improving your website's visibility in search engines.

7. "Email Marketing Rules" by Chad S. White: This book focuses on email marketing and offers best practices for creating effective email campaigns.
8. "The Art of SEO" by Eric Enge, Stephan Spencer, Jessie Stricchiola, and Rand Fishkin: A comprehensive guide to search engine optimization, covering technical and strategic aspects of SEO.
9. "Social Media ROI" by Olivier Blanchard: This book provides insights into measuring the return on investment (ROI) of your social media marketing efforts.
10. "The Conversion Code: Capture Internet Leads, Create Quality Appointments, Close More Sales" by Chris Smith: This book is focused on converting online leads into customers and offers valuable strategies for lead generation and conversion.
11. "Hooked: How to Build Habit-Forming Products" by Nir Eyal: While not strictly about digital marketing, this book explores the psychology of building products and services that keep users engaged, which is highly relevant to digital marketing and user experience design.

Semester-II Digital Marketing P-II

Course Objective: The course "Certificate in Digital Marketing" aims to provide students with a comprehensive understanding of the digital marketing landscape and equip them with the knowledge and skills necessary to excel in the field.

Course Outcome:

CO1 By the end of the course, students should be proficient in developing and executing content marketing strategies. They should be able to identify target audiences, create high-quality and engaging content, and distribute it effectively across various digital channels.

CO2 By the end of the course, students should be proficient in planning, creating, and managing successful email marketing campaigns. They should be able to develop strategies for list building, segmenting email lists, crafting compelling email content, optimizing email design, and analyzing campaign performance.

CO3 By the end of the course, students should have the skills and knowledge required to effectively collect, analyze, and interpret data from various digital marketing and online sources.

CO4: By the end of the course, students should be proficient in creating and implementing mobile marketing strategies. This includes understanding mobile user behavior, optimizing websites and content for mobile devices, leveraging mobile apps for marketing purposes, and utilizing location-based marketing techniques.

CO5 By the end of the course, students should be experts in e-commerce principles, strategies, and conversion rate optimization techniques. They should have the ability to design, manage, and optimize e-commerce websites, and apply CRO methodologies to enhance the online shopping experience, increase conversion rates, and maximize sales and revenue.

1. Content Marketing:

- Content strategy development
- Creating engaging and shareable content
- Content optimization for search engines and social media
- Content distribution and promotion
- Measuring content marketing effectiveness

2. Email Marketing:

- Building email subscriber lists
- Email campaign planning and execution
- Email copywriting and design best practices
- Email automation and personalization
- Email marketing metrics and analytics

3. Digital Analytics:

- Introduction to web analytics tools (e.g., Google Analytics)
- Setting up and configuring web analytics
- Tracking and measuring website traffic
- Conversion tracking and funnel analysis
- Reporting and data interpretation

4. Mobile Marketing:

- Mobile marketing trends and opportunities
- Mobile app marketing and promotion
- Mobile advertising and targeting strategies
- Mobile user experience and optimization
- Mobile analytics and measurement

5. E-commerce and Conversion Rate Optimization (CRO):

- E-commerce fundamentals and strategies
- Optimizing online sales funnels
- Conversion rate optimization techniques
- A/B testing and user experience testing
- E-commerce analytics and performance tracking

Books Recommended:

1. "Digital Marketing for Dummies" by Ryan Deiss and Russ Henneberry: This comprehensive guide offers a solid introduction to digital marketing, covering everything from SEO and content marketing to social media and email marketing.
2. "Influence: The Psychology of Persuasion" by Robert Cialdini: While not specifically a digital marketing book, it provides valuable insights into the psychology of persuasion and how it can be applied to digital marketing.
3. "Contagious: How to Build Word of Mouth in the Digital Age" by Jonah Berger: This book delves into why certain content goes viral and how you can make your digital marketing campaigns more shareable.
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11. "Hooked: How to Build Habit-Forming Products" by Nir Eyal: While not strictly about digital marketing, this book explores the psychology of building products and services that keep users engaged, which is highly relevant to digital marketing and user experience design.

Course : Culinary Arts [SEC-002]

Credits (L+T+P) : 1+0+2

Semester-I Culinary Arts P-I

Course Objective: The course "Certificate in Culinary Arts" is designed to provide students with the knowledge and skills necessary to excel in the culinary industry. The primary objectives of this course typically include Culinary Fundamentals, Cooking Techniques, Ingredient Knowledge, Culinary Creativity, Menu Planning, Sauce and Flavor Development, Presentation and Plating, Food Pairing and Wine Knowledge, Kitchen Management, Culinary Trends and Global Cuisine, Food Safety and Hygiene with Hands-on Cooking Experience.

Course Outcome:

CO1 By the end of the course, students should have mastered fundamental culinary skills and techniques

CO2 By the end of the course, students should be proficient in advanced culinary techniques such as braising, sous-vide cooking, pastry and baking skills, sauce making, and specialized cooking methods..

CO3 By the end of the course, students should have mastered the techniques and artistry of baking and pastry creation. They should be able to produce a wide range of baked goods and pastries with precision, including bread, cakes, pastries, and desserts, demonstrating a high level of skill and creativity in the bakery and pastry arts.

CO4: By the end of the course, students should be proficient in the art and science of menu planning and development.

CO5 By the end of the course, students should have a deep understanding and practical proficiency in preparing a diverse range of international and regional dishes.

1. Culinary Foundations:

- Introduction to culinary arts
- Professional kitchen equipment and tools
- Food safety and sanitation
- Knife skills and basic culinary techniques
- Culinary terminology and measurements

2. Culinary Techniques:

- Cooking methods (e.g., sautéing, roasting, braising, poaching)
- Sauce making and flavor development
- Stocks, soups, and broths
- Meat, poultry, and seafood preparation and cooking
- Vegetable and starch preparation and cooking

3. Baking and Pastry:

- Baking principles and techniques
- Bread making and yeast doughs

- Pastries, cakes, and cookies
- Desserts and plated desserts
- Chocolate and sugar work

4. Menu Planning and Development:

- Menu design and layout
- Culinary creativity and flavor profiling
- Seasonal and ingredient selection
- Menu pricing and cost control
- Dietary considerations and special diets

5. International and Regional Cuisine:

- Global culinary traditions and cuisines
- Classic international dishes
- Regional specialties and ingredients
- Cultural influences on food preparation
- Fusion and modern culinary trends

Books Recommended:

1. "The Professional Chef" by The Culinary Institute of America: Often considered the "bible" of culinary arts, this comprehensive textbook covers everything from basic techniques to advanced culinary skills.
2. "On Food and Cooking: The Science and Lore of the Kitchen" by Harold McGee: This book delves into the science behind cooking, helping readers understand the chemistry and physics that underlie culinary techniques.
3. "The Flavor Bible" by Karen Page and Andrew Dornenburg: A valuable resource for understanding flavor combinations and creating unique dishes.
4. "Essentials of Classic Italian Cooking" by Marcella Hazan: A classic for Italian cuisine lovers, offering traditional recipes and techniques.
5. "Mastering the Art of French Cooking" by Julia Child: This iconic book is a must-read for those interested in classic French cuisine.
6. "Culinary Artistry" by Andrew Dornenburg and Karen Page: Explores the creative side of cooking and provides inspiration for developing your own culinary style.
7. "Bouchon" by Thomas Keller: Thomas Keller's books are known for their precision and attention to detail. "Bouchon" focuses on bistro-style cooking.
8. "Japanese Cooking: A Simple Art" by Shizuo Tsuji: A comprehensive guide to traditional Japanese cuisine.

9. "The Pastry Chef's Companion" by Glenn Rinsky and Laura Halpin Rinsky: A great resource for those interested in pastry and baking.
10. "Ratio: The Simple Codes Behind the Craft of Everyday Cooking" by Michael Ruhlman: This book emphasizes the importance of understanding ratios in cooking, which is a valuable skill for aspiring chefs.
11. "The Art of Fermentation" by Sandor Ellix Katz: If you're interested in the world of fermentation, this book provides a comprehensive guide to the art and science of fermenting foods.
12. "Salt, Fat, Acid, Heat" by Samin Nosrat: This book explores the fundamental elements of good cooking and provides a fresh perspective on culinary techniques.

Semester-II Culinary Arts P-II

Course Objective: The course "Certificate in Culinary Arts" is designed to provide students with the knowledge and skills necessary to excel in the culinary industry. The primary objectives of this course typically include Culinary Fundamentals, Cooking Techniques, Ingredient Knowledge, Culinary Creativity, Menu Planning, Sauce and Flavor Development, Presentation and Plating, Food Pairing and Wine Knowledge, Kitchen Management, Culinary Trends and Global Cuisine, Food Safety and Hygiene with Hands-on Cooking Experience.

Course Outcome:

CO1 By the end of the course, students should have mastered the art of food presentation and plating. They should be able to create visually appealing and aesthetically pleasing dishes that not only showcase their culinary skills but also engage and delight diners.

CO2 By the end of the course, students should have the knowledge and skills required to manage a culinary operation efficiently. This includes the ability to organize kitchen resources, staff, and operations, oversee food production, maintain food quality and safety, and demonstrate effective leadership in a culinary setting.

CO3 By the end of the course, students should be proficient in understanding and applying principles of nutrition to cooking. This includes the ability to create and prepare balanced, health-conscious meals, consider dietary restrictions and preferences, and make informed ingredient choices that promote well-being.

CO4: By the end of the course, students should have mastered the art of pairing food with appropriate beverages, including wine, beer, and non-alcoholic options.

CO5 By the end of the course, students should be well-prepared for a successful career in the culinary industry

Unit 1. Food Presentation and Plating:

- Plate presentation techniques
- Garnishing and food styling
- Color, texture, and composition
- Visual appeal and aesthetics
- Food photography basics

Unit 2. Kitchen Management and Operations:

- Kitchen organization and workflow
- Recipe scaling and standardization
- Inventory management and purchasing
- Cost control and food waste reduction
- Team management and leadership

Unit 3. Nutrition and Healthy Cooking:

- Nutritional principles and guidelines
- Balanced meal planning
- Health-conscious cooking techniques
- Special dietary needs and restrictions
- Nutritional analysis and labeling

Unit 4. Food and Beverage Pairing:

- Principles of food and beverage pairing
- Wine, beer, and spirits basics
- Tasting and sensory evaluation
- Menu pairing recommendations
- Understanding flavor profiles

Unit 5. Professional Development and Industry Practices:

- Career opportunities in the culinary industry
- Professional ethics and conduct
- Culinary entrepreneurship
- Culinary competitions and events
- Industry trends and innovations

Books Recommended:

1. "The Professional Chef" by The Culinary Institute of America: Often considered the "bible" of culinary arts, this comprehensive textbook covers everything from basic techniques to advanced culinary skills.
2. "On Food and Cooking: The Science and Lore of the Kitchen" by Harold McGee: This book delves into the science behind cooking, helping readers understand the chemistry and physics that underlie culinary techniques.
3. "The Flavor Bible" by Karen Page and Andrew Dornenburg: A valuable resource for understanding flavor combinations and creating unique dishes.

4. "Essentials of Classic Italian Cooking" by Marcella Hazan: A classic for Italian cuisine lovers, offering traditional recipes and techniques.
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10. "Ratio: The Simple Codes Behind the Craft of Everyday Cooking" by Michael Ruhlman: This book emphasizes the importance of understanding ratios in cooking, which is a valuable skill for aspiring chefs.
11. "The Art of Fermentation" by Sandor Ellix Katz: If you're interested in the world of fermentation, this book provides a comprehensive guide to the art and science of fermenting foods.
12. "Salt, Fat, Acid, Heat" by Samin Nosrat: This book explores the fundamental elements of good cooking and provides a fresh perspective on culinary techniques.

Course : Tourism & Travel Management [SEC-003]

Semester-I

Tourism & Travel Management P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course in "Tourism & Travel Management" is designed to prepare students for careers in the tourism and travel industry. The course

objectives typically include Industry Knowledge, Destination Management, Customer Service Excellence, Tour Planning and Organization, Sustainability and Responsible Tourism, Cultural Awareness, Tourism Marketing and Promotion strategies and tools, Travel Technology, Travel Regulations and Safety, Event and Conference Management, Professionalism and Ethics, Internship and Practical Experience.

Course Outcome:

- CO1. By the end of the course, students should have a foundational understanding of the tourism and travel industry
- CO2. By the end of the course, students should be proficient in the operations of a travel agency.
- CO3. By the end of the course, students should be proficient in effectively managing tourist destinations.
- CO4. By the end of the course, students should be proficient in the effective planning and execution of tours.
- CO5. By the end of the course, students should be proficient in the effective management of hospitality and accommodation establishments

Unit 1. Introduction to Tourism and Travel Industry:

- Overview of the tourism and travel industry
- History and evolution of tourism
- Types of tourism (e.g., leisure, business, adventure)
- Global tourism trends and challenges
- Economic and environmental impacts of tourism

Unit 2. Travel Agency Operations:

- Role and functions of a travel agency
- Travel agency business models
- Booking and reservation systems
- Travel documentation and visa procedures
- Customer service and relationship management

Unit 3. Destination Management:

- Destination marketing and promotion
- Tourist attractions and landmarks
- Local culture and heritage preservation
- Sustainable tourism practices
- Crisis and risk management in destination

Unit 4. Tour Operations and Itinerary Planning:

- Types of tours (e.g., group, individual, package)
- Tour pricing and costing
- Itinerary planning and logistics
- Transportation options and management
- Tour guiding and interpretation

Unit 5. Hospitality and Accommodation Management:

- Types of accommodation (e.g., hotels, resorts, homestays)
- Front desk operations and guest services
- Room reservations and allocation
- Housekeeping and maintenance
- Quality standards and guest satisfaction

Books Recommended:

1. "Tourism: Principles, Practices, Philosophies" by Saroj Kasaju and C. B. Prasad - This comprehensive book covers the principles and practices of tourism, providing insights into the industry from an Indian perspective.
2. "Tourism Management" by Anil K. Bhatt and Yogesh K. Bhatt - An excellent resource for understanding the management aspects of tourism, including planning, marketing, and operations.
3. "Indian Tourism: Beyond the Millennium" by Manjula Chaudhary and Ramesh Chauhan - This book delves into various facets of Indian tourism, including marketing strategies and emerging trends.
4. "Tourism Management: An Introduction" by B.K. Tripathi and S.K. Bhatnagar - This book provides an introduction to tourism management concepts and principles with a focus on the Indian context.
5. "Hospitality Management: Concepts and Applications" by Sudhir Andrews - Although primarily focused on hospitality, this book is relevant for tourism and travel management students, covering customer service, hotel management, and restaurant operations.
6. "Destination Management and Marketing: Breakthroughs in Research and Practice" edited by Information Resources Management Association - This collection of research articles includes insights into destination management and marketing from an international perspective.
7. "Travel and Tourism: Principles and Practices" by Archana Anand - An easy-to-understand guide that covers the fundamentals of travel and tourism management, including tourism product development and marketing.
8. "Tourism Management in India: Concepts and Cases" by Sandeep Kulshreshtha - A practical guide that includes case studies and insights into tourism management in India.

Semester-II
Tourism & Travel Management P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course in "Tourism & Travel Management" is designed to prepare students for careers in the tourism and travel industry. The course objectives typically include Industry Knowledge, Destination Management, Customer Service Excellence, Tour Planning and Organization, Sustainability and Responsible Tourism, Cultural Awareness, Tourism Marketing and Promotion strategies and tools, Travel Technology, Travel Regulations and Safety, Event and Conference Management, Professionalism and Ethics, Internship and Practical Experience.

Course Outcome:

- CO1. By the end of the course, students should be proficient in the skills and knowledge required for airline ticketing and reservation processes
- CO2. By the end of the course, students should be proficient in the principles and practices of marketing within the travel and tourism industry
- CO3. By the end of the course, students should be proficient in understanding tourist behavior and delivering exceptional customer service in the tourism and hospitality industry
- CO4. By the end of the course, students should be proficient in understanding and applying the laws and regulations that govern the tourism and travel industry
- CO5. By the end of the course, students should be proficient in the principles and practices of entrepreneurship and business development within the tourism and travel industry

Unit 1. Airline Ticketing and Reservation:

- Airline ticketing systems and procedures
- Fare structures and ticket pricing
- Seat reservation and seat assignment
- Baggage handling and restrictions
- Airline customer service

Unit 2. Travel and Tourism Marketing:

- Marketing strategies for travel and tourism
- Market segmentation and targeting
- Advertising and promotional techniques
- Digital marketing in travel and tourism
- Branding and reputation management

Unit 3. Tourist Behavior and Customer Service:

- Understanding tourist behavior and needs
- Customer service principles and best practices
- Effective communication with customers
- Handling customer complaints and conflicts

- Building customer loyalty and satisfaction

Unit 4. Tourism Laws and Regulations:

- Legal framework for the tourism industry
- International travel regulations and documentation
- Consumer protection and rights
- Safety and security regulations
- Ethical and sustainable tourism practices

Unit 5. Tourism Entrepreneurship and Business Development:

- Identifying tourism business opportunities
- Business planning and feasibility studies
- Financial management and budgeting
- Risk assessment and management
- Innovations and trends in tourism entrepreneurship

Books Recommended:

1. "Tourism: Principles, Practices, Philosophies" by Saroj Kasaju and C. B. Prasad - This comprehensive book covers the principles and practices of tourism, providing insights into the industry from an Indian perspective.
2. "Tourism Management" by Anil K. Bhatt and Yogesh K. Bhatt - An excellent resource for understanding the management aspects of tourism, including planning, marketing, and operations.
3. "Indian Tourism: Beyond the Millennium" by Manjula Chaudhary and Ramesh Chauhan - This book delves into various facets of Indian tourism, including marketing strategies and emerging trends.
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8. "Tourism Management in India: Concepts and Cases" by Sandeep Kulshreshtha - A practical guide that includes case studies and insights into tourism management in India.

Course : Early Childhood Education [SEC-004]

Semester-I

Early Childhood Education P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Early Childhood Education" course may vary depending on the specific institution, program, and the level of the course (e.g., introductory, intermediate, advanced). including Understanding Child Development, Promoting Learning and Development, Curriculum Planning,

Observation and Assessment, Cultural Competence, Effective Communication, Child Health and Safety, Special Needs and Inclusion, Legal and Ethical Responsibilities, Professional Development, Play-Based Learning, Family Engagement, Technology Integration, Reflective Practice and Practical Experience for hands-on experience through practicums or internships in early childhood education settings.

Course Outcome:

- CO1. Upon completion of this course, students will be able to articulate the historical and philosophical foundations of early childhood education and demonstrate an understanding of the essential roles and responsibilities of early childhood educators, fostering a foundational knowledge of the field.
- CO2. By the end of this course, students will be able to apply key theories of child development to analyze and understand the stages of cognitive, social, and emotional development in young children, enabling them to design and implement developmentally appropriate activities and interventions to support optimal learning and growth.
- CO3. By the end of this course, students acquires ability to develop effective and age-appropriate curriculum plans, Create engaging and inclusive learning environments, Design play-based learning activities to meet educational goals with ability to Evaluate and adapt curriculum to meet diverse children's needs.
- CO4. Upon completing this course, students will be able to create safe and healthy early childhood learning environments, plan and provide nutritionally balanced meals and snacks for young children, and demonstrate basic first aid and CPR skills, ensuring the well-being and safety of children in their care.
- CO5. Upon successful completion of this course, students will be equipped to build positive and culturally sensitive relationships with families and caregivers, effectively communicate with parents to involve them in their child's education, and collaborate with community resources and support systems, enhancing the overall learning experience and support network for young children.

Unit 1: Introduction to Early Childhood Education

- Overview of Early Childhood Education
- Historical perspectives
- The role of early childhood educators
- Current trends and challenges

Unit 2: Child Development and Learning

- Theories of child development (e.g., Piaget, Vygotsky)
- Stages of development (infancy, toddlerhood, preschool)
- Cognitive, social, and emotional development

- Observing and assessing children's development

Unit 3: Curriculum Planning and Implementation

- Developmentally appropriate practice (DAP)
- Creating engaging learning environments
- Lesson planning and curriculum development
- Play-based learning

Unit 4: Health, Safety, and Nutrition

- Child health and wellness
- Safety in early childhood settings
- Nutrition and meal planning
- Basic first aid and CPR training

Unit 5: Family and Community Engagement

- Building positive relationships with families
- Communicating with parents and caregivers
- Involving families in children's learning
- Community resources and support

Books Recommended:

1. "Teaching Young Children: An Introduction" by Jyotsna Pattnaik
This book provides an introduction to the key concepts and principles of teaching young children. It covers topics such as child development, pedagogy, and curriculum planning.
2. "Understanding Early Childhood Education in India" by Swati Popat Vats
Swati Popat Vats is a well-known Indian expert in early childhood education. In this book, she explores the unique challenges and opportunities in the Indian context and offers insights into best practices.
3. "Understanding Child Development: 0-8 Years" by Swati Popat Vats
This book focuses on the stages of child development from birth to eight years and offers guidance to parents, caregivers, and educators on how to support children's growth.
4. "Early Childhood Care and Education: Concepts and Practices" by Pramila Aggarwal
Pramila Aggarwal's book delves into the various aspects of early childhood care and education, including curriculum planning, pedagogical approaches, and assessment.
5. "Perspectives in Early Childhood Education" by Suraiya Begum

This book presents a comprehensive view of early childhood education in India and discusses key themes, including play-based learning, curriculum development, and teacher preparation.

6. "Child Development and Pedagogy: Early Childhood Education" by Neeraj Sharma

Geared toward teachers and educators, this book explores child development theories and pedagogical strategies for early childhood education in the Indian context.

7. "Teaching of English in Early Childhood Education" by Manju Bharagava and Sunita Gupta

Focusing on language development, this book provides insights and strategies for teaching English to young children, with a particular emphasis on the Indian classroom.

8. "Understanding Child Development: 0-6 Years" by Usha Goswami

Usha Goswami's book offers a detailed exploration of child development in the early years, covering cognitive, social, emotional, and physical development.

9. "Play and Learning in Early Childhood Education" by Ameena Ahmed and Sutapa Chakraborty

This book highlights the importance of play in early childhood education and provides practical guidance on creating play-based learning environments.

10. "Early Childhood Education: An International Encyclopedia" edited by Rebecca S. New and Monika K. Wojcik

While not exclusively by Indian authors, this encyclopedia includes contributions from Indian experts in the field and covers various aspects of early childhood education, including cultural contexts.

Semester-II **Early Childhood Education P-II**

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Early Childhood Education" course may vary depending on the specific institution, program, and the level of the course (e.g., introductory, intermediate, advanced). including Understanding Child Development, Promoting Learning and Development, Curriculum Planning, Observation and Assessment, Cultural Competence, Effective Communication, Child Health and Safety, Special Needs and Inclusion, Legal and Ethical Responsibilities, Professional Development, Play-Based Learning, Family

Engagement, Technology Integration, Reflective Practice and Practical Experience for hands-on experience through practicums or internships in early childhood education settings.

Course Outcome:

- CO1. Upon completing this course, students will be able to apply principles of inclusive education to create a welcoming and supportive learning environment for all children, identify and adapt teaching strategies to meet the needs of children with special needs, and collaborate effectively with support services, professionals, and families to provide inclusive education and individualized support.
- CO2. Upon successful completion of this course, students will be able to understand the process of language and literacy development in young children, implement effective strategies to promote early reading and writing skills, create a literacy-rich environment that supports language development, and utilize assessment tools to monitor and enhance children's literacy skills, fostering their early literacy and language development.
- CO3. Upon completing this course, students will be able to incorporate creative arts, music, and movement into the early childhood curriculum to foster creativity, expression, and holistic development. They will also have the skills to plan and implement sensory experiences that stimulate child development and integrate the arts into other areas of early childhood learning, such as science and math, enhancing the overall educational experience for young children.
- CO4. Upon successful completion of this course, students will be able to use technology responsibly and in accordance with best practices for young children, select and implement educational apps and digital tools that enhance early childhood learning, and promote digital literacy for children and provide guidance to families on the appropriate and meaningful use of technology in early childhood education settings, ensuring a balanced and developmentally appropriate use of technology.
- CO5. Upon completing this course, students will be prepared to commit to lifelong professional development, staying current with best practices in the field, and engage in reflective practice. They will also be able to uphold ethical standards and legal requirements in the field of early childhood education and prepare for a successful career, including developing job search skills, crafting resumes, and understanding the ethical responsibilities of their profession.

Course Curriculum:

Unit 1: Inclusion and Special Needs

- Inclusive education principles
- Strategies for working with children with special needs
- Individualized education plans (IEPs)
- Early intervention services

Unit 2: Early Literacy and Language Development

- Language and literacy development in young children
- Promoting early reading and writing skills
- Storytelling and book sharing
- Literacy-rich environments

Unit 3: Art, Music, and Movement

- Creative arts in early childhood education
- Music and movement activities
- Sensory experiences
- Integrating the arts into the curriculum

Unit 4: Technology in Early Childhood Education

- The responsible use of technology with young children
- Digital literacy for young learners
- Selecting and using educational apps and tools
- Screen time guidelines

Unit 5: Professional Development and Ethics

- Continuing education and professional growth
- Ethical considerations in early childhood education
- Legal and regulatory aspects
- Preparing for a career in the field

Books Recommended:

1. "Teaching Young Children: An Introduction" by Jyotsna Pattnaik
This book provides an introduction to the key concepts and principles of teaching young children. It covers topics such as child development, pedagogy, and curriculum planning.
2. "Understanding Early Childhood Education in India" by Swati Popat Vats
Swati Popat Vats is a well-known Indian expert in early childhood education. In this book, she explores the unique challenges and opportunities in the Indian context and offers insights into best practices.
3. "Understanding Child Development: 0-8 Years" by Swati Popat Vats
This book focuses on the stages of child development from birth to eight years and offers guidance to parents, caregivers, and educators on how to support children's growth.
4. "Early Childhood Care and Education: Concepts and Practices" by Pramila Aggarwal

Pramila Aggarwal's book delves into the various aspects of early childhood care and education, including curriculum planning, pedagogical approaches, and assessment.

5. "Perspectives in Early Childhood Education" by Suraiya Begum

This book presents a comprehensive view of early childhood education in India and discusses key themes, including play-based learning, curriculum development, and teacher preparation.

6. "Child Development and Pedagogy: Early Childhood Education" by Neeraj Sharma

Geared toward teachers and educators, this book explores child development theories and pedagogical strategies for early childhood education in the Indian context.

7. "Teaching of English in Early Childhood Education" by Manju Bharagava and Sunita Gupta

Focusing on language development, this book provides insights and strategies for teaching English to young children, with a particular emphasis on the Indian classroom.

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10. "Early Childhood Education: An International Encyclopedia" edited by Rebecca S. New and Monika K. Wojcik

While not exclusively by Indian authors, this encyclopedia includes contributions from Indian experts in the field and covers various aspects of early childhood education, including cultural contexts.

Course : Sports Coaching [SEC-005]

Semester-I Sports Coaching P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course in "Sports Coaching" aims to:

- Develop coaching expertise in various sports.
- Understand sports psychology and motivation.

- Enhance skill development and tactical strategies.
- Assess player performance and provide constructive feedback.
- Focus on injury prevention and physical conditioning.
- Promote sportsmanship, ethics, and leadership.
- Foster effective communication and adaptability.
- Encourage professional development and legal compliance.

Course Outcome:

- CO1. By the end of this course, students will be able to demonstrate a foundational understanding of coaching principles and practices, including the roles and responsibilities of a sports coach, the importance of effective communication in coaching, and the ethical considerations within the field of sports coaching.
- CO2. Upon completing this course, students will be capable of utilizing sport science principles and performance analysis techniques to assess and enhance athlete performance, including the ability to collect and analyze data, provide feedback to athletes, and make informed coaching decisions based on scientific evidence and performance metrics.
- CO3. At the end of this course, students will be proficient in applying effective coaching methodologies and techniques, enabling them to design, implement, and adapt coaching strategies to optimize athlete development and performance in their respective sports.
- CO4. Upon completing this course, students will be equipped with a deep understanding of sports psychology and its application in athlete development. They will be able to analyze and address the psychological factors that influence athlete performance, including motivation, confidence, focus, and resilience, to foster the mental skills necessary for athletic success.
- CO5. By the end of this course, students will possess the knowledge and skills required to design nutrition and fitness programs that optimize athlete performance and well-being. They will be able to develop individualized nutrition plans and training regimens that cater to the specific needs of athletes in different sports, promoting their health and enhancing their athletic capabilities.

Course Content:

Unit 1. Introduction to Sports Coaching

- Overview of sports coaching principles and concepts
- Roles and responsibilities of a sports coach
- Ethical considerations in sports coaching

Unit 2. Sport Science and Performance Analysis

- Understanding the science of human movement
- Sports physiology and biomechanics
- Performance analysis techniques and technologies

Unit 3. Coaching Methodology and Techniques

- Effective coaching strategies and approaches

- Skill development and teaching methods
- Periodization and planning for training sessions

Unit 4. Sports Psychology and Athlete Development

- Psychological aspects of sports performance
- Motivation and goal setting for athletes
- Understanding and managing athlete development

Unit 5. Sports Nutrition and Fitness

- Principles of sports nutrition and hydration
- Dietary requirements for athletes
- Fitness assessment and conditioning programs

Books Recommended:

1. "Coaching: The Art and the Science" by Dr. O.P. Goel
This book provides a comprehensive understanding of coaching in various sports and covers coaching methods, principles, and techniques.
2. "Sports Coaching: Theories and Practices" by Veena Vohra and B. B. Gupta
This book offers insights into the theories and practices of sports coaching, including coaching pedagogy, planning, and execution.
3. "Coaching for Performance: Bridging the Gap between Theory and Practice" by Sudhir Dixit
Sudhir Dixit explores the practical aspects of sports coaching, emphasizing the need for a bridge between coaching theory and on-field application.
4. "High-Performance Sports Conditioning" by Dr. Anand Shetty
Dr. Anand Shetty delves into sports conditioning, focusing on strength, speed, agility, and endurance training for athletes.
5. "Sports Injuries and Their Management" by Dr. K. S. Bawa
This book covers sports injuries, their prevention, and initial management, which is valuable knowledge for sports coaches.
6. "Sports Training and Biomechanics" by Dr. K. R. Singh
Dr. K. R. Singh discusses the biomechanical aspects of sports training, providing insights into how mechanics and movement can be optimized for athlete performance.

Semester-II Sports Coaching P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course in "Sports Coaching" aims to:

- Develop coaching expertise in various sports.
- Understand sports psychology and motivation.
- Enhance skill development and tactical strategies.
- Assess player performance and provide constructive feedback.
- Focus on injury prevention and physical conditioning.

- Promote sportsmanship, ethics, and leadership.
- Foster effective communication and adaptability.
- Encourage professional development and legal compliance.

Course Outcome:

- CO1. Upon completing this course, students will be proficient in identifying potential sports-related injuries, implementing injury prevention strategies, and providing immediate first aid and medical assistance to athletes when injuries occur, ensuring the safety and well-being of athletes under their care.
- CO2. By the end of this course, students will be equipped with a strong understanding of coaching ethics and leadership principles. They will be capable of making ethically sound coaching decisions, fostering positive sportsmanship, and demonstrating effective leadership skills to create a respectful, inclusive, and supportive sporting environment for athletes under their guidance.
- CO3. Upon completing this course, students will have the ability to apply specialized coaching techniques and strategies specific to particular sports or athletic disciplines. They will be proficient in tailoring coaching approaches to the unique demands, rules, and nuances of different sports, enabling them to effectively coach athletes in their chosen sport or specialization.
- CO4. At the conclusion of this course, students will have a comprehensive understanding of sports administration and management principles. They will be capable of efficiently organizing and overseeing sports coaching programs, events, and teams, while also managing resources, budgets, and staff effectively within the sports coaching context.
- CO5. Upon completion of this course, students will have gained practical coaching experience, which includes hands-on coaching, observation, and feedback. They will be prepared to independently plan and conduct coaching sessions, assess athlete performance, and provide constructive feedback to athletes, demonstrating their ability to apply coaching principles in real-world coaching scenarios.

Course Curriculum:

Unit 1: Injury Prevention and Sports First Aid

- Common sports injuries and their prevention
- First aid techniques for sports-related injuries
- Rehabilitation and recovery strategies

Unit 2 : Coaching Ethics and Leadership

- Ethical considerations in sports coaching
- Sportsmanship and fair play
- Leadership skills and team management

Unit 3 : Sports Specific Coaching

- Coaching techniques for specific sports (e.g., football, basketball, tennis)
- Tactical and technical aspects of sports coaching
- Analyzing and improving individual and team performance

Unit 4 : Sports Administration and Management

- Basics of sports administration and management
- Event planning and organization
- Legal and regulatory aspects of sports coaching

Unit 5: Practical Coaching Experience

- Hands-on coaching experience with athletes
- Observing and analyzing coaching sessions
- Developing and implementing coaching plans

Books Recommended:

1. "Coaching: The Art and the Science" by Dr. O.P. Goel
This book provides a comprehensive understanding of coaching in various sports and covers coaching methods, principles, and techniques.
2. "Sports Coaching: Theories and Practices" by Veena Vohra and B. B. Gupta
This book offers insights into the theories and practices of sports coaching, including coaching pedagogy, planning, and execution.
3. "Coaching for Performance: Bridging the Gap between Theory and Practice" by Sudhir Dixit
Sudhir Dixit explores the practical aspects of sports coaching, emphasizing the need for a bridge between coaching theory and on-field application.
4. "High-Performance Sports Conditioning" by Dr. Anand Shetty
Dr. Anand Shetty delves into sports conditioning, focusing on strength, speed, agility, and endurance training for athletes.
5. "Sports Injuries and Their Management" by Dr. K. S. Bawa
This book covers sports injuries, their prevention, and initial management, which is valuable knowledge for sports coaches.
6. "Sports Training and Biomechanics" by Dr. K. R. Singh
Dr. K. R. Singh discusses the biomechanical aspects of sports training, providing insights into how mechanics and movement can be optimized for athlete performance.

Course : Financial Accounting & Taxation [SEC-006]

Semester-I

Financial Accounting & Taxation P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objective for "Financial Accounting & Taxation" is to provide students with a comprehensive understanding of financial accounting principles and taxation regulations. This course aims to equip students with the knowledge and skills necessary to Understand Financial Accounting, Prepare Financial Statements, Analyze Financial Data, Record Transactions, Understand Taxation Regulations, Calculate and File Taxes, Tax Planning and Optimization,

Financial Reporting Compliance, Ethical Considerations, Practical Application, Critical Thinking and Problem-Solving and Communication Skills to effectively convey financial information and tax implications to clients, stakeholders, or within an organization.

Course Outcome:

- CO1. At the end of this course, students will be able to understand and apply the fundamental principles of financial accounting, including recording financial transactions, preparing basic financial statements, and interpreting financial information accurately and ethically.
- CO2. Upon successful completion of this course, students will be able to Apply Complex Accounting Standards, Prepare Consolidated Financial Statements, Analyze Complex Financial Transactions, Evaluate Accounting Policy Choices, Accounting for Specialized Industries & Advanced Financial Reporting Issues, Understand Regulatory Frameworks and Financial Statement Analysis for Complex Entities.
- CO3. At the end of this course, students will be able to Understand Cost Concepts, Apply Costing Methods, Analyze Cost-Volume-Profit Relationships, Budgeting and Standard Costing, Cost Control and Management, Cost Allocation and Transfer Pricing, Product and Service Pricing, Costing for Decision-Making, Activity-Based Costing (ABC) and Ethical Considerations.
- CO4. At the end of this course, students will be able to gain a foundational understanding of income tax laws, regulations, and their application to individuals and entities, providing them with the knowledge to accurately calculate and report income tax liabilities for basic scenarios.
- CO5. At the end of this course, students will be able to comprehend the fundamental principles and application of Goods and Services Tax (GST), enabling them to understand and navigate the GST framework, assess tax implications, and complete basic GST compliance tasks.

Course Content:

Unit 1. Introduction to Financial Accounting

- Basic concepts and principles of financial accounting
- Accounting equation and double-entry system
- Preparation of financial statements (income statement, balance sheet, cash flow statement)

Unit 2. Advanced Financial Accounting

- Accounting for partnerships and corporations
- Consolidated financial statements
- Accounting for mergers and acquisitions

Unit 3. Cost Accounting

- Cost classification and behavior
- Cost-volume-profit analysis
- Budgeting and variance analysis

Unit 4. Direct taxes (income tax): Concepts of income and exemptions; Calculation of taxable income; Deductions and tax planning; Filing of income tax returns.

Unit 5. Indirect taxes (goods and services tax - GST): GST concepts and principles; GST registration and compliance, GST return filing

Books Recommended:

1. "Financial Accounting" by Dr. S. N. Maheshwari and S. K. Maheshwari
This comprehensive book provides a detailed understanding of financial accounting principles and practices, making it a popular choice for accounting students in India.
2. "Indian Accounting Standards (Ind AS): Text and Cases" by Dr. D.S. Rawat
Dr. Rawat's book is a valuable resource for understanding the Indian Accounting Standards (Ind AS) and their implications on financial reporting and accounting practices in India.
3. "Direct Taxes Law and Practice" by Dr. V. K. Singhania and Dr. Monica Singhania
This book offers a thorough overview of direct taxation laws in India and is widely used for tax-related studies and professional courses.
4. "Indirect Taxes Law and Practice" by Dr. V. K. Singhania and Dr. Monica Singhania
Dr. Singhania and Dr. Monica Singhania provide detailed insights into indirect tax laws in India, making it a helpful resource for students and professionals in taxation.
5. "Advanced Accountancy" by M.C. Shukla, T.S. Grewal, and S.C. Gupta
Widely used in accounting courses, this book covers advanced topics in financial accounting, making it a valuable reference for accounting students in India.
6. "Income Tax Law and Practice" by Dr. S. N. Bhatt
Dr. Bhatt's book focuses on income tax law and its practical application in India, serving as a resource for students and tax professionals.
7. "Taxation Law and Practice" by Girish Ahuja and Ravi Gupta
This book provides a comprehensive overview of Indian taxation laws and their practical application, making it useful for both students and tax practitioners.
8. "Cost Accounting and Financial Management" by Ravi M. Kishore
Ravi M. Kishore's book covers cost accounting and financial management, offering insights into financial decision-making and accounting practices.

Semester-II
Financial Accounting & Taxation P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objective for "Financial Accounting & Taxation" is to provide students with a comprehensive understanding of financial accounting principles and taxation regulations. This course aims to equip students with the knowledge and skills necessary to Understand Financial Accounting, Prepare Financial Statements, Analyze Financial Data, Record Transactions, Understand Taxation Regulations, Calculate and File Taxes, Tax Planning and Optimization, Financial Reporting Compliance, Ethical Considerations, Practical Application, Critical Thinking and Problem-Solving and Communication Skills to effectively convey financial information and tax implications to clients, stakeholders, or within an organization.

Course Outcome:

- CO1. At the end of this course, students will be able to develop a foundational understanding of auditing and assurance principles, enabling them to critically evaluate financial information, assess internal controls, and apply audit procedures to ensure compliance with auditing standards and regulations.
- CO2. At the end of this course, students will be able to comprehend the key principles of corporate law and business law, allowing them to analyze legal issues, make informed decisions, and apply relevant legal concepts to address business challenges and opportunities effectively.
- CO3. At the end of this course, students will be able to develop a solid understanding of financial management principles, enabling them to analyze financial data, make informed investment decisions, evaluate capital budgeting projects, and manage financial resources effectively in a corporate context.
- CO4. At the end of this course, students will be able to proficiently utilize accounting software applications to perform various accounting tasks, including data entry, financial statement preparation, and financial analysis, demonstrating competency in leveraging technology for accounting and financial management.
- CO5. At the end of this course, students will be able to develop a strong foundation in professional skills and ethical principles related to financial accounting, enabling them to apply sound judgment, maintain integrity, and adhere to ethical standards while fulfilling their roles as accounting professionals.

Course Content:

Unit 1. Auditing and Assurance

- Auditing concepts and objectives
- Types of audits (financial, internal, tax)

- Audit procedures and documentation
- Audit reports and ethics

Unit 2. Corporate Law and Business Law

- Company law and corporate governance
- Contracts and commercial laws
- Legal aspects of business operations

Unit 3. Financial Management

- Capital budgeting and investment decisions
- Working capital management
- Financial analysis and decision-making

Unit 4. Software Applications for Accounting

- Introduction to accounting software (e.g., Tally, QuickBooks)
- Practical training in using accounting software for data entry, ledger maintenance, and generating financial reports

Unit 5. Professional Skills and Ethics

1. Communication skills for accountants
2. Ethical considerations in accounting and taxation
3. Professional development and continuing education

Books Recommended:

1. "Financial Accounting" by Dr. S. N. Maheshwari and S. K. Maheshwari
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6. "Income Tax Law and Practice" by Dr. S. N. Bhatt
Dr. Bhatt's book focuses on income tax law and its practical application in India, serving as a resource for students and tax professionals.
7. "Taxation Law and Practice" by Girish Ahuja and Ravi Gupta
This book provides a comprehensive overview of Indian taxation laws and their practical application, making it useful for both students and tax practitioners.
8. "Cost Accounting and Financial Management" by Ravi M. Kishore
Ravi M. Kishore's book covers cost accounting and financial management, offering insights into financial decision-making and accounting practices.

Course : Retail Management [SEC-007]

Semester-I Retail Management P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Retail Management" typically include Understanding Retail Fundamentals, Store Operations, Customer Relationship Management, Retail Marketing and Promotion, Supply Chain Management, Financial Management, Human Resource Management, Visual Merchandising, Technology in Retail, Ethical and Legal Considerations, Retail Trends and Innovation, Problem Solving and Decision Making and Practical Application to Apply theoretical knowledge to real-world retail scenarios through case studies, projects, and practical exercises.

Course Outcome:

- CO1. At the end of this course, students will be able to develop a foundational understanding of the key principles and concepts of retail management, enabling them to comprehend the retail industry's basic operations, customer service strategies, and fundamental retail marketing techniques.
- CO2. At the end of this course, students will be able to demonstrate a solid grasp of retail operations management, including skills in inventory control, merchandising, store layout design, and customer service strategies, enabling them to effectively oversee and optimize day-to-day retail store operations.
- CO3. At the end of this course, students will be able to develop a deep understanding of effective customer service techniques and relationship management strategies, equipping them with the skills to build and maintain strong customer relationships, enhance customer satisfaction, and promote loyalty in a retail or service-oriented business.
- CO4. At the end of this course, students will be able to demonstrate proficiency in retail sales and marketing strategies, including the ability to apply effective sales techniques, create and implement marketing plans, and use promotional strategies to attract customers, drive sales, and enhance brand awareness in a retail environment.
- CO5. At the end of this course, students will be able to develop strong skills in retail buying and merchandising, enabling them to effectively select, purchase, and manage merchandise assortments that meet consumer demand, maximize sales, and contribute to the overall success of a retail business.

Course Content:

Unit 1. Introduction to Retail Management

Overview of the retail industry
Evolution and trends in retail
Roles and responsibilities of a retail manager

Unit 2. Retail Operations Management

Store layout and visual merchandising
Inventory management and control
Supply chain management in retail
Store security and loss prevention

Unit 3. Customer Service and Relationship Management

Understanding customer behavior and preferences
Effective communication and customer interaction
Building customer loyalty and retention strategies

Handling customer complaints and resolving conflicts

Unit 4. Retail Sales and Marketing

Sales techniques and strategies

Promotional activities and campaigns

Market research and analysis

Digital marketing and e-commerce in retail

Unit 5. Retail Buying and Merchandising

Product selection and assortment planning

Pricing strategies and competitive analysis

Vendor management and negotiations

Visual merchandising and product presentation

Books Recommended:

1. "Retail Management: A Strategic Approach" by Badiuddin Ahmed and Piyali Ghosh: This book provides insights into retail management strategies and practices in the Indian context, covering topics such as store layout, visual merchandising, and customer service.
2. "Retail Management: Text and Cases" by Swapna Pradhan: This comprehensive book covers the fundamentals of retail management and includes case studies that illustrate real-world retail challenges and solutions in the Indian market.
3. "Retail Management: A South Asian Perspective" by Gibson G. Vedamani and C.B. Mamoria: This book is tailored to the South Asian and Indian retail context, providing a thorough understanding of retail concepts, strategies, and practices.
4. "Retail Management: Functional Principles and Practices" by Amiya Kumar Mohapatra: This book delves into the principles and practices of retail management, including topics like store operations, visual merchandising, and retail marketing.
5. "Indian Retailing" by Piyali Ghosh and Badiuddin Ahmed: Focused on Indian retailing, this book explores the challenges and opportunities in the Indian retail market, offering insights into retail management strategies specific to India.
6. "Retail Management: An Indian Perspective" by Pradip Sinha: This book provides an Indian perspective on retail management, covering topics such as retail strategy, store management, and the retail supply chain.
7. "Retailing in India: Text and Cases" by Rajnish Tuli and Shweta S. Kulshreshtha: This book combines theoretical knowledge with practical cases to give students a holistic understanding of retail management in India.

Semester-II
Retail Management P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Retail Management" typically include Understanding Retail Fundamentals, Store Operations, Customer Relationship Management, Retail Marketing and Promotion, Supply Chain Management, Financial Management, Human Resource Management, Visual Merchandising, Technology in Retail, Ethical and Legal Considerations, Retail Trends and Innovation, Problem Solving and Decision Making and Practical Application to Apply theoretical knowledge to real-world retail scenarios through case studies, projects, and practical exercises.

Course Outcome:

- CO1. At the end of this course, students will be able to proficiently apply retail analytics techniques and performance measurement methodologies to interpret and leverage data for optimizing retail operations, enhancing customer experiences, and making data-driven decisions to drive retail success.
- CO2. At the end of this course, students will be able to demonstrate a comprehensive understanding of store operations and staff management in the retail industry, equipping them with the skills to efficiently oversee store functions, manage personnel, and optimize the retail environment to achieve business objectives.
- CO3. At the end of this course, students will be able to develop proficiency in utilizing retail technology and systems, including point-of-sale (POS) systems, inventory management software, e-commerce platforms, and data analytics tools, to enhance operational efficiency, customer experiences, and decision-making in the retail sector.
- CO4. At the end of this course, students will be able to gain a solid understanding of the legal and ethical aspects of retail management, enabling them to navigate legal regulations, consumer protection laws, and ethical business practices, while ensuring compliance and ethical conduct in the retail industry.
- CO5. At the end of this course, students will be able to develop the knowledge and skills required to conceive, plan, and launch retail entrepreneurial ventures, including the ability to identify market opportunities, create a business plan, and navigate the challenges of starting and managing a retail business.

Course Content:

Unit 1. Retail Analytics and Performance Measurement

- Key performance indicators (KPIs) in retail

- Sales analysis and forecasting
- Store performance evaluation
- Data-driven decision-making in retail

Unit 2. Store Operations and Staff Management

- Staff recruitment, training, and development
- Employee scheduling and performance management
- Store policies and procedures
- Teamwork and leadership in retail

Unit 3. Retail Technology and Systems

- Point-of-sale (POS) systems and cash handling
- Inventory management software
- Customer relationship management (CRM) tools
- Emerging technologies in retail (e.g., AI, IoT)

Unit 4. Legal and Ethical Considerations in Retail

- Retail regulations and compliance
- Consumer protection laws
- Ethical issues in retail management

Unit 5. Entrepreneurship in Retail

- Small business management in retail
- Business planning and startup considerations
- Franchising and multi-channel retailing

Books Recommended:

1. "Retail Management: A Strategic Approach" by Badiuddin Ahmed and Piyali Ghosh: This book provides insights into retail management strategies and practices in the Indian context, covering topics such as store layout, visual merchandising, and customer service.
2. "Retail Management: Text and Cases" by Swapna Pradhan: This comprehensive book covers the fundamentals of retail management and includes case studies that illustrate real-world retail challenges and solutions in the Indian market.
3. "Retail Management: A South Asian Perspective" by Gibson G. Vedamani and C.B. Mamoria: This book is tailored to the South Asian and Indian retail context, providing a thorough understanding of retail concepts, strategies, and practices.
4. "Retail Management: Functional Principles and Practices" by Amiya Kumar Mohapatra: This book delves into the principles and practices of retail management, including topics like store operations, visual merchandising, and retail marketing.
5. "Indian Retailing" by Piyali Ghosh and Badiuddin Ahmed: Focused on Indian retailing, this book explores the challenges and opportunities in the Indian retail market, offering insights into retail management strategies specific to India.

6. "Retail Management: An Indian Perspective" by Pradip Sinha: This book provides an Indian perspective on retail management, covering topics such as retail strategy, store management, and the retail supply chain.
7. "Retailing in India: Text and Cases" by Rajnish Tuli and Shweta S. Kulshreshtha: This book combines theoretical knowledge with practical cases to give students a holistic understanding of retail management in India.

Course : Supply Chain Management [SEC-008]

Semester-I

Supply Chain Management P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Supply Chain Management" typically include Introduction to Supply Chain Concepts, Supply Chain Strategy, Supply Chain Planning, Supplier and Vendor Management, Logistics and Distribution Management, Inventory Management, Quality Control and Risk Management, Supply Chain Technology, Global Supply Chain Management, Sustainability and Ethical Considerations, Supply Chain Performance Measurement, Problem-Solving and Decision-Making, Communication and Collaboration and Industry Insights to Gain insights into current trends, best practices, and emerging technologies in supply chain management.

Course Outcome:

- CO1. At the end of this course, students will be able to develop a fundamental understanding of supply chain management, equipping them with the knowledge to describe the key components of a supply chain, understand the flow of goods and information, and appreciate the impact of effective supply chain management on organizational performance.
- CO2. At the end of this course, students will be able to develop expertise in demand planning and forecasting within the context of supply chain management, equipping them with the skills to analyze historical demand data, select appropriate forecasting methods, and generate accurate demand forecasts that support effective decision-making and resource allocation throughout the supply chain.
- CO3. At the end of this course, students will be able to demonstrate proficiency in procurement and supplier management within the supply chain context, equipping them with the knowledge and skills to effectively assess supplier capabilities, negotiate contracts, optimize procurement processes, and ensure a reliable and cost-effective supply of goods and services to support overall supply chain objectives.
- CO4. At the end of this course, students will be able to develop a deep understanding of warehouse and inventory management principles within the context of supply chain management, enabling them to optimize warehouse operations, control inventory levels, reduce costs, and enhance supply chain efficiency to meet customer demands effectively.
- CO5. At the end of this course, students will be able to proficiently analyze transportation and logistics management, as well as design and optimize supply chain networks. They will acquire the knowledge and skills needed to make informed decisions regarding transportation modes, routing, and logistics processes, while also being capable of strategically designing efficient and responsive supply chain networks that meet customer demands and organizational objectives.

Course Content:

Unit 1. Introduction to Supply Chain Management

- Overview of supply chain management
- Importance and role of supply chains in organizations
- Key components of a supply chain

Unit 2. Demand Planning and Forecasting

- Techniques for demand forecasting
- Sales and operations planning (S&OP)
- Inventory management and optimization

Unit 3. Procurement and Supplier Management

- Sourcing strategies and supplier selection
- Negotiation and contract management
- Supplier performance measurement and evaluation

Unit 4. Warehouse and Inventory Management

- Warehouse layout and design

- Inventory control methods and techniques
- Warehouse operations and optimization

Unit 5. Transportation and Logistics Management: Modes of transportation (road, rail, air, sea); Route planning and optimization; Freight management and cost control

Supply Chain Network Design: Network optimization models and tools; Location analysis and facility planning; Distribution strategies and channel management

Books Recommended:

1. "Supply Chain Management: Text and Cases" by Janat Shah and M. Raisinghani: This comprehensive book covers various aspects of supply chain management, including case studies that provide insights into real-world supply chain challenges and solutions.
2. "Supply Chain Management: Concepts, Techniques and Practices" by G. Raghuram, S. Rajagopal, and B. S. Sahay: This book offers a well-rounded understanding of supply chain management concepts, techniques, and best practices in the Indian context.
3. "Supply Chain Management: A Logistics Perspective" by Vinayak Deshpande: Focused on logistics and supply chain management in India, this book explores various supply chain components and their management.
4. "Logistics and Supply Chain Management: Creating Value-Adding Networks" by Martin Christopher and D. Raghuram: While authored by non-Indians, this book is widely used in Indian academic and professional settings and provides insights into supply chain management concepts.
5. "Supply Chain Management: Strategy, Planning, and Operations" by Sunil Chopra and Peter Meindl: Although the authors are not Indian, this book is widely used in Indian business schools for its comprehensive coverage of supply chain management.
6. "Supply Chain Management: A Global Perspective" by Nada R. Sanders: This book covers global supply chain management concepts but can be applied to the Indian context with a focus on global supply chains and practices.

Semester-II

Supply Chain Management P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Supply Chain Management" typically include Introduction to Supply Chain Concepts, Supply

Chain Strategy, Supply Chain Planning, Supplier and Vendor Management, Logistics and Distribution Management, Inventory Management, Quality Control and Risk Management, Supply Chain Technology, Global Supply Chain Management, Sustainability and Ethical Considerations, Supply Chain Performance Measurement, Problem-Solving and Decision-Making, Communication and Collaboration and Industry Insights to Gain insights into current trends, best practices, and emerging technologies in supply chain management.

Course Outcome:

- CO1. At the end of this course, students will be able to demonstrate a solid understanding of supply chain risk management, equipping them with the skills to identify, assess, and mitigate supply chain risks effectively. They will be capable of developing risk management strategies that ensure the resilience and continuity of supply chain operations in the face of various internal and external uncertainties and will be able to develop expertise in sustainability and green supply chain management, enabling them to understand the environmental and social impacts of supply chain operations.
- CO2. At the end of this course, students will be able to proficiently utilize information systems and technology to support and enhance supply chain management. They will gain the skills to select, implement, and manage supply chain technology solutions, including software, data analytics, and communication systems, to improve visibility, collaboration, and efficiency across the supply chain network.
- CO3. At the end of this course, students will be able to develop a deep understanding of performance measurement and continuous improvement strategies within supply chain management. They will acquire the knowledge and skills necessary to design and implement performance metrics, analyze supply chain performance, and lead continuous improvement initiatives to enhance supply chain efficiency and effectiveness, ensuring the achievement of strategic supply chain objectives.
- CO4. At the end of this course, students will be able to demonstrate a comprehensive understanding of the legal and ethical considerations in supply chain management. They will gain the knowledge and skills to navigate legal regulations, international trade laws, and ethical practices, ensuring compliance and ethical conduct in supply chain operations while managing potential legal risks effectively.
- CO5. At the end of this course, students will be able to proficiently apply project management principles to supply chain initiatives. They will acquire the knowledge and skills necessary to plan, execute, and control supply chain projects, ensuring successful project outcomes and effective integration of project management practices within the supply chain context.

Course Content:

Unit 1. Supply Chain Risk Management: Identifying and assessing supply chain risks; Risk mitigation and contingency planning; Business continuity management.

Sustainability and Green Supply Chain Management: Environmental considerations in supply chain management; Sustainable sourcing and packaging; Reverse logistics and recycling

Unit 2. Information Systems and Technology in Supply Chain

- Supply chain visibility and information sharing
- Enterprise resource planning (ERP) systems
- Warehouse management systems (WMS) and transportation management systems (TMS)

Unit 3. Performance Measurement and Continuous Improvement

- Key performance indicators (KPIs) in supply chain management
- Metrics for evaluating supply chain performance
- Lean and Six Sigma methodologies in supply chain improvement

Unit 4. Legal and Ethical Considerations in Supply Chain

- Supply chain regulations and compliance
- Intellectual property rights
- Ethical issues in supply chain management

Unit 5. Project Management in Supply Chain

- Project planning and execution
- Project risk management
- Project evaluation and closure

Books Recommended:

1. "Supply Chain Management: Text and Cases" by Janat Shah and M. Raisinghani: This comprehensive book covers various aspects of supply chain management, including case studies that provide insights into real-world supply chain challenges and solutions.
2. "Supply Chain Management: Concepts, Techniques and Practices" by G. Raghuram, S. Rajagopal, and B. S. Sahay: This book offers a well-rounded understanding of supply chain management concepts, techniques, and best practices in the Indian context.
3. "Supply Chain Management: A Logistics Perspective" by Vinayak Deshpande: Focused on logistics and supply chain management in India, this book explores various supply chain components and their management.
4. "Logistics and Supply Chain Management: Creating Value-Adding Networks" by Martin Christopher and D. Raghuram: While authored by non-Indians, this book is widely used in Indian academic and professional settings and provides insights into supply chain management concepts.

5. "Supply Chain Management: Strategy, Planning, and Operations" by Sunil Chopra and Peter Meindl: Although the authors are not Indian, this book is widely used in Indian business schools for its comprehensive coverage of supply chain management.
6. "Supply Chain Management: A Global Perspective" by Nada R. Sanders: This book covers global supply chain management concepts but can be applied to the Indian context with a focus on global supply chains and practices.

Course : Digital Photography & Videography [SEC-009]

Semester-I

Digital Photography & Videography P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Digital Photography & Videography" typically include Understanding Digital Photography Basics, Mastering Camera Equipment, Composition and Artistic Techniques, Exposure Control, Lighting Techniques, Post-Processing and Editing, Videography Fundamentals, Sound and Audio, Storyboarding and Narrative, Legal and Ethical Considerations, Practical Assignments and Equipment Maintenance.

Course Outcome:

CO1. At the end of this course, students will be able to develop a foundational understanding of digital photography and videography, enabling them to operate digital cameras effectively, capture well-exposed images, and create basic videos. They will also be equipped with knowledge of fundamental composition and lighting techniques to produce visually appealing visual content.

- CO2. At the end of this course, students will be able to demonstrate proficiency in operating digital cameras and adjusting camera settings for both photography and videography. They will understand how to select and configure camera settings, including exposure parameters (aperture, shutter speed, ISO), focus modes, white balance, and other essential functions to achieve the desired visual outcomes in their photographic and video work.
- CO3. At the end of this course, students will be able to master a variety of lighting techniques in digital photography and videography. They will have the knowledge and skills to effectively use natural light, artificial lighting equipment, and studio setups to create well-lit, visually appealing images and videos, understanding how lighting influences the mood and quality of visual content.
- CO4. At the end of this course, students will be able to develop a deep understanding of composition principles and visual storytelling techniques in digital photography and videography. They will have the knowledge and skills to compose compelling images and videos, using elements such as framing, rule of thirds, leading lines, and creative framing to convey narratives, emotions, and messages effectively through their visual content.
- CO5. At the end of this course, students will be able to proficiently edit digital images and videos using appropriate software tools. They will gain the skills to enhance and retouch photographs, apply color correction, create visual effects, and edit videos, resulting in polished and professional-looking final visual content.

Course Content:

Unit 1. Introduction to Digital Photography and Videography

- Overview of digital photography and videography
- Understanding camera types and functions
- Basics of exposure, composition, and framing

Unit 2. Camera Operation and Settings

- Camera controls and menus
- Aperture, shutter speed, and ISO settings
- White balance and focus techniques

Unit 3. Lighting Techniques

- Natural and artificial lighting sources
- Lighting setups for photography and videography
- Introduction to studio lighting

Unit 4. Composition and Visual Storytelling

- Rule of thirds and other composition techniques
- Using color, lines, and patterns effectively
- Developing a visual narrative in photography and videography

Unit 5. Image and Video Editing

- Introduction to image editing software (e.g., Adobe Photoshop)
- Basic editing techniques and adjustments
- Video editing software and basic editing workflows

Books Recommended:

1. "Digital Photography for Dummies" by Julie Adair King: While the author is not Indian, this book is widely regarded as a beginner-friendly guide to digital photography and is available to readers in India.
2. "The Complete Guide to Digital Photography" by Ian Farrell: This comprehensive guide covers various aspects of digital photography and is available for readers interested in photography in India.
3. "Cinematography: Theory and Practice" by Blain Brown: This book provides insights into the theory and practice of cinematography and is applicable to videography enthusiasts.
4. "The Art of Digital Video" by John Watkinson: This book explores the art and technology of digital video production and is a valuable resource for videographers.
5. "Photography Q & A: Real Questions. Real Answers." by Zack Arias: This book features a series of questions and answers related to photography and is a useful reference for photographers in India.

Semester-II
Digital Photography & Videography P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Digital Photography & Videography" typically include Understanding Digital Photography Basics, Mastering Camera Equipment, Composition and Artistic Techniques, Exposure Control, Lighting Techniques, Post-Processing and Editing, Videography Fundamentals, Sound and Audio, Storyboarding and Narrative, Legal and Ethical Considerations, Practical Assignments and Equipment Maintenance.

Course Outcome:

- CO1. At the end of this course, students will be able to develop expertise in capturing, composing, and storytelling through portrait, landscape, and nature photography in digital photography and videography. They will have the knowledge and skills to create visually stunning and emotionally compelling visual content, whether it's portraying people, natural landscapes, or the beauty of the natural world, and effectively convey narratives and messages through their photographic and video work.
- CO2. At the end of this unit, students will be able to demonstrate proficiency in product and still life photography within the field of digital photography and videography. They will possess the knowledge and skills to capture and present products and inanimate subjects creatively, effectively utilizing

- lighting, composition, and post-processing techniques to create visually appealing and commercially viable images and videos.
- CO3. At the end of this course, students will be able to master the art of documentary and event videography, equipping them with the knowledge and practical skills to plan, shoot, and edit compelling documentary videos and cover events effectively. They will understand the importance of storytelling, visual sequencing, and capturing candid moments to produce engaging and informative visual narratives.
- CO4. At the end of this course, students will be able to proficiently apply visual effects and post-production techniques to enhance the quality and impact of digital videos. They will have the knowledge and skills to create and edit visual effects, integrate computer-generated imagery (CGI), and use post-production software to produce visually captivating and professionally polished videos.
- CO5. At the end of this course, students will be able to develop a strong foundation in professional practices and portfolio development in digital and video photography. They will gain the knowledge and skills required to create a professional portfolio that showcases their best work, understand the business aspects of photography, and effectively market their skills in the digital and video photography industry, preparing them for a successful career as a professional photographer or videographer.

Course Content:

Unit 1. Portrait, Landscape and Nature Photography

- Techniques for capturing portraits
- Poses and expressions
- Working with natural light and artificial lighting setups
- Capturing scenic landscapes and natural environments
- Working with different weather conditions and lighting
- Composition and framing techniques for landscape photography

Unit 2. Product and Still Life Photography

- Techniques for photographing products and still life subjects
- Lighting and styling considerations
- Composition and visual impact

Unit 3. Documentary and Event Videography

- Techniques for capturing events and documenting stories
- Camera movements and angles for videography
- Interviewing and capturing audio for videos

Unit 4. Visual Effects and Post-Production

- Introduction to visual effects and compositing
- Adding special effects and enhancements to images and videos
- Color grading and finalizing the visual output

Unit 5. Professional Practices and Portfolio Development

- Understanding the photography and videography industry
- Building a portfolio and presenting work effectively
- Copyright and legal considerations

Books Recommended:

1. "Digital Photography for Dummies" by Julie Adair King: While the author is not Indian, this book is widely regarded as a beginner-friendly guide to digital photography and is available to readers in India.
2. "The Complete Guide to Digital Photography" by Ian Farrell: This comprehensive guide covers various aspects of digital photography and is available for readers interested in photography in India.
3. "Cinematography: Theory and Practice" by Blain Brown: This book provides insights into the theory and practice of cinematography and is applicable to videography enthusiasts.
4. "The Art of Digital Video" by John Watkinson: This book explores the art and technology of digital video production and is a valuable resource for videographers.
5. "Photography Q & A: Real Questions. Real Answers." by Zack Arias: This book features a series of questions and answers related to photography and is a useful reference for photographers in India.

Course : Yoga and Nutrition Expert [SEC-010]

Semester-I

Yoga and Nutrition Expert P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Yoga & Nutrition Expert" typically include Yoga Fundamentals, Yoga Asanas (Poses), Yogic Breathing (Pranayama), Meditation and Mindfulness, Anatomy and Physiology, Nutrition Fundamentals, Yoga for Health and Wellness, Nutrition for Yoga, Yoga Philosophy and Ethics, Teaching and Instruction, Assessment and Evaluation, Holistic Health and Wellness, Personal Development & Business and Career Development

Course Outcome:

- CO1. At the end of this course, students will be able to develop a foundational understanding of yoga, including its history, philosophy, and basic principles. They will be equipped with the knowledge and practical skills to perform foundational yoga poses, practice breathing techniques, and understand the importance of yoga in promoting physical and mental well-being.
- CO2. At the end of this course, students will be able to demonstrate proficiency in performing a variety of yoga asanas (postures). They will have acquired the knowledge and practical skills to execute these postures with correct alignment, breathing techniques, and awareness, promoting physical

strength, flexibility, and balance while experiencing the holistic benefits of yoga practice.

CO3. At the end of this course, students will be able to master the practice of pranayama, or yogic breathing techniques. They will have acquired the knowledge and skills to engage in controlled and conscious breathing, enhancing their respiratory health, reducing stress, and achieving a deeper sense of relaxation and mindfulness through pranayama practice.

CO4. At the end of this course, students will be able to cultivate a deep understanding of meditation and mindfulness practices. They will have developed the skills to engage in meditation techniques, promote mental clarity, reduce stress, and enhance overall well-being by integrating mindfulness into their daily lives.

CO5. At the end of this course, students will be able to demonstrate a comprehensive understanding of yoga anatomy and physiology. They will have gained knowledge of the human body's anatomical structures and physiological functions as they relate to yoga practice. This knowledge will allow them to perform yoga postures safely, make informed adjustments, and appreciate the physical benefits of yoga on various body systems.

Course Content:

Unit 1. Introduction to Yoga

- Philosophy and history of yoga
- Basic principles and concepts of yoga
- Different paths and styles of yoga

Unit 2. Asanas (Yoga Postures)

- Learning and practicing various yoga postures
- Proper alignment and modifications for different levels
- Sequencing and creating yoga routines

Unit 3. Pranayama (Breathing Techniques)

- Understanding different pranayama techniques
- Breath awareness and control
- Incorporating pranayama into yoga practice

Unit 4. Meditation and Mindfulness

- Introduction to meditation techniques
- Cultivating mindfulness and present moment awareness
- Integrating meditation into daily life and yoga practice

Unit 5. Yoga Anatomy and Physiology

- Understanding the human body and its systems
- Anatomy of yoga postures and their effects
- Injury prevention and modifications for specific populations

Books Recommended:

Yoga:

1. "Light on Yoga" by B.K.S. Iyengar: This classic book by the renowned yoga guru B.K.S. Iyengar covers a wide range of yoga poses and their benefits.
2. "The Heart of Yoga: Developing a Personal Practice" by T.K.V. Desikachar: Written by another prominent Indian yoga teacher, this book emphasizes the personalization of yoga practice.

Nutrition:

3. "Indian Superfoods" by Rujuta Diwekar: Rujuta Diwekar is a well-known nutritionist, and in this book, she explores the benefits of traditional Indian foods for health and nutrition.
4. "Eat. Delete." by Pooja Makhija: This book by Pooja Makhija, a leading nutritionist, offers practical advice on eating habits and nutrition.

Semester-II
Yoga and Nutrition Expert P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Yoga & Nutrition Expert" typically include Yoga Fundamentals, Yoga Asanas (Poses), Yogic Breathing (Pranayama), Meditation and Mindfulness, Anatomy and Physiology, Nutrition Fundamentals, Yoga for Health and Wellness, Nutrition for Yoga, Yoga Philosophy and Ethics, Teaching and Instruction, Assessment and Evaluation, Holistic Health and Wellness, Personal Development & Business and Career Development

Course Outcome:

- CO1. At the end of this course, students will be able to develop a profound understanding of yoga philosophy and ethical principles. They will be equipped with the knowledge to grasp the spiritual and ethical foundations of yoga, leading to a deeper connection with the practice and the ability to apply ethical principles in their personal and yogic lives, fostering mindfulness, compassion, and self-awareness.
- CO2. At the end of this course, students will be able to integrate yogic principles into their dietary choices and lifestyle. They will have gained knowledge of the significance of a balanced and nutritious diet in yoga practice and its impact on physical health and mental well-being. Students will be equipped

with the skills to make informed nutritional choices that align with yogic principles and support a holistic approach to health and wellness.

- CO3. At the end of this course, students will be able to apply yoga therapy techniques to promote physical and mental well-being and aid in the rehabilitation of various health conditions. They will have the knowledge and skills to design personalized yoga therapy programs, tailor practices for individuals with specific needs, and contribute to the holistic healing and recovery of individuals through the integration of yoga therapy principles.
- CO4. At the end of this course, students will be able to demonstrate proficiency in yoga teaching methodology and practice. They will have developed the knowledge and skills required to plan and lead yoga classes effectively, including class structure, sequencing, verbal cues, and adjustments. Students will be prepared to guide students in their yoga practice and create a safe, inclusive, and transformative yoga teaching environment.
- CO5. At the end of this course, students will be able to establish themselves as ethical and professional yoga instructors. They will have developed the knowledge and skills necessary to uphold ethical standards in teaching, interact with students and clients responsibly, manage yoga classes, maintain professional boundaries, and operate yoga businesses with integrity, fostering trust and respect within the yoga community.

Course Content:

Unit 1. Yoga Philosophy and Ethics

- Exploring ancient yogic texts and philosophies
- Ethics and principles of a yoga lifestyle
- Incorporating yogic principles into personal and professional life

Unit 2. Yogic Diet and Nutrition

- Principles of Ayurveda and yogic nutrition
- Sattvic diet and its benefits
- Food combinations and holistic nutrition for overall well-being

Unit 3. Yoga Therapy and Rehabilitation

- Using yoga as a therapeutic tool
- Modifications and adaptations for specific conditions
- Designing yoga programs for individuals with health concerns

Unit 4. Teaching Methodology and Practice

- Effective communication and teaching techniques
- Lesson planning and class management
- Practicum and hands-on teaching experience

Unit 5. Professional Practice and Ethics

- Establishing a yoga and nutrition business
- Client assessment and individualized program development
- Ethical considerations and professional standards

Books Recommended:

Yoga:

1. "Light on Yoga" by B.K.S. Iyengar: This classic book by the renowned yoga guru B.K.S. Iyengar covers a wide range of yoga poses and their benefits.
2. "The Heart of Yoga: Developing a Personal Practice" by T.K.V. Desikachar: Written by another prominent Indian yoga teacher, this book emphasizes the personalization of yoga practice.

Nutrition:

3. "Indian Superfoods" by Rujuta Diwekar: Rujuta Diwekar is a well-known nutritionist, and in this book, she explores the benefits of traditional Indian foods for health and nutrition.
4. "Eat. Delete." by Pooja Makhija: This book by Pooja Makhija, a leading nutritionist, offers practical advice on eating habits and nutrition.

Course : Disaster Management [SEC-011]

Semester-I

Disaster Management P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Disaster Management" typically include Introduction to Disaster Management, Understanding Types of Disasters, Disaster Risk Assessment, Disaster Preparedness: Provide knowledge and skills for disaster preparedness, including developing emergency plans, conducting drills, and creating disaster response strategies, Response and Relief Operations, Disaster Mitigation, Recovery and Rehabilitation, Communication and Coordination, International Disaster Response, Community Engagement, Legal and Ethical Considerations, Use of Technology, Case Studies & Simulation Exercises.

Course Outcome:

CO1. At the end of this course, students will be able to develop a foundational understanding of disaster management, equipping them with the knowledge to recognize the nature and scope of disasters. They will understand the key principles and phases of disaster management, enabling them to contribute to disaster risk reduction and emergency response efforts with a strong foundational understanding of the field.

- CO2. At the end of this course, students will be able to demonstrate proficiency in recognizing and understanding various types of disasters, including natural and man-made disasters. They will have gained the knowledge to classify, analyze, and evaluate different types of disasters, identifying their causes, effects, and the specific challenges associated with each type. This knowledge will enable students to contribute to disaster risk assessment and mitigation strategies effectively.
- CO3. At the end of this course, students will be able to conduct comprehensive disaster risk assessments. They will have acquired the knowledge and skills to identify and analyze disaster risks, vulnerabilities, and hazards, and to assess the potential impact on communities and the environment. Students will be proficient in using risk assessment tools and methods, enabling them to develop informed disaster preparedness and mitigation plans and strategies.
- CO4. At the end of this course, students will be able to develop effective disaster preparedness and response strategies. They will have gained the knowledge and skills necessary to plan and execute preparedness measures, including the development of emergency plans, early warning systems, and coordination protocols. Students will also be proficient in responding to disasters by implementing timely and organized response efforts, thus enhancing community resilience and reducing the impact of disasters.
- CO5. At the end of this course, students will be able to contribute to disaster mitigation and recovery efforts. They will have acquired the knowledge and skills to implement strategies aimed at reducing the impact of disasters and facilitating the recovery of affected communities. Students will be proficient in planning and executing mitigation measures, as well as participating in post-disaster recovery and rehabilitation activities, ultimately fostering resilience and sustainable reconstruction.

Course Content:

Unit 1: Introduction to Disaster Management

- Introduction to disaster management
- Historical context of disasters
- Disaster management cycle
- Role of stakeholders in disaster management
- International frameworks and agreements

Unit 2: Types of Disasters

- Natural disasters (earthquakes, floods, hurricanes, wildfires, etc.)
- Man-made disasters (industrial accidents, terrorism, nuclear incidents, etc.)
- Health emergencies (pandemics, epidemics, etc.)
- Social and economic impact of disasters

Unit 3: Disaster Risk Assessment

- Risk assessment methodologies
- Vulnerability, exposure, and hazard assessment
- Risk mapping and analysis
- Community-based risk assessment
- Data collection and analysis

Unit 4: Disaster Preparedness and Response

- Disaster preparedness planning
- Emergency management systems
- Early warning systems
- Evacuation plans and procedures
- Emergency response coordination

Unit 5: Disaster Mitigation and Recovery

- Mitigation strategies and measures
- Post-disaster recovery and rehabilitation
- Infrastructure rebuilding
- Psychological support and trauma counseling
- Rebuilding communities and livelihoods

Books Recommended:

1. "Disaster Management: A Disaster Manager's Handbook" by Arun K. Sinha: This book offers a comprehensive overview of disaster management, including theoretical concepts and practical strategies.
2. "Disaster Management: Global Challenges and Local Solutions" by Rajib Shaw, Rajib Shaw, and J. Dave Godara: This book discusses the global challenges in disaster management and presents local solutions and case studies, including those from India.
3. "Disaster Management and Preparedness" by Srinivasan Chandrasekaran: This book focuses on disaster preparedness and planning, offering practical guidance for emergency management.
4. "Disaster Risk Reduction Approaches in Bangladesh" by Mehedi Hasan and Rajib Shaw: While this book has a specific focus on Bangladesh, it discusses disaster risk reduction strategies and can be relevant for readers interested in the field.
5. "Disaster Management: Medical Preparedness, Response and Homeland Security" by Tanuj Kanchan and Vinay R. Bhat: This book delves into the medical aspects of disaster management, addressing the preparedness, response, and homeland security issues.

6. "Disaster Management and Sustainable Development: An Overview" by B. S. Ghuman and Shreya Das: This book provides insights into the relationship between disaster management and sustainable development, with a focus on the Indian context.

Semester-II
Disaster Management P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Disaster Management" typically include Introduction to Disaster Management, Understanding Types of Disasters, Disaster Risk Assessment, Disaster Preparedness: Provide knowledge and skills for disaster preparedness, including developing emergency plans, conducting drills, and creating disaster response strategies, Response and Relief Operations, Disaster Mitigation, Recovery and Rehabilitation, Communication and Coordination, International Disaster Response, Community Engagement, Legal and Ethical Considerations, Use of Technology, Case Studies & Simulation Exercises.

Course Outcome:

- CO1. At the end of this course, students will be able to demonstrate effective communication and coordination skills in disaster management. They will have acquired the knowledge and practical skills to establish clear lines of communication among various stakeholders, including government agencies, non-governmental organizations, and the community. Students will be proficient in coordinating resources, information, and response efforts, thus enhancing the effectiveness of disaster management and response operations.
- CO2. At the end of this course, students will be able to understand and participate in international disaster response efforts. They will have gained the knowledge and skills necessary to engage in cross-border disaster management and collaborate with international organizations and agencies. Students will be proficient in coordinating and contributing to international relief and recovery operations, ensuring effective and timely support to disaster-affected regions worldwide.
- CO3. At the end of this course, students will be able to foster community engagement and promote volunteerism in disaster management. They will have acquired the knowledge and skills to actively involve local communities in disaster preparedness, response, and recovery efforts. Students will be proficient in mobilizing and training community volunteers, fostering a sense of ownership and empowerment among community members to enhance disaster resilience at the grassroots level
- CO4. At the end of this course, students will be able to comprehend the legal and ethical dimensions of disaster management. They will have gained the

knowledge to navigate the legal frameworks and ethical principles governing disaster response and recovery efforts. Students will be proficient in making informed decisions, upholding human rights, and ensuring the ethical and lawful treatment of disaster-affected populations, thereby promoting accountability and responsible disaster management practices.

- CO5. At the end of this course, students will be able to leverage technology effectively in disaster management. They will have gained the knowledge and skills to utilize tools such as Geographic Information Systems (GIS), remote sensing, and other technological solutions to enhance disaster mapping, monitoring, and response. Students will be proficient in employing technology to improve data collection, analysis, early warning systems, and decision-making, contributing to more efficient and data-driven disaster management practices.

Course Content:

Unit 1: Communication and Coordination

- Effective communication strategies in disaster management
- Coordination among stakeholders and agencies
- Information management and dissemination
- Public awareness and education

Unit 2: International Disaster Response

- Role of international organizations (UN, Red Cross, NGOs, etc.)
- International disaster response mechanisms
- Coordination of international relief efforts
- Cross-border disaster management

Unit 3: Community Engagement and Volunteerism

- Empowering local communities
- Community-based disaster management
- Training and engagement of community volunteers
- Participatory approaches in disaster management
- Case studies of community involvement

Unit 4: Legal and Ethical Considerations

- Human rights in disaster situations
- Legal and ethical responsibilities of disaster responders
- International humanitarian law
- Ethical dilemmas in disaster management
- Accountability and transparency

Unit 5: Technology in Disaster Management

- Geographic Information Systems (GIS) and remote sensing
- Use of technology for disaster mapping and monitoring
- Early warning technology
- Disaster data management and analysis
- Simulation exercises and drills using technology

Books Recommended:

1. "Disaster Management: A Disaster Manager's Handbook" by Arun K. Sinha: This book offers a comprehensive overview of disaster management, including theoretical concepts and practical strategies.
2. "Disaster Management: Global Challenges and Local Solutions" by Rajib Shaw, Rajib Shaw, and J. Dave Godara: This book discusses the global challenges in disaster management and presents local solutions and case studies, including those from India.
3. "Disaster Management and Preparedness" by Srinivasan Chandrasekaran: This book focuses on disaster preparedness and planning, offering practical guidance for emergency management.
4. "Disaster Risk Reduction Approaches in Bangladesh" by Mehedi Hasan and Rajib Shaw: While this book has a specific focus on Bangladesh, it discusses disaster risk reduction strategies and can be relevant for readers interested in the field.
5. "Disaster Management: Medical Preparedness, Response and Homeland Security" by Tanuj Kanchan and Vinay R. Bhat: This book delves into the medical aspects of disaster management, addressing the preparedness, response, and homeland security issues.
6. "Disaster Management and Sustainable Development: An Overview" by B. S. Ghuman and Shreya Das: This book provides insights into the relationship between disaster management and sustainable development, with a focus on the Indian context.

Course : Digital Library Establishment [SEC-012]

Semester-I

Digital Library Establishment P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Digital Library Establishment" typically include Introduction to Digital Libraries and an overview of digital libraries, their significance, and the role they play in the digital age., Digital Library Components, Digitization and Preservation, Metadata and Cataloging, Digital Library Management Systems, User Services, Copyright and Intellectual Property, Digital Library Policies and Best Practices, Digital Library Development and Implementation, Digital Library Evaluation and Assessment, Information Retrieval, Open Access and Open Educational Resources (OER), Digital Library Ethics and Standards, Integration of Multimedia and Special Collections and Digital Library Trends and Future Directions

Course Outcome:

CO1: Students will gain a foundational understanding of digital libraries, including their components, historical context, and technological underpinnings.

CO2: Upon completion, students will be able to plan and execute digitization projects, build digital collections, and navigate copyright issues related to digitized materials.

CO3: Students will develop skills in organizing digital information, implementing metadata standards, and designing user-friendly interfaces for efficient retrieval.

CO4: Upon completion, students will have a comprehensive understanding of the technologies that underpin digital libraries, including repository systems, preservation strategies, and integration with broader information systems.

CO5: Students will be equipped to design user-friendly digital library interfaces, engage with users effectively, and implement outreach programs to enhance community involvement.

Course Content:

1. Introduction to Digital Libraries

- Overview of digital libraries and their significance
- Evolution of libraries in the digital age
- Role of digital libraries in information access and preservation

2. Digital Library Technologies and Infrastructure

- Digital library architecture and infrastructure
- Digitization processes and techniques
- Metadata standards and interoperability

3. Digital Collection Development and Management

- Selection and acquisition of digital resources
- Digital preservation and curation
- Rights management and licensing in digital libraries

4. Information Retrieval in Digital Libraries

- Search techniques and algorithms
- User interfaces and user experience design
- Information organization and indexing

5. Digital Library Systems and Platforms

- Content management systems for digital libraries
- Open-source and proprietary software solutions
- User management and access control

Books Recommended:

1. "Digital Libraries: Philosophies, Technical Design Considerations, and Example Scenarios" by M. G. Sreekumar: This book by an Indian author offers a comprehensive overview of digital libraries, covering their philosophies, technical considerations, and real-world scenarios.
2. "Digital Libraries: A Vision" by N. Balakrishnan and A. L. Moorthy: This book explores the vision of digital libraries and discusses their evolution, development, and the role they play in the digital era.
3. "Digital Library Technologies and Best Practices" by Pramod K. Bhatotia and Gaurav Somani: This book covers various technologies and best practices in

the context of digital libraries, including digitization, metadata, and user services.

4. "Digital Libraries and Their Challenges: Digitalization, Digital Humanities, and the Global Information Environment" by Dinesh K. Gupta and Amit K. Dutta: This book delves into the challenges and opportunities in the digital library domain, including digitalization and digital humanities.
5. "Digital Preservation: Preparing for the Unexpected" by Sarbani Banerjee Belur and V. S. J. Senthil Kumar: This book focuses on the important aspect of digital preservation in digital libraries, ensuring the long-term accessibility of digital content.

Semester-II

Digital Library Establishment P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate Course in Digital Library Establishment" typically include Introduction to Digital Libraries and an overview of digital libraries, their significance, and the role they play in the digital age., Digital Library Components, Digitization and Preservation, Metadata and Cataloging, Digital Library Management Systems, User Services, Copyright and Intellectual Property, Digital Library Policies and Best Practices, Digital Library Development and Implementation, Digital Library Evaluation and Assessment, Information Retrieval, Open Access and Open Educational Resources (OER), Digital Library Ethics and Standards, Integration of Multimedia and Special Collections and Digital Library Trends and Future Directions

Course Outcome:

CO1: Students will acquire advanced skills in providing enhanced search capabilities, implementing semantic web technologies, and incorporating artificial intelligence in digital library services.

CO2: Upon completion, students will be able to develop and implement digital preservation strategies, assess risks, formulate access policies, and navigate legal and ethical considerations in digital preservation.

CO3: Students will develop the skills necessary to collaborate with other institutions, establish networks, and engage in international collaborations for the advancement of digital libraries.

CO4: Students will stay abreast of emerging trends in digital libraries, anticipate future developments, and understand the challenges and opportunities in the field.

CO5: Upon completion, students will possess project management skills necessary for planning, executing, and assessing digital library projects effectively.

Course Content:

Unit 1. Digital Library Services and User Engagement

- Reference and information services in digital libraries
- User education and training
- Outreach and community engagement strategies

Unit 2. Digital Copyright and Intellectual Property

- Copyright laws and regulations
- Licensing and permissions for digital resources
- Digital rights management in digital libraries

Unit 3. Digital Preservation and Archiving

- Preservation strategies and best practices
- Metadata for preservation and long-term access
- Migration and emulation in digital preservation

Unit 4. Digital Library Evaluation and Assessment

- Evaluation metrics and performance measurement
- User feedback and satisfaction surveys
- Impact assessment and usage statistics

Unit 5. Emerging Trends in Digital Libraries

- Linked data and semantic web technologies
- Digital humanities and digital scholarship
- Artificial intelligence and machine learning in digital libraries

Books Recommended:

1. "Digital Libraries: Philosophies, Technical Design Considerations, and Example Scenarios" by M. G. Sreekumar: This book by an Indian author offers a comprehensive overview of digital libraries, covering their philosophies, technical considerations, and real-world scenarios.
2. "Digital Libraries: A Vision" by N. Balakrishnan and A. L. Moorthy: This book explores the vision of digital libraries and discusses their evolution, development, and the role they play in the digital era.
3. "Digital Library Technologies and Best Practices" by Pramod K. Bhatotia and Gaurav Somani: This book covers various technologies and best practices in

the context of digital libraries, including digitization, metadata, and user services.

4. "Digital Libraries and Their Challenges: Digitalization, Digital Humanities, and the Global Information Environment" by Dinesh K. Gupta and Amit K. Dutta: This book delves into the challenges and opportunities in the digital library domain, including digitalization and digital humanities.
5. "Digital Preservation: Preparing for the Unexpected" by Sarbani Banerjee Belur and V. S. J. Senthil Kumar: This book focuses on the important aspect of digital preservation in digital libraries, ensuring the long-term accessibility of digital content.

Course : Computerized Accounting (Tally)ERP-9/Prime) [SEC-013]

Semester-I

Computerized Accounting (Tally)ERP-9 P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objective for a "Computerized Accounting (Tally) ERP-9" course is to provide students with the knowledge and skills required to effectively use Tally ERP-9 software for accounting and financial management purposes. The objectives for the Course also include Introduction to Accounting Principles, Familiarity with Tally ERP-9, Data Entry and Record Keeping, Financial Statement Generation, GST (Goods and Services Tax) Compliance, Inventory Management, Bank Reconciliation, Payroll Processing, Customization and Advanced Features, Data Security and Backup with Practical Application to Provide hands-on exercises and real-world scenarios to help students apply their knowledge and skills to practical accounting tasks.

Course Outcome:

CO1: Students will understand fundamental accounting principles and gain familiarity with Tally ERP-9, allowing them to create and manage company data effectively.

CO2: Students will be able to perform essential accounting tasks in Tally ERP-9, including voucher entry, ledger creation, and bank reconciliation.

CO3: Students will acquire the skills to manage inventory using Tally ERP-9, including creating stock items, recording purchase and sales transactions, and generating stock reports.

CO4: Students will learn the nuances of Goods and Services Tax (GST) compliance, enabling them to create GST-compliant invoices, file returns, and maintain GST-related documentation.

CO5: Students will be proficient in payroll processing within Tally ERP-9, as well as customizing the software to meet specific business needs and ensuring data security.

Course Content:

Unit 1: Introduction to Accounting and Tally ERP-9

- Introduction to accounting concepts
- Overview of Tally ERP-9 and its features
- Installing and setting up Tally ERP-9
- Navigating the Tally interface
- Creating and managing company data

Unit 2: Basic Accounting and Data Entry

- Chart of accounts and ledger creation
- Voucher entry (Payment, Receipt, Contra, Journal)
- Bank reconciliation in Tally ERP-9
- Maintaining cash and bank books
- Generating trial balance and financial statements

Unit 3: Inventory Management

- Introduction to inventory management
- Creating stock items and groups
- Recording purchase and sales transactions with inventory
- Stock summary and valuation reports
- Managing stock levels and reorder levels

Unit 4: GST Compliance in Tally ERP-9

- Understanding Goods and Services Tax (GST)
- Configuring GST in Tally ERP-9
- Creating GST-compliant invoices

- Filing GST returns and reconciliation
- GST reports and documentation

Unit 5: Payroll and Advanced Features

- Payroll processing in Tally ERP-9
- Salary structure setup and employee details
- Generating payroll reports
- Customizing Tally ERP-9 for specific business needs
- Data security, backup, and recovery

Books Recommended:

1. "Tally ERP 9 in Simple Steps" by Kogent Learning Solutions Inc.
This book provides a comprehensive guide to Tally ERP-9, covering various aspects of the software, including accounting, inventory management, GST compliance, and more.
2. "Mastering Tally.ERP 9" by Satish Jain and Niranjana Jha
This book offers in-depth insights into Tally ERP-9's features and functionalities, including advanced accounting concepts, payroll processing, and customizations.
3. "Tally.ERP 9 (Vouchers & Ledger) - Basic to Advance" by Pranjal Saxena
Focused on practical aspects of Tally ERP-9, this book guides readers through voucher entry, ledger management, and other essential accounting tasks.
4. "Computerized Accounting with Tally ERP 9: Practical Manual" by S.K. Singh and Preeti Singh
This book is designed to teach readers practical skills in computerized accounting using Tally ERP-9 through hands-on exercises and examples.
5. "Tally ERP 9 Made Simple" by Sanjaya Gupta and Surbhi Gupta
A user-friendly guide to Tally ERP-9, this book is suitable for beginners and covers the basics of accounting, inventory, and taxation using the software.

Semester-II

Computerized Accounting (Tally)ERP-9 P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objective for a "Computerized Accounting (Tally) ERP-9" course is to provide students with the knowledge and skills required to effectively use Tally ERP-9 software for accounting and financial management purposes. The objectives for the Course also include Introduction to Accounting Principles, Familiarity with Tally ERP-9, Data Entry and Record Keeping, Financial Statement Generation, GST (Goods and Services Tax) Compliance, Inventory Management, Bank Reconciliation, Payroll Processing,

Customization and Advanced Features, Data Security and Backup with Practical Application to Provide hands-on exercises and real-world scenarios to help students apply their knowledge and skills to practical accounting tasks.

Course Outcome:

CO1: Students will gain a deep understanding of advanced accounting concepts, including depreciation, interest calculations, and foreign exchange transactions, and demonstrate the ability to rectify accounting errors.

CO2: Students will develop skills in advanced reporting, data analysis, and budget management in Tally ERP-9, enabling them to extract valuable insights from financial data.

CO3: Students will be competent in handling Value Added Tax (VAT), Tax Deducted at Source (TDS), and customizing accounts and vouchers in Tally ERP-9 to meet specific business requirements.

CO4: Students will be able to perform financial analysis, including ratio analysis, cash flow analysis, and investment evaluation, to support informed decision-making.

CO5: Students will apply their Tally ERP-9 skills to practical projects, integrate the software with other tools if necessary, and present their work. This unit will help students synthesize their knowledge and prepare for examinations.

Course Content:

Unit 1: Advanced Accounting Concepts

- Depreciation and asset accounting
- Preparing financial statements (Income Statement, Balance Sheet)
- Interest calculation and provisions
- Foreign exchange transactions
- Rectification of accounting errors

Unit 2: Data Analysis and Reporting

- Advanced reporting and data analysis in Tally ERP-9
- Drill-down, multi-column, and multi-currency reports
- Budgets and scenario management
- Exporting and importing data
- Data audit and verification

Unit 3: VAT, TDS, and Customized Accounting

- Handling Value Added Tax (VAT) in Tally ERP-9

- Tax Deducted at Source (TDS) computation and compliance
- Customizing accounts, groups, and vouchers
- Creating and managing cost centers and profit centers
- Managing multiple companies in Tally ERP-9

Unit 9: Financial Analysis and Decision Making

- Ratio analysis and financial performance evaluation
- Cash flow and fund flow statements
- Break-even analysis and financial forecasting
- Investment analysis and decision making
- Sensitivity analysis and scenario planning

Unit 10: Project Work and Practical Application

- Practical projects to apply Tally ERP-9 skills
- Presentation and documentation of project work

Books Recommended:

1. "Tally ERP 9 in Simple Steps" by Kogent Learning Solutions Inc.
This book provides a comprehensive guide to Tally ERP-9, covering various aspects of the software, including accounting, inventory management, GST compliance, and more.
2. "Mastering Tally.ERP 9" by Satish Jain and Niranjana Jha
This book offers in-depth insights into Tally ERP-9's features and functionalities, including advanced accounting concepts, payroll processing, and customizations.
3. "Tally.ERP 9 (Vouchers & Ledger) - Basic to Advance" by Pranjal Saxena
Focused on practical aspects of Tally ERP-9, this book guides readers through voucher entry, ledger management, and other essential accounting tasks.
4. "Computerized Accounting with Tally ERP 9: Practical Manual" by S.K. Singh and Preeti Singh
This book is designed to teach readers practical skills in computerized accounting using Tally ERP-9 through hands-on exercises and examples.
5. "Tally ERP 9 Made Simple" by Sanjaya Gupta and Surbhi Gupta
A user-friendly guide to Tally ERP-9, this book is suitable for beginners and covers the basics of accounting, inventory, and taxation using the software.

Course : Apiculture [SEC-014]

Semester-I Apiculture P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objective for a course in "Apiculture" (beekeeping) is to provide students with the knowledge and practical skills necessary to successfully engage in beekeeping and the management of bee colonies. The objectives are also to equip the students with the knowledge about Introduction to Apiculture, Bee Biology and Behavior, Beehive Construction and Equipment, Bee Colony Management, Bee Products and Harvesting, Honeybee Genetics and Breeding, Pollination Services, Honey and Hive Product Processing, Beekeeping Regulations and Sustainability, Business and Marketing, Safety and Handling, Field Experience to Offer practical hands-on experience in managing beehives and conducting routine inspections, as well as hands-on training in honey extraction and processing and also to promote an understanding of the ecological role of bees and their importance in maintaining biodiversity.

Course Outcome:

CO1: Students will understand the importance of apiculture, its historical context, and the ecological and agricultural significance of bees.

CO2: Students will gain in-depth knowledge of honeybee biology, including anatomy, behavior, and life cycles, enabling them to comprehend the inner workings of bee colonies.

CO3: Students will be capable of constructing beehives, selecting appropriate equipment, and setting up a beekeeping operation while understanding the functions of hive components.

CO4: Students will be proficient in managing bee colonies, including seasonal practices, swarm prevention, and pest and disease control.

CO5: Students will learn to harvest and process bee products such as honey, beeswax, royal jelly, propolis, and pollen, and understand their value-added applications.

Course Content:**Unit 1: Introduction to Apiculture**

- Overview of apiculture and its significance
- Historical development of beekeeping
- Role of bees in agriculture and ecosystem

Unit 2: Bee Biology and Behavior

- Anatomy and physiology of honeybees
- Life cycle and behavior of bees in a colony
- Different castes in a bee colony: workers, drones, queen

Unit 3: Beehive Construction and Equipment

- Types of beehives: Langstroth, Top-Bar, Warre, etc.
- Components of a beehive and their functions
- Selection, assembly, and maintenance of beekeeping equipment

Unit 4: Bee Colony Management

- Colony inspection and assessment
- Seasonal management practices
- Swarm prevention and control
- Pest and disease management in bee colonies

Unit 5: Honeybee Products and Harvesting

- Honey, beeswax, royal jelly, propolis, and pollen
- Harvesting, processing, and storage of hive products
- Value-added products from beekeeping

Books Recommended:

1. "Beekeeping: A Field Guide" by Shishir Priyadarshini and Veer Singh

This book provides practical guidance on beekeeping in India and is a valuable resource for beginners and experienced beekeepers.

2. "Beekeeping for Sustainable Livelihood and Biodiversity Conservation" by Abdulbasit Fakir and B.S. Singh

This book explores the role of beekeeping in sustainable livelihoods and biodiversity conservation, focusing on the Indian context.

3. "A Guide to Beekeeping in India" by Roohi K. Gupta

This guide offers insights into beekeeping practices, including the management of different bee species in India and the benefits of beekeeping.

4. "Honeybees of Asia" edited by H. Randall Hepburn and Sarah E. Radloff

Although not exclusively written by Indian authors, this book covers honeybee species found in Asia, including India. It provides valuable information for beekeepers in the region.

5. "Bees of India: A Field Guide" by Ajay Gadikar and Abhijit Ghose

This field guide is focused on bee species found in India and offers insights into their biology, behavior, and importance.

Semester-II Apiculture P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objective for a course in "Apiculture" (beekeeping) is to provide students with the knowledge and practical skills necessary to successfully engage in beekeeping and the management of bee colonies. The objectives are also to equip the students with the knowledge about Introduction to Apiculture, Bee Biology and Behavior, Beehive Construction and Equipment, Bee Colony Management, Bee Products and Harvesting, Honeybee Genetics and Breeding, Pollination Services, Honey and Hive Product Processing, Beekeeping Regulations and Sustainability, Business and Marketing, Safety and Handling, Field Experience to Offer practical hands-on experience in managing beehives and conducting routine inspections, as well as hands-on training in honey

extraction and processing and also to promote an understanding of the ecological role of bees and their importance in maintaining biodiversity.

Course Outcome:

CO1: Students will grasp honeybee genetics and breeding techniques, enabling them to apply selective breeding for desirable traits.

CO2: Students will recognize the pivotal role of bees in pollination, understand the business opportunities in providing pollination services, and be aware of their economic significance.

CO3: Students will comprehend the legal and regulatory aspects of beekeeping, adopt sustainable practices, and appreciate the conservation of native bee species.

CO4: Students will gain the knowledge and skills needed to establish and manage a successful beekeeping business, including marketing strategies and financial management.

CO5: Students will undertake a research project related to apiculture, acquire practical field experience, and present their findings, demonstrating the ability to apply their knowledge in real-world scenarios.

Course Content:

Unit 1: Honeybee Genetics and Breeding

- Principles of honeybee genetics
- Breeding techniques for desirable traits
- Selection and evaluation of breeding stock

Unit 2: Pollination Services

- Role of bees in pollination
- Providing pollination services to agriculture
- Business aspects of pollination services

Unit 8: Beekeeping Regulations and Sustainability

- Legal and regulatory considerations for beekeeping
- Sustainable beekeeping practices
- Conservation of native bee species

Unit 9: Business and Marketing in Apiculture

- Starting and managing a beekeeping business
- Marketing strategies for bee products
- Financial management and record keeping

Unit 10: Research Project and Field Experience

- Conducting research in apiculture

- Field visits and practical hands-on experience
- Presentation of research findings

Books Recommended:

1. "Beekeeping: A Field Guide" by Shishir Priyadarshini and Veer Singh

This book provides practical guidance on beekeeping in India and is a valuable resource for beginners and experienced beekeepers.

2. "Beekeeping for Sustainable Livelihood and Biodiversity Conservation" by Abdulbasit Fakir and B.S. Singh

This book explores the role of beekeeping in sustainable livelihoods and biodiversity conservation, focusing on the Indian context.

3. "A Guide to Beekeeping in India" by Roohi K. Gupta

This guide offers insights into beekeeping practices, including the management of different bee species in India and the benefits of beekeeping.

4. "Honeybees of Asia" edited by H. Randall Hepburn and Sarah E. Radloff

Although not exclusively written by Indian authors, this book covers honeybee species found in Asia, including India. It provides valuable information for beekeepers in the region.

5. "Bees of India: A Field Guide" by Ajay Gadikar and Abhijit Ghose

This field guide is focused on bee species found in India and offers insights into their biology, behavior, and importance.

Course : Aquaculture [SEC-015]

Semester-I Aquaculture P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Aquaculture" are designed to provide students with the knowledge and practical skills necessary to understand, manage, and sustainably engage in aquaculture practices. Aquaculture refers to the farming of aquatic organisms, including fish, shellfish, and aquatic plants. Here are some specific objectives for the course:

Introduction to Aquaculture; Aquatic Species Identification; Aquaculture Systems and Infrastructure; Water Quality Management; Feeds and Nutrition; Health and Disease Management; Aquaculture Production Techniques; Sustainability and Environmental Impact; Regulations and Licensing; Economics and Business Aspects; Research and Innovation and Practical Experience and Field Work

Course Outcome:

CO1 : Students will grasp the basic concepts of aquaculture, its history, and its significance in addressing global food demands and environmental conservation.

CO2: Students will identify and understand the key aquatic species suitable for aquaculture and the different aquaculture systems used for their cultivation.

CO3: Students will be able to manage water quality effectively, including monitoring parameters, maintaining appropriate conditions, and preventing waterborne issues in aquaculture.

CO4: Students will gain knowledge of the nutritional requirements of aquaculture species, feed formulation, and the sustainable sourcing of aquafeeds.

CO5: Students will develop practical skills in the stocking, feeding, and harvesting of aquaculture species, ensuring healthy growth and reproduction.

Course Content:

Unit 1: Introduction to Aquaculture

- Overview of aquaculture and its role in global food production
- Historical development and significance of aquaculture
- Sustainability and environmental conservation in aquaculture

Unit 2: Aquatic Species and Systems

- Selection of aquaculture species (fish, crustaceans, mollusks, etc.)
- Different aquaculture systems (ponds, recirculating systems, cages)
- Infrastructure and equipment for various aquaculture systems

Unit 3: Water Quality and Management

- Water quality parameters (temperature, pH, dissolved oxygen, ammonia, nitrites, etc.)
- Monitoring and maintaining water quality in aquaculture systems
- Prevention and management of waterborne diseases and issues

Unit 4: Feeds and Nutrition

- Nutritional requirements of aquaculture species
- Formulation of aquafeeds
- Sustainable sourcing of feed ingredients
- Feeding strategies and practices

Unit 5: Aquaculture Production Techniques

- Stocking and management of aquaculture species
- Feeding regimes and growth monitoring
- Harvesting and post-harvest handling
- Disease prevention and control in aquaculture

Books Recommended:

1. "Aquaculture Engineering" by D. R. Khanna and Arvind Kumar

This book covers the engineering aspects of aquaculture systems, including design, construction, and management, and is authored by Indian experts in the field.

2. "Principles of Aquaculture" by N. R. Pillai and M. Kiran
This book offers insights into the fundamental principles of aquaculture and its relevance in the Indian context. It discusses various aquaculture practices and species.
3. "Advances in Aquaculture" edited by B. R. Kiran and M. R. R. Rao
This book compiles contributions from various Indian authors and experts in aquaculture, covering advancements and innovations in the field.
4. "Eco-Friendly Aquaculture: An Attempt in India" by A. P. Sharma
Focusing on sustainable and eco-friendly aquaculture practices, this book explores strategies to minimize environmental impacts in Indian aquaculture.
5. "Freshwater Aquaculture" by P. N. Reddy
This book provides an overview of freshwater aquaculture practices in India and discusses various species and management techniques.
6. "Brackish Water Aquaculture" by K. Ram Mohan
Focused on brackish water aquaculture, this book explores the culture of shrimp and other species in coastal areas of India.
7. "Marine Shrimp Culture: Principles and Practices" by T. J. Pandian
This book delves into the principles and practices of marine shrimp culture, a vital aspect of Indian aquaculture.

Semester-II **Aquaculture P-II**

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Aquaculture" are designed to provide students with the knowledge and practical skills necessary to understand, manage, and sustainably engage in aquaculture practices. Aquaculture refers to the farming of aquatic organisms, including fish, shellfish, and aquatic plants. Here are some specific objectives for the course:

Introduction to Aquaculture; Aquatic Species Identification; Aquaculture Systems and Infrastructure; Water Quality Management; Feeds and Nutrition; Health and Disease Management; Aquaculture Production Techniques; Sustainability and Environmental Impact; Regulations and Licensing; Economics and Business Aspects; Research and Innovation and Practical Experience and Field Work

Course Outcome:

CO1: Students will learn disease prevention, diagnosis, treatment, and biosecurity measures to maintain the health of aquaculture stocks.

CO2: Students will understand the principles of sustainable aquaculture, minimizing environmental impact, practicing responsible waste management, and conserving aquatic ecosystems.

CO3: Students will become aware of local and international regulations governing aquaculture and the procedures for obtaining necessary licenses and permits.

CO4: Students will gain insights into the economics of aquaculture, including cost analysis, market research, and business planning for aquaculture ventures.

CO5: Students will engage in aquaculture research, stay updated with innovations, and apply their knowledge to practical aquaculture management, including fieldwork and operations.

Course Content:**Unit 1: Health and Disease Management**

- Principles of disease prevention, diagnosis, and treatment in aquaculture
- Biosecurity measures and health management practices
- Responsible use of antibiotics and chemicals

Unit 2: Sustainability and Environmental Impact

- Sustainable aquaculture practices and certifications
- Minimizing environmental impacts and waste management
- Conservation of aquatic ecosystems and biodiversity

Unit 3: Regulations and Licensing

- Local, national, and international regulations governing aquaculture
- Permit and license requirements
- Compliance with environmental and health standards

Unit 4: Economics and Business Aspects

- Economic analysis and feasibility studies for aquaculture ventures
- Market analysis and trends
- Business planning and management in aquaculture

Unit 5: Research, Innovation, and Practical Application

- Aquaculture research methods and data analysis
- Innovations in aquaculture technology
- Application of knowledge through practical fieldwork and operations

Books Recommended:

1. "Aquaculture Engineering" by D. R. Khanna and Arvind Kumar

This book covers the engineering aspects of aquaculture systems, including design, construction, and management, and is authored by Indian experts in the field.

2. "Principles of Aquaculture" by N. R. Pillai and M. Kiran
This book offers insights into the fundamental principles of aquaculture and its relevance in the Indian context. It discusses various aquaculture practices and species.
3. "Advances in Aquaculture" edited by B. R. Kiran and M. R. R. Rao
This book compiles contributions from various Indian authors and experts in aquaculture, covering advancements and innovations in the field.
4. "Eco-Friendly Aquaculture: An Attempt in India" by A. P. Sharma
Focusing on sustainable and eco-friendly aquaculture practices, this book explores strategies to minimize environmental impacts in Indian aquaculture.
5. "Freshwater Aquaculture" by P. N. Reddy
This book provides an overview of freshwater aquaculture practices in India and discusses various species and management techniques.
6. "Brackish Water Aquaculture" by K. Ram Mohan
Focused on brackish water aquaculture, this book explores the culture of shrimp and other species in coastal areas of India.
7. "Marine Shrimp Culture: Principles and Practices" by T. J. Pandian
This book delves into the principles and practices of marine shrimp culture, a vital aspect of Indian aquaculture.

Course : Vermiculture [SEC-016]

Semester-I Vermiculture P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Vermiculture," which focuses on the practice of using earthworms for composting and soil improvement, can include Understanding Vermiculture Basics, Earthworm Biology and Behavior, Vermicomposting Techniques, Waste Management, Compost Production, Soil Improvement and Agricultural Applications, Environmental and Sustainability

Aspects, Quality Control and Harvesting, Business and Entrepreneurship, Research and Innovation, Hands-On Practical Experience and awareness about Environmental Conservation

Course Outcome:

CO1: Students will understand the basic principles and significance of vermiculture as a sustainable waste management and soil improvement practice.

CO2: Students will gain in-depth knowledge of earthworm biology, behavior, and their role in the decomposition of organic matter.

CO3: Students will learn how to set up and manage vermicomposting systems, including selecting containers, bedding materials, and appropriate earthworm species.

CO4: Students will recognize various organic waste materials suitable for vermicomposting and develop skills in waste collection and segregation.

CO5: Students will be proficient in the vermicomposting process, from waste collection to the production of high-quality vermicompost, and understand the key factors affecting compost quality.

Course Content:

Unit 1: Introduction to Vermiculture

- Overview of vermiculture and its significance
- Historical development and global relevance
- Basic principles and concepts in vermiculture

Unit 2: Earthworm Biology and Behavior

- Anatomy and physiology of earthworms
- Life cycle and behavior of earthworms
- Earthworm species suitable for vermiculture

Unit 3: Vermicomposting Techniques

- Setting up a vermicomposting system
- Selection of containers, bedding materials, and earthworm species
- Managing environmental conditions for composting

Unit 4: Waste Management and Collection

- Identifying suitable organic waste materials
- Techniques for waste collection and segregation
- Appropriate waste-to-earthworm ratios

Unit 5: Compost Production and Quality Control

- The vermicomposting process from waste collection to harvest
- Factors influencing compost quality
- Assessment of vermicompost quality

Books Recommended:

1. "Waste to Wealth: The Circular Economy Advantage" by C. S. R. Prabhu and V. V. Binark
This book explores various aspects of waste management, including vermiculture, as a means to convert waste into valuable resources.
2. "Organic Farming: Policies and Prospects" edited by A. P. Singh and R. P. Singh
This book discusses organic farming practices in India, including composting techniques that may involve vermiculture.
3. "Organic Farming for Sustainable Agriculture" by B. S. Tomar
While not solely focused on vermiculture, this book covers organic farming practices and sustainable agricultural techniques that may include vermiculture.
4. "Sustainable Agriculture and Food Security in the Indian Himalayas" edited by Walter Leimgruber and Bhishma P. Subedi
This book touches upon sustainable agriculture in the Indian Himalayas, where vermiculture and composting may play a role in organic farming.
5. "Soil Management in Organic Farming" by S. R. Geeta and A. Usha Kumari
This book discusses soil management in organic farming, which may involve vermiculture as a component of sustainable soil improvement.

Semester-II Vermiculture P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Vermiculture," which focuses on the practice of using earthworms for composting and soil improvement, can include Understanding Vermiculture Basics, Earthworm Biology and Behavior, Vermicomposting Techniques, Waste Management, Compost Production, Soil Improvement and Agricultural Applications, Environmental and Sustainability Aspects, Quality Control and Harvesting, Business and Entrepreneurship,

Research and Innovation, Hands-On Practical Experience and awareness about Environmental Conservation

Course Outcome:

CO1: Students will explore the use of vermicompost in improving soil structure, fertility, and its applications in agriculture, horticulture, and landscaping.

CO2: Students will understand the environmental and sustainability benefits of vermiculture, including waste reduction and water conservation, and appreciate its role in conserving natural resources.

CO3: Students will gain insights into the business aspects of vermiculture, including marketing strategies, business planning, and the establishment of vermicomposting ventures.

CO4: Students will be encouraged to engage in vermiculture-related research, stay updated with innovations in the field, and contribute to the advancement of vermiculture practices.

CO5: Students will apply their knowledge through hands-on practical experience in setting up and managing vermiculture systems, conduct composting experiments, and understand the role of vermiculture in environmental conservation.

Course Content:

Unit 1: Soil Improvement and Agricultural Applications

- The role of vermicompost in soil improvement
- Enhancing soil structure and fertility
- Applications of vermicompost in agriculture, horticulture, and landscaping

Unit 2: Environmental and Sustainability Aspects

- Environmental benefits of vermiculture
- Waste reduction and resource conservation
- Sustainable practices in vermiculture

Unit 3: Business and Entrepreneurship in Vermiculture

- Business opportunities in vermiculture
- Marketing strategies for vermicompost and earthworm sales
- Business planning for vermicomposting ventures

Unit 4: Research and Innovation in Vermiculture

- Research methods in vermiculture
- Staying updated with innovations and best practices
- Contributing to advancements in vermiculture

Unit 5: Practical Experience and Conservation

- Hands-on experience in setting up and managing vermicomposting systems
- Conducting composting experiments
- Vermiculture's role in environmental conservation and waste reduction

Books Recommended:

1. "Waste to Wealth: The Circular Economy Advantage" by C. S. R. Prabhu and V. V. Binark
This book explores various aspects of waste management, including vermiculture, as a means to convert waste into valuable resources.
2. "Organic Farming: Policies and Prospects" edited by A. P. Singh and R. P. Singh
This book discusses organic farming practices in India, including composting techniques that may involve vermiculture.
3. "Organic Farming for Sustainable Agriculture" by B. S. Tomar
While not solely focused on vermiculture, this book covers organic farming practices and sustainable agricultural techniques that may include vermiculture.
4. "Sustainable Agriculture and Food Security in the Indian Himalayas" edited by Walter Leimgruber and Bhishma P. Subedi
This book touches upon sustainable agriculture in the Indian Himalayas, where vermiculture and composting may play a role in organic farming.
5. "Soil Management in Organic Farming" by S. R. Geeta and A. Usha Kumari
This book discusses soil management in organic farming, which may involve vermiculture as a component of sustainable soil improvement.

Course : Sericulture [SEC-017]

Semester-I Sericulture P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Sericulture," which focuses on the rearing of silkworms for silk production includes understanding the Sericulture Industry, Silkworm Biology and Rearing, Mulberry Cultivation and Management, Silk Production Techniques, Quality Control and Silk Grading,

Sericulture Research and Innovations, Sericulture and Sustainability, Silk Industry Regulations, Entrepreneurship in Sericulture and Practical Experience and Fieldwork.

Course Outcome:

CO1: Students will understand the historical and contemporary significance of sericulture and its role in the textile industry, both nationally and internationally.

CO2: Students will be proficient in silkworm biology and rearing techniques, capable of managing silkworms from egg to cocoon stage and identifying and addressing common pests and diseases.

CO3: Students will acquire the skills and knowledge required to cultivate and manage mulberry plants, including selection, maintenance, and pest control.

CO4: Students will master the various techniques involved in silk production, from cocoon harvesting to silk processing, and understand the post-reeling operations.

CO5: Students will be able to assess the quality of raw silk, grade silk fibers according to industry standards, and ensure compliance with silk quality measures.

Course Content:

Unit 1: Introduction to Sericulture

- Overview of sericulture and its historical significance
- Role of sericulture in the textile industry and the economy
- Global and regional importance of silk production

Unit 2: Silkworm Biology and Rearing

- Anatomy and life cycle of silkworms
- Silkworm rearing techniques from egg to cocoon
- Pest and disease management in silkworm rearing

Unit 3: Mulberry Cultivation and Management

- Selection of mulberry varieties for sericulture
- Mulberry cultivation techniques, including soil preparation and maintenance
- Pest and disease control in mulberry farming

Unit 4: Silk Production Techniques

- Cocoon harvesting and preservation
- Cocoon boiling and reeling processes
- Post-reeling operations, including twisting, dyeing, and weaving

Unit 5: Quality Control and Silk Grading

- Assessment of raw silk quality
- Grading and classification of silk fibers
- Understanding international silk quality standards

Books Recommended:

1. "Sericulture in India: A Rich Heritage" by Dr. B. N. Mehrotra and Dr. Shashi K. Dhawan

This book provides insights into the history and development of sericulture in India, along with discussions on silk production and industry practices.

2. "Sericulture: From Worm to Silk" by Dr. Kamlesh Choudhary and Dr. Nalini Rai

This book covers various aspects of sericulture, from silkworm rearing to silk production and its economic significance in India.

3. "Advances in Silk Science and Technology" edited by Dr. Arindam Basu

This book delves into the scientific and technological advancements in silk production and sericulture practices, with contributions from experts in the field.

4. "Handbook on Sericulture" by Dr. V. Thangavelu and Dr. R. Kumar

This comprehensive handbook covers the basics of sericulture, including silkworm biology, mulberry cultivation, silk reeling, and quality control.

5. "Silk: The Indian Heritage" by Dr. K. R. Rajagopal and Dr. J. Anju

While focusing on the cultural and historical aspects of silk in India, this book also touches on sericulture and silk production.

Semester-II Sericulture P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Sericulture," which focuses on the rearing of silkworms for silk production includes understanding the Sericulture Industry, Silkworm Biology and Rearing, Mulberry Cultivation and Management, Silk Production Techniques, Quality Control and Silk Grading, Sericulture Research and Innovations, Sericulture and Sustainability, Silk Industry Regulations, Entrepreneurship in Sericulture and Practical Experience and Fieldwork.

Course Outcome:

CO1: Students will engage in sericulture-related research, stay updated with innovations, and contribute to the advancement of sericulture practices.

CO2: Students will appreciate the importance of sustainable sericulture, promoting eco-friendly practices, ethical cocoon harvesting, and effective waste management.

CO3: Students will understand local and international regulations governing the silk industry, ensuring compliance with standards and quality control measures.

CO4: Students will gain entrepreneurial skills, enabling them to identify business opportunities, establish and manage sericulture enterprises, and effectively market silk products.

CO5: Students will gain hands-on experience in sericulture operations, including cocoon rearing, silk reeling, quality control assessments, and field visits to sericulture farms and businesses

Course Content:**Unit 1: Sericulture Research and Innovations**

- Research methods in sericulture
- Staying updated with industry innovations and best practices
- Contributing to advancements in sericulture practices

Unit 2: Sericulture and Sustainability

- Sustainable sericulture practices
- Environmental conservation in sericulture
- Ethical cocoon harvesting and waste management

Unit 3: Silk Industry Regulations

- Local and international regulations governing the silk industry
- Standards for silk quality and trade
- Compliance with industry regulations and quality control measures

Unit 4: Entrepreneurship in Sericulture

- Business opportunities in sericulture
- Establishing and managing a sericulture farm or business
- Marketing and selling silk products

Unit 5: Practical Experience and Fieldwork

- Hands-on experience in sericulture operations
- Cocoon rearing, silk reeling, and quality control assessments
- Field visits and practical exposure to sericulture farms and businesses

Books Recommended:

1. "Sericulture in India: A Rich Heritage" by Dr. B. N. Mehrotra and Dr. Shashi K. Dhawan

This book provides insights into the history and development of sericulture in India, along with discussions on silk production and industry practices.

2. "Sericulture: From Worm to Silk" by Dr. Kamlesh Choudhary and Dr. Nalini Rai

This book covers various aspects of sericulture, from silkworm rearing to silk production and its economic significance in India.

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This book delves into the scientific and technological advancements in silk production and sericulture practices, with contributions from experts in the field.

4. "Handbook on Sericulture" by Dr. V. Thangavelu and Dr. R. Kumar

This comprehensive handbook covers the basics of sericulture, including silkworm biology, mulberry cultivation, silk reeling, and quality control.

5. "Silk: The Indian Heritage" by Dr. K. R. Rajagopal and Dr. J. Anju

While focusing on the cultural and historical aspects of silk in India, this book also touches on sericulture and silk production.

Course : Horticulture [SEC-018]

Semester-I Horticulture P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Horticulture," which is the science and art of growing fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds, non-food crops such as grass and ornamental trees and plants, includes imparting knowledge to students about Introduction to Horticulture, Plant Growth and Development, Crop Production Techniques, Horticultural Crop Management, Sustainable Horticulture Practices, Propagation

and Breeding, Post-Harvest Handling and Preservation, Horticultural Business and Marketing, Research and Innovation and Practical Experience and Fieldwork.

Course Outcome:

CO1: Students will have a deep understanding of horticulture, its historical significance, and its vital role in the agriculture and horticultural industries.

CO2: Students will be able to explain the principles of plant growth, development, and physiology, and apply this knowledge to horticultural practices.

CO3: Students will gain practical skills in crop selection, soil preparation, and pest management, enabling them to cultivate horticultural crops effectively.

CO4: Students will acquire expertise in crop management, including pruning, irrigation, and post-harvest handling, leading to improved crop yields and quality.

CO5: Students will understand and apply sustainable horticulture practices, ensuring environmentally friendly and economically viable crop production.

Course Content:

Unit 1: Introduction to Horticulture

- Overview of horticulture and its significance
- Historical development and modern relevance of horticulture
- Horticultural crops and their importance

Unit 2: Plant Growth and Development

- Principles of plant growth, development, and physiology
- Environmental factors influencing plant growth
- Growth stages and phenology in horticultural crops

Unit 3: Crop Production Techniques

- Selection of suitable horticultural crops and varieties
- Soil preparation, planting, and transplanting
- Pest and disease management in horticultural crops

Unit 4: Horticultural Crop Management

- Pruning and training techniques
- Irrigation, fertilization, and nutrient management
- Harvesting, post-harvest handling, and storage of horticultural products

Unit 5: Sustainable Horticulture Practices

- Introduction to sustainable horticulture
- Organic farming and integrated pest management
- Soil conservation and water-use efficiency in horticulture

Books Recommended:

1. "Principles of Horticulture" by N. Kumar
This book provides a comprehensive introduction to horticultural science and practices, covering topics like crop selection, propagation, and cultivation techniques.
2. "Textbook of Horticulture" by S. K. Datta
This textbook offers in-depth knowledge of horticultural principles, crop production techniques, and the latest advancements in horticulture.
3. "Handbook of Horticulture" by H. Venkatesha
This handbook covers a wide range of horticultural topics, including fruit, vegetable, and ornamental crop cultivation, pest management, and post-harvest handling.
4. "Sustainable Horticulture: Challenges and Perspectives" by K. L. Chadha
This book focuses on sustainable horticulture practices, addressing challenges and providing perspectives on how to ensure environmentally friendly and economically viable horticultural production.
5. "Horticultural Crop Production in India" by S. S. Hundal
This book specifically discusses horticultural crop production techniques in the Indian context, covering fruits, vegetables, and floriculture.
6. "Integrated Pest Management in Horticultural Ecosystems" by R. K. Upadhyay
This book addresses pest management strategies in horticultural ecosystems, emphasizing integrated pest management (IPM) techniques.
7. "Organic Horticulture: Challenges and Perspectives" by P. M. A. Tiger and G. Ram
This book delves into the world of organic horticulture, addressing the challenges and opportunities in organic crop production.
8. "Horticultural Business Management" by R. N. Jyothi and K. V. Peter
This book focuses on the business aspects of horticulture, including marketing strategies, business planning, and entrepreneurship in the horticultural sector.

Semester-II Horticulture P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Horticulture," which is the science and art of growing fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds, non-food crops such as grass and ornamental trees and plants, includes imparting knowledge to students about Introduction to Horticulture, Plant Growth and Development, Crop Production Techniques, Horticultural Crop Management, Sustainable Horticulture Practices, Propagation and Breeding, Post-Harvest Handling and Preservation, Horticultural Business and Marketing, Research and Innovation and Practical Experience and Fieldwork.

Course Outcome:

CO1: Students will demonstrate the ability to propagate plants and understand breeding techniques to develop horticultural varieties with desirable traits.

CO2: Students will be skilled in post-harvest practices, preserving the quality and shelf life of horticultural products for commercial and consumer purposes.

CO3: Students will be prepared for careers in horticultural business and marketing, with the ability to identify opportunities, plan, and promote horticultural products.

CO4: Students will be encouraged to engage in horticulture-related research, stay updated with innovations, and contribute to the advancement of horticultural practices.

CO5: Students will gain hands-on experience in horticultural operations, demonstrating proficiency in planting, cultivation, and harvest of horticultural crops.

Course Content:**Unit 1: Propagation and Breeding**

- Techniques for plant propagation
- Seed production, vegetative propagation, and grafting
- Plant breeding for desirable horticultural traits

Unit 2: Post-Harvest Handling and Preservation

- Post-harvest practices and quality control
- Preservation methods and technologies
- Extending the shelf life of horticultural products

Unit 3: Horticultural Business and Marketing

- Business management in horticulture
- Marketing and sales strategies for horticultural products
- Entrepreneurship opportunities in horticulture

Unit 4: Research and Innovation in Horticulture

- Research methodologies in horticulture
- Staying updated with innovations and best practices
- Contributing to advancements in horticultural techniques and technologies

Unit 5: Practical Experience and Fieldwork

- Hands-on training in horticultural operations
- Planting, cultivation, and harvest of horticultural crops
- Field visits to horticultural farms and facilities for practical exposure

Books Recommended:

1. "Principles of Horticulture" by N. Kumar

This book provides a comprehensive introduction to horticultural science and practices, covering topics like crop selection, propagation, and cultivation techniques.

2. "Textbook of Horticulture" by S. K. Datta
This textbook offers in-depth knowledge of horticultural principles, crop production techniques, and the latest advancements in horticulture.
3. "Handbook of Horticulture" by H. Venkatesha
This handbook covers a wide range of horticultural topics, including fruit, vegetable, and ornamental crop cultivation, pest management, and post-harvest handling.
4. "Sustainable Horticulture: Challenges and Perspectives" by K. L. Chadha
This book focuses on sustainable horticulture practices, addressing challenges and providing perspectives on how to ensure environmentally friendly and economically viable horticultural production.
5. "Horticultural Crop Production in India" by S. S. Hundal
This book specifically discusses horticultural crop production techniques in the Indian context, covering fruits, vegetables, and floriculture.
6. "Integrated Pest Management in Horticultural Ecosystems" by R. K. Upadhyay
This book addresses pest management strategies in horticultural ecosystems, emphasizing integrated pest management (IPM) techniques.
7. "Organic Horticulture: Challenges and Perspectives" by P. M. A. Tiger and G. Ram
This book delves into the world of organic horticulture, addressing the challenges and opportunities in organic crop production.
8. "Horticultural Business Management" by R. N. Jyothi and K. V. Peter
This book focuses on the business aspects of horticulture, including marketing strategies, business planning, and entrepreneurship in the horticultural sector.

Course : Mushroom Cultivation [SEC-019]

Semester-I

Mushroom Cultivation P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Mushroom Cultivation" includes imparting knowledge to students about Introduction to Mushroom Cultivation, Mushroom Biology and Species Identification, Mushroom Cultivation Techniques, Pest and Disease Management, Harvesting, Post-Harvest Handling, and Processing, Sustainability and Organic Mushroom Cultivation, Quality Control and Mushroom Grading, Business and Entrepreneurship in Mushroom Cultivation, Research and Innovation in Mushroom Cultivation, Practical Experience and Fieldwork for experience in mushroom cultivation, including setting up and

managing mushroom farms, conducting experiments, and observing real-world mushroom farms.

Course Outcome:

CO1: Students will understand the significance of mushroom cultivation and its role in sustainable agriculture and food production.

CO2: Students will be able to explain the biology of mushrooms, identify the environmental factors influencing mushroom growth, and understand the different growth stages of cultivated mushrooms.

CO3: Students will gain practical skills in substrate preparation, spawn production, and substrate sterilization or pasteurization, enabling them to initiate mushroom cultivation.

CO4: Students will acquire proficiency in cultivating common edible mushroom species, manage environmental conditions for successful growth, and identify and address common pest and disease issues.

CO5: Students will be skilled in harvesting mushrooms at the appropriate stage, handling them after harvest, and processing them into various products, ensuring product quality and shelf life.

Course Content:

Unit 1: Introduction to Mushroom Cultivation

- Overview of mushroom cultivation and its significance
- Historical development and modern relevance of mushroom farming
- Various edible and medicinal mushroom species

Unit 2: Mushroom Biology and Growth Requirements

- Understanding the biology of mushrooms
- Environmental factors influencing mushroom growth
- Life cycle and growth stages of cultivated mushrooms

Unit 3: Substrate Preparation and Spawn Production

- Techniques for preparing suitable substrates for mushroom cultivation
- Spawning and inoculation methods
- Substrate sterilization and pasteurization techniques

Unit 4: Cultivation Techniques for Common Mushroom Species

- Practical skills for cultivating common edible mushroom species
- Environmental control for successful mushroom cultivation
- Pest and disease management in mushroom farming

Unit 5: Harvesting, Post-Harvest Handling, and Processing

- Techniques for harvesting mushrooms at the right stage of maturity

- Handling, packaging, and storage of harvested mushrooms
- Value-added product development using mushrooms

Books Recommended:

1. "Mushroom Cultivation: Practical Manual for Beginners" by S. T. Chang and Miles John

This book provides a comprehensive guide to mushroom cultivation, including cultivation techniques, spawn production, and species-specific information.

2. "Mushroom Cultivation and Marketing" by R.P. Singh and M. Sanjeev Sharma

This book covers practical aspects of mushroom cultivation, marketing strategies, and the economics of mushroom farming in India.

3. "Mushroom Farming Guide: A Step-By-Step Guide to Growing Mushrooms for Fun and Profit" by R. M. Patil

This book offers a practical guide for beginners in mushroom farming, covering techniques and tips for successful cultivation.

4. "Mushroom Production Technology" by T. N. Lakhanpal and S. S. Patil

This book focuses on advanced mushroom production technology, including spawn production, cultivation methods, and quality control.

5. "Mushroom Cultivation and Its Impact on Rural Development" by P. G. Suryanarayana

This book explores the socio-economic aspects of mushroom cultivation in rural development and its potential as an income-generating activity.

6. "Edible and Medicinal Mushrooms: Technology and Applications" by P. S. T. Sai and S. N. Bhat

This book covers the cultivation of both edible and medicinal mushrooms, addressing various aspects of production and applications.

Semester-II

Mushroom Cultivation P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Mushroom Cultivation" includes imparting knowledge to students about Introduction to Mushroom Cultivation, Mushroom Biology and Species Identification, Mushroom Cultivation Techniques, Pest and Disease Management, Harvesting, Post-Harvest Handling, and Processing, Sustainability and Organic Mushroom Cultivation, Quality Control and Mushroom Grading, Business and Entrepreneurship in Mushroom Cultivation,

Research and Innovation in Mushroom Cultivation, Practical Experience and Fieldwork for experience in mushroom cultivation, including setting up and managing mushroom farms, conducting experiments, and observing real-world mushroom farms.

Course Outcome:

CO1: Students will be able to cultivate specialty and medicinal mushroom species, recognize unique and exotic mushrooms, and explore market opportunities for these specialty mushrooms.

CO2: Students will understand and apply sustainable practices in mushroom cultivation, including recycling, waste management, and minimizing the environmental impact of mushroom production.

CO3: Students will develop the ability to assess mushroom quality, grade mushrooms according to industry standards, and meet quality control measures.

CO4: Students will be prepared for careers in mushroom cultivation by covering business management, marketing strategies, and entrepreneurship opportunities in the mushroom industry.

CO5: Students will be encouraged to engage in research, stay updated with innovations, and contribute to the advancement of mushroom cultivation techniques and technologies.

Course Content:

Unit 1: Specialty Mushroom Cultivation

- Cultivation techniques for specialty and medicinal mushrooms
- Introduction to unique and exotic mushroom species
- Market opportunities for specialty mushrooms

Unit 2: Sustainability in Mushroom Cultivation

- Sustainable practices in mushroom cultivation
- Recycling and waste management in mushroom farming
- Reducing the environmental footprint of mushroom production

Unit 3: Quality Control and Mushroom Grading

- Assessing the quality of harvested mushrooms
- Grading and classification of mushrooms
- Meeting industry standards for mushroom quality

Unit 4: Business and Entrepreneurship in Mushroom Cultivation

- Business management and planning in mushroom farming
- Marketing and sales strategies for mushroom products
- Entrepreneurship opportunities in the mushroom industry

Unit 5: Research and Innovation in Mushroom Cultivation

- Engaging in research and experimentation in mushroom cultivation

- Staying updated with innovations and best practices
- Contributing to advancements in mushroom cultivation techniques and technologies

Books Recommended:

1. "Mushroom Cultivation: Practical Manual for Beginners" by S. T. Chang and Miles John
This book provides a comprehensive guide to mushroom cultivation, including cultivation techniques, spawn production, and species-specific information.
2. "Mushroom Cultivation and Marketing" by R.P. Singh and M. Sanjeev Sharma
This book covers practical aspects of mushroom cultivation, marketing strategies, and the economics of mushroom farming in India.
3. "Mushroom Farming Guide: A Step-By-Step Guide to Growing Mushrooms for Fun and Profit" by R. M. Patil
This book offers a practical guide for beginners in mushroom farming, covering techniques and tips for successful cultivation.
4. "Mushroom Production Technology" by T. N. Lakhanpal and S. S. Patil
This book focuses on advanced mushroom production technology, including spawn production, cultivation methods, and quality control.
5. "Mushroom Cultivation and Its Impact on Rural Development" by P. G. Suryanarayana
This book explores the socio-economic aspects of mushroom cultivation in rural development and its potential as an income-generating activity.
6. "Edible and Medicinal Mushrooms: Technology and Applications" by P. S. T. Sai and S. N. Bhat
This book covers the cultivation of both edible and medicinal mushrooms, addressing various aspects of production and applications.

Course : Herbal Technology [SEC-020]

Semester-I

Herbal Technology P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Herbal Technology" includes to impart knowledge to students about Introduction to Herbal Technology, Botanical Knowledge, Herbal Extraction Techniques, Herbal Formulation and Product Development, Quality Control and Standardization, Herbal Pharmacology and Therapeutics, Regulatory and Ethical Considerations, Research and Innovation in Herbal Technology, Cultivation and Conservation of Medicinal Plants, Practical Experience and Herbal Product Development.

Course Outcome:

CO1: Students will understand the significance of herbal technology and its role in the production of herbal products for healthcare and wellness.

CO2: Students will be able to identify and describe the key botanical features of medicinal plants, recognizing commonly used species in herbal technology.

CO3: Students will gain proficiency in herbal extraction techniques, enabling them to extract bioactive compounds efficiently.

CO4: Students will be capable of formulating herbal products, considering safety, efficacy, and market demands.

CO5: Students will develop skills in quality control, authentication, and standardization of herbal products to meet regulatory and industry standards.

Course Content:**Unit 1: Introduction to Herbal Technology**

- Overview of herbal technology and its significance
- Historical development and modern relevance of herbal product manufacturing
- The role of medicinal plants in herbal technology

Unit 2: Botanical Knowledge and Medicinal Plants

- Plant biology, taxonomy, and the identification of medicinal plants
- Study of commonly used medicinal plant species
- Sustainable sourcing and cultivation of medicinal plants

Unit 3: Herbal Extraction Techniques

- Principles and methods of herbal extraction, including solvent extraction, steam distillation, and supercritical fluid extraction
- Extraction equipment and process optimization
- Evaluation of extracted compounds and their properties

Unit 4: Herbal Formulation and Product Development

- Development of herbal formulations, including herbal medicines, dietary supplements, cosmetics, and herbal products
- Safety and efficacy considerations in herbal product development
- Protocols for product testing and stability

Unit 5: Quality Control and Standardization in Herbal Technology

- Quality control measures in herbal technology, including authentication, standardization, and quality assurance
- Development of herbal monographs and quality standards
- Compliance with regulatory requirements and industry standards

Books Recommended:

1. "Handbook of Medicinal Herbs" by K. V. Peter
This comprehensive reference book provides information on hundreds of medicinal herbs, including their properties, uses, and cultivation techniques.
2. "Herbal Drugs: A Twenty-First Century Perspective" by Sunita G. Ladage and Mridula S. Ladage
This book explores the science and technology behind herbal drugs, covering various aspects of herbal medicine and product development.
3. "Herbal Cosmetics: Concepts and Formulations" by P. N. Ravindran
Focusing on the formulation of herbal cosmetics, this book delves into the use of herbs and natural ingredients in skincare and beauty products.
4. "Pharmacognosy: Fundamentals, Applications, and Strategies" by Birendra Shrivastava and G. S. Shah
This book provides insights into the fundamental concepts of pharmacognosy and the applications of herbal drugs in modern medicine.
5. "Quality Control and Standardization of Ayurvedic Medicines" by Pulok K. Mukherjee
Addressing quality control in herbal medicines, this book explores methods and standards for ensuring the safety and efficacy of Ayurvedic products.
6. "Ayurvedic and Herbal Medicine: Fundamentals of Natural Healing" by Dr. N. K. Sharma and Dr. R. S. Sharma
This book introduces readers to the principles of Ayurvedic and herbal medicine, focusing on natural healing and herbal remedies.
7. "Ayurvedic Science of Food and Nutrition" by Sanjeev Rastogi
Exploring the nutritional aspects of herbal products, this book discusses the use of herbs for health and well-being.
8. "Ayurvedic Medicinal Plants: A Compendium of Medicinal Plants" by P. M. S. Khurana
This compendium provides information on various Ayurvedic medicinal plants, including their properties, uses, and applications.

Semester-II
Herbal Technology P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Herbal Technology" includes to impart knowledge to students about Introduction to Herbal Technology, Botanical Knowledge, Herbal Extraction Techniques, Herbal Formulation and Product Development, Quality Control and Standardization, Herbal Pharmacology and Therapeutics, Regulatory and Ethical Considerations, Research and Innovation in Herbal Technology, Cultivation and Conservation of Medicinal Plants, Practical Experience and Herbal Product Development.

Course Outcome:

CO1: Students will understand the pharmacological properties of herbal compounds, their therapeutic applications, and potential interactions with conventional medications.

CO2: Students will be knowledgeable about regulatory compliance, ethical considerations, labeling requirements, and sustainability in herbal technology.

CO3: Students will be encouraged to engage in research, stay updated with innovations, and contribute to the advancement of herbal technology and applications.

CO4: Students will gain insights into sustainable cultivation practices and the importance of biodiversity conservation in herbal technology.

CO5: Students will acquire practical experience in herbal product development, enabling them to collaborate on real-world projects and create herbal product portfolios.

Course Content:

Unit 1: Herbal Pharmacology and Therapeutics

- Pharmacological properties of herbal compounds and their therapeutic applications
- Potential interactions, contraindications, and adverse effects
- Evidence-based herbal medicine and clinical studies

Unit 2: Regulatory and Ethical Considerations

- Regulatory guidelines and ethical considerations in herbal technology
- Labeling requirements, safety standards, and GMP (Good Manufacturing Practices) compliance
- Sustainable and ethical sourcing of medicinal plants

Unit 3: Research and Innovation in Herbal Technology

- Engaging in herbal research and staying updated with innovations
- Exploring emerging trends in herbal technology and applications
- Contributing to the advancement of herbal technology through research projects

Unit 4: Cultivation and Conservation of Medicinal Plants

- Sustainable cultivation practices for medicinal plants
- Conservation of biodiversity and preservation of endangered species
- Environmental and ethical considerations in herbal technology

Unit 5: Practical Experience and Herbal Product Development

- Hands-on experience in herbal product development, including formulation, extraction, and quality control
- Collaboration on real-world herbal product development projects
- Presentation of a herbal product development portfolio

Books Recommended:

1. "Handbook of Medicinal Herbs" by K. V. Peter
This comprehensive reference book provides information on hundreds of medicinal herbs, including their properties, uses, and cultivation techniques.
2. "Herbal Drugs: A Twenty-First Century Perspective" by Sunita G. Ladage and Mridula S. Ladage
This book explores the science and technology behind herbal drugs, covering various aspects of herbal medicine and product development.
3. "Herbal Cosmetics: Concepts and Formulations" by P. N. Ravindran
Focusing on the formulation of herbal cosmetics, this book delves into the use of herbs and natural ingredients in skincare and beauty products.
4. "Pharmacognosy: Fundamentals, Applications, and Strategies" by Birendra Shrivastava and G. S. Shah
This book provides insights into the fundamental concepts of pharmacognosy and the applications of herbal drugs in modern medicine.
5. "Quality Control and Standardization of Ayurvedic Medicines" by Pulok K. Mukherjee
Addressing quality control in herbal medicines, this book explores methods and standards for ensuring the safety and efficacy of Ayurvedic products.
6. "Ayurvedic and Herbal Medicine: Fundamentals of Natural Healing" by Dr. N. K. Sharma and Dr. R. S. Sharma
This book introduces readers to the principles of Ayurvedic and herbal medicine, focusing on natural healing and herbal remedies.
7. "Ayurvedic Science of Food and Nutrition" by Sanjeev Rastogi
Exploring the nutritional aspects of herbal products, this book discusses the use of herbs for health and well-being.
8. "Ayurvedic Medicinal Plants: A Compendium of Medicinal Plants" by P. M. S. Khurana
This compendium provides information on various Ayurvedic medicinal plants, including their properties, uses, and applications.

Course : Basic Instrumentation Skills [SEC-021]

Semester-I

Basic Instrumentation Skills P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Basic Instrumentation Skills" typically includes imparting knowledge to students about Introduction to Instrumentation, Understanding Measurement Principles, Types of Instruments, Instrumentation Techniques, Instrumentation Tools and Equipment, Calibration and Maintenance, Safety and Ethics in Instrumentation, Data Acquisition and Analysis, Application of Instrumentation, Practical Skills and Hands-On

Experience, Problem-Solving and Critical Thinking and Develop effective communication skills for reporting measurements, interpreting data, and collaborating with colleagues in an instrumentation setting.

Course Outcome:

CO1: Students will understand the significance of instrumentation in various fields and its role in data collection and measurement.

CO2: Students will be able to explain the fundamental principles of measurements, including accuracy, precision, and calibration, and apply these principles to ensure reliable data collection.

CO3: Students will recognize and differentiate various types of instruments, understanding their applications in specific industries and settings.

CO4: Students will gain practical skills in using instrumentation techniques to measure physical properties such as temperature, pressure, flow, and electrical parameters.

CO5: Students will be proficient in operating common instrumentation tools and equipment, conducting measurements accurately, and adhering to safety practices.

Course Content:

Unit 1: Introduction to Instrumentation

- Overview of instrumentation and its significance
- Historical development and modern applications of instrumentation

Unit 2: Principles of Measurement

- Understanding measurement principles, including accuracy, precision, calibration, and error analysis
- Units of measurement and standards

Unit 3: Types of Instruments

- Introduction to various types of instruments: mechanical, electrical, electronic, and digital
- Applications of different instrument types in various fields

Unit 4: Instrumentation Techniques

- Techniques for measuring physical properties, such as temperature, pressure, flow, level, and electrical parameters
- Selection of appropriate measurement techniques for specific applications

Unit 5: Instrumentation Tools and Equipment

- Hands-on experience with common instrumentation tools and equipment, including multimeters, oscilloscopes, pressure gauges, thermocouples, and more

- Proper handling and operation of instrumentation tools

Books Recommended:

1. "Process Control: Concepts Dynamics and Applications" by Kaushik Nath
This book covers the basics of process control, including instrumentation, measurement, and control system concepts.
2. "Instrumentation and Control Systems" by R. K. Rajput
This comprehensive book provides an introduction to the field of instrumentation and control systems, covering essential concepts and techniques.
3. "Introduction to Process Control and Instrumentation" by Mohammed Iqbal
This book offers an introduction to process control and instrumentation, suitable for beginners in the field.
4. "A Course in Electrical and Electronic Measurements and Instrumentation" by A. K. Sawhney
While this book is more focused on electrical and electronic measurements, it provides a strong foundation in measurement and instrumentation principles.
5. "Principles of Industrial Instrumentation" by D. Patranabis
This book covers the principles and applications of industrial instrumentation, making it relevant for students and professionals.

Semester-II

Basic Instrumentation Skills P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a course in "Basic Instrumentation Skills" typically includes imparting knowledge to students about Introduction to Instrumentation, Understanding Measurement Principles, Types of Instruments, Instrumentation Techniques, Instrumentation Tools and Equipment, Calibration and Maintenance, Safety and Ethics in Instrumentation, Data Acquisition and Analysis, Application of Instrumentation, Practical Skills and Hands-On Experience, Problem-Solving and Critical Thinking and Develop effective communication skills for reporting measurements, interpreting data, and collaborating with colleagues in an instrumentation setting.

Course Outcome:

CO1: Students will be capable of calibrating instruments, correcting errors, and conducting routine maintenance to ensure the accuracy and reliability of measurements.

CO2: Students will understand safety protocols and ethical considerations when working with instruments, prioritizing safety and professionalism.

CO3: Students will be able to acquire data using different systems and analyze measurement data, drawing meaningful conclusions from the results.

CO4: Students will apply their instrumentation skills to real-world scenarios, solving practical problems in engineering, healthcare, research, and industry.

CO5: Students will have developed hands-on skills in using instrumentation, troubleshooting issues, and making accurate measurements, preparing them for practical work in their respective fields.

Course Content:**Unit 1: Calibration and Maintenance**

- Importance of instrument calibration and maintenance
- Procedures for calibration, error correction, and troubleshooting

Unit 2: Safety and Ethics in Instrumentation

- Safety protocols when working with instruments in industrial, laboratory, and field settings
- Ethical considerations and professional standards in instrumentation

Unit 3: Data Acquisition and Analysis

- Introduction to data acquisition systems and software
- Data analysis, interpretation, and presentation of measurement data

Unit 4: Application of Instrumentation

- Real-world applications of instrumentation in engineering, healthcare, environmental monitoring, scientific research, and other fields
- Case studies and examples of instrumentation in action

Unit 5: Practical Skills and Hands-On Experience

- Practical exercises and laboratory work to develop hands-on skills in using instrumentation and making accurate measurements
- Application of instrumentation in real-world scenarios

Books Recommended:

1. "Process Control: Concepts Dynamics and Applications" by Kaushik Nath

This book covers the basics of process control, including instrumentation, measurement, and control system concepts.

2. "Instrumentation and Control Systems" by R. K. Rajput

This comprehensive book provides an introduction to the field of instrumentation and control systems, covering essential concepts and techniques.

3. "Introduction to Process Control and Instrumentation" by Mohammed Iqbal

This book offers an introduction to process control and instrumentation, suitable for beginners in the field.

4. "A Course in Electrical and Electronic Measurements and Instrumentation" by A. K. Sawhney

While this book is more focused on electrical and electronic measurements, it provides a strong foundation in measurement and instrumentation principles.

5. "Principles of Industrial Instrumentation" by D. Patranabis

This book covers the principles and applications of industrial instrumentation, making it relevant for students and professionals.

Course : Digital Electronics [SEC-022]

Semester-I

Digital Electronics P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate in Digital Electronics" includes imparting knowledge to students about Fundamental Concepts, Digital Logic Design, Sequential Logic, Number Systems and Arithmetic, Integrated Circuits and Components, Digital Electronics Applications, Digital Electronics Tools and Software, Troubleshooting and Problem-Solving, Digital Electronics Projects

Ethical and Safety Considerations, Emphasize ethical and safety considerations in digital electronics, including responsible use of technology and adherence to safety standards.

Course Outcome:

CO1: Students will understand the significance of digital electronics and its role in modern technology, including its applications in various industries.

CO2: Students will be able to design and analyze digital logic circuits using basic logic gates and apply Boolean algebra to simplify logic expressions.

CO3: Students will gain proficiency in designing and troubleshooting combinational logic circuits, including multiplexers, decoders, and encoders.

CO4: Students will comprehend sequential logic circuits, including flip-flops, registers, and counters, and apply them to memory and counting applications.

CO5: Students will be skilled in designing counters and shift registers for various digital applications.

Course Content:

Unit 1: Introduction to Digital Electronics

- Overview of digital electronics and its importance in modern technology
- Binary representation, number systems, and conversions

Unit 2: Logic Gates and Boolean Algebra

- Introduction to logic gates (AND, OR, NOT, etc.) and their truth tables
- Boolean algebra and simplification of logic expressions

Unit 3: Combinational Logic Circuits

- Design and analysis of combinational logic circuits
- Multiplexers, decoders, encoders, and arithmetic logic units (ALUs)

Unit 4: Sequential Logic and Flip-Flops

- Sequential logic circuits and the concept of memory
- Types of flip-flops, registers, and their applications

Unit 5: Counters and Shift Registers

- Design and analysis of counters
- Shift registers and their uses in digital systems

Books Recommended:

1. "Digital Electronics" by A. Anand Kumar

- This comprehensive book covers the fundamentals of digital electronics, including binary systems, logic gates, flip-flops, and sequential circuits.
2. "Digital Design" by M. Morris Mano and Michael D. Ciletti
While the authors are not Indian, this book is widely used in Indian engineering programs. It provides a solid foundation in digital design, combinational and sequential logic, and VHDL.
 3. "Digital Systems: Principles and Applications" by Ron Tocci, Neal Widmer, and Greg Moss
This book offers a practical approach to digital systems and covers topics such as microcontrollers, digital communication, and memory systems.
 4. "Digital Electronics: Principles and Integrated Circuits" by Anil K. Maini
This book focuses on the principles of digital electronics and provides insights into integrated circuits and applications.
 5. "Digital Electronics: Principles and Applications" by Roger L. Tokheim
This textbook covers the basics of digital electronics, logic gates, flip-flops, and digital troubleshooting.

Semester-II Digital Electronics P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate in Digital Electronics" includes imparting knowledge to students about Fundamental Concepts, Digital Logic Design, Sequential Logic, Number Systems and Arithmetic, Integrated Circuits and Components, Digital Electronics Applications, Digital Electronics Tools and Software, Troubleshooting and Problem-Solving, Digital Electronics Projects Ethical and Safety Considerations, Emphasize ethical and safety considerations in digital electronics, including responsible use of technology and adherence to safety standards.

Course Outcome:

CO1: Students will understand memory devices, programmable logic devices, and their applications in digital systems.

CO2: Students will gain hands-on experience with digital design tools, simulation software, and develop the ability to design and simulate digital circuits.

CO3: Students will grasp the role of digital electronics in microcontrollers and microprocessors, including embedded systems and their applications.

CO4: Students will be knowledgeable about the integration of digital electronics in communication systems, data transmission, and error detection.

CO5: Students will apply their knowledge by working on practical digital electronics projects, and understand the real-world applications of digital electronics in various industries.

Course Content:

Unit 1: Memory Devices and Programmable Logic Devices

- Introduction to memory devices (RAM, ROM, etc.)
- Programmable logic devices (PLDs), CPLDs, and FPGAs

Unit 2: Digital Electronics Tools and Software

- Introduction to digital design tools, such as VHDL, Verilog, and simulation software
- Hands-on experience with digital design and simulation

Unit 3: Digital Electronics in Microcontrollers and Microprocessors

- Role of digital electronics in microcontrollers and microprocessors
- Embedded systems and their applications

Unit 4: Digital Electronics in Communication Systems

- Digital components in communication systems, including modulators, demodulators, and encoders
- Data transmission and error detection

Unit 5: Digital Electronics Projects and Applications

Practical projects involving digital circuit design and implementation
Real-world applications of digital electronics in various industries

Books Recommended:

1. "Digital Electronics" by A. Anand Kumar

This comprehensive book covers the fundamentals of digital electronics, including binary systems, logic gates, flip-flops, and sequential circuits.

2. "Digital Design" by M. Morris Mano and Michael D. Ciletti

While the authors are not Indian, this book is widely used in Indian engineering programs. It provides a solid foundation in digital design, combinational and sequential logic, and VHDL.

3. "Digital Systems: Principles and Applications" by Ron Tocci, Neal Widmer, and Greg Moss

This book offers a practical approach to digital systems and covers topics such as microcontrollers, digital communication, and memory systems.

4. "Digital Electronics: Principles and Integrated Circuits" by Anil K. Maini

This book focuses on the principles of digital electronics and provides insights into integrated circuits and applications.

5. "Digital Electronics: Principles and Applications" by Roger L. Tokheim

This textbook covers the basics of digital electronics, logic gates, flip-flops, and digital troubleshooting.

Course : Organic Farming [SEC-023]

Semester-I Organic Farming P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate in Organic Farming" includes imparting knowledge to students in Understanding Organic Farming Principles, Organic Soil Management, Crop Production and Management, Organic Pest and Disease Management, Organic Certification and Standards, Sustainable Farming Practices, Organic Farming Techniques for Specific Crops, Farm Management and Planning, Marketing and Distribution of Organic Produce,

Practical Experience and Farm Visits and awareness about Environmental and Social Responsibility.

Course Outcome:

CO1: Students will understand the principles and significance of organic farming and its role in sustainable agriculture.

CO2: Students will be able to assess and improve soil health through organic practices, including composting and organic matter management.

CO3: Students will acquire the knowledge and skills to plan, plant, and manage organic crops, emphasizing organic weed control and pest management.

CO4: Students will develop competence in organic pest and disease management, utilizing natural methods and integrated pest management (IPM) principles.

CO5: Students will understand the organic certification process, meet compliance requirements, and appreciate the importance of maintaining organic standards.

Course Content:

Unit 1: Introduction to Organic Farming

- Overview of organic farming principles and practices
- Historical development and significance of organic agriculture

Unit 2: Soil Health and Management in Organic Farming

- Importance of soil health in organic farming
- Soil conservation, organic matter, composting, and vermicomposting

Unit 3: Organic Crop Production and Management

- Techniques for organic crop production, including seed selection, planting, and crop rotation
- Organic weed management and pest control strategies

Unit 4: Organic Pest and Disease Management

- Natural methods for pest and disease control in organic farming
- Companion planting, biological controls, and cultural practices

Unit 5: Organic Certification and Standards

- Understanding organic certification processes and standards
- Compliance with organic farming regulations and documentation

Books Recommended:

1. "Organic Farming for Sustainable Agriculture" by A. S. Panwar

This book provides a comprehensive overview of organic farming techniques, including soil management, crop production, and pest control.

2. "Organic Farming: A Step by Step Guide" by N. K. Patel

This practical guide covers the principles and practices of organic farming, emphasizing sustainable agriculture.

3. "Organic Farming: Theory and Practice" by Francis Chikweto

The book discusses the theory and practical aspects of organic farming, suitable for beginners and experienced farmers.

4. "Organic Farming: A Promising Way of Farming" by S. K. Pandey

This book explores the promise of organic farming and offers insights into its practices and benefits.

5. "Organic Farming for Sustainable Agriculture" by P. Muthuchamy

The book covers the principles of organic farming and sustainable agriculture, with a focus on Indian farming systems.

6. "Organic Agriculture: A Global Perspective" by R. L. Kapoor

While this book provides a global perspective on organic agriculture, it also includes insights and examples from Indian farming practices.

7. "Principles of Organic Farming" by Dr. J. R. Kadam

This book discusses the fundamental principles of organic farming, soil health, and crop management.

8. "Handbook of Organic Farming" by C. S. Thakur

The handbook offers practical guidance and insights into organic farming practices, including organic pest and disease management.

Semester-II **Organic Farming P-II**

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Certificate in Organic Farming" includes imparting knowledge to students in Understanding Organic Farming Principles, Organic Soil Management, Crop Production and Management, Organic Pest and Disease Management, Organic Certification and Standards, Sustainable Farming Practices, Organic Farming Techniques for Specific Crops, Farm Management and Planning, Marketing and Distribution of Organic Produce, Practical Experience and Farm Visits and awareness about Environmental and Social Responsibility.

Course Outcome:

CO1: Students will apply sustainable farming practices, conserve water resources, and promote biodiversity in organic farming.

CO2: Students will have the skills to implement crop-specific organic farming techniques for a variety of produce, including fruits, vegetables, grains, and herbs.

CO3: Students will effectively manage organic farms, plan budgets, maintain records, and develop marketing strategies for organic produce.

CO4: Students will stay updated on innovations and emerging trends in organic farming, adopting modern technologies and practices where applicable.

CO5: Students will apply their knowledge and practical skills in organic farming through hands-on experience, field visits, and real-world projects.

Course Content:**Unit 1: Sustainable Farming Practices**

- Water conservation and management in organic farming
- Biodiversity conservation, agroforestry, and sustainable resource use

Unit 2: Crop-Specific Organic Farming Techniques

- Techniques for organic cultivation of specific crops (e.g., fruits, vegetables, grains, herbs)
- Crop-specific considerations for organic pest and disease management

Unit 3 : Farm Management and Planning

- Farm planning, budgeting, and record-keeping for organic farms
- Marketing strategies for organic produce and value-added products

Unit 4: Organic Farming Innovations and Emerging Trends

- Exploring innovative practices and emerging trends in organic farming
- Integration of technology and modern techniques in organic agriculture

Unit 5: Practical Application and Field Visits

- Hands-on experience in organic farming practices
- Field visits to organic farms and hands-on exercises in organic farming techniques

Books Recommended:

1. "Organic Farming for Sustainable Agriculture" by A. S. Panwar
This book provides a comprehensive overview of organic farming techniques, including soil management, crop production, and pest control.
2. "Organic Farming: A Step by Step Guide" by N. K. Patel
This practical guide covers the principles and practices of organic farming, emphasizing sustainable agriculture.

3. "Organic Farming: Theory and Practice" by Francis Chikweto
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7. "Principles of Organic Farming" by Dr. J. R. Kadam
This book discusses the fundamental principles of organic farming, soil health, and crop management.
8. "Handbook of Organic Farming" by C. S. Thakur
The handbook offers practical guidance and insights into organic farming practices, including organic pest and disease management.

Course : Industrial Chemistry [SEC-026]

Semester-I

Industrial Chemistry P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Course in Industrial Chemistry" includes imparting skills and Knowledge to students about Introduction to Industrial Chemistry, Chemical Processes and Operations, Chemical Plant Design and Safety, Chemical Production and Manufacturing, Quality Control and Assurance, Environmental Compliance and Sustainability, Materials and Product Development, Chemical Analysis and Testing, Industrial Chemical Safety and

Health, Energy Efficiency and Resource Management, Regulatory Compliance and Quality Standards and Case Studies including Practical Applications.

Course Outcome:

CO1: Students will understand the scope and significance of industrial chemistry in various industries and its impact on economic development.

CO2: Students will be able to describe fundamental chemical processes and unit operations used in industrial settings and apply mass and energy balance principles.

CO3: Students will be proficient in chemical plant design, safety protocols, hazard management, and emergency response in industrial facilities.

CO4: Students will comprehend various techniques and technologies used in large-scale chemical production, including petrochemicals and polymers.

CO5: Students will gain knowledge in quality control, quality assurance, testing, and analysis techniques, ensuring product quality in industrial chemistry.

Course Content:

Unit 1: Introduction to Industrial Chemistry

- Overview of industrial chemistry, its scope, and significance in various industries
- Historical development of industrial chemistry and its contributions to industrial processes

Unit 2: Chemical Processes and Unit Operations

- Introduction to fundamental chemical processes, including reactions, separations, and unit operations
- Principles of mass and energy balances in chemical processes

Unit 3: Chemical Plant Design and Safety

- Chemical plant design principles and considerations
- Safety protocols, hazard management, and emergency response in industrial facilities

Unit 4: Chemical Production and Manufacturing

- Techniques and technologies for the large-scale production of chemicals
- Case studies of chemical production processes, including petrochemicals and polymers

Unit 5: Quality Control and Assurance

- The importance of quality control and assurance in industrial chemistry
- Testing and analysis techniques, quality standards, and quality management systems

Books Recommended:

1. "Industrial Chemistry" by B.K. Sharma

- This comprehensive book covers various aspects of industrial chemistry, including chemical processes, unit operations, and industrial applications.
2. "Introduction to Industrial Chemistry" by Dr. K. Venkatesan and B. D. Tyagi
An introductory textbook that provides an overview of industrial chemistry and its significance in various industries.
 3. "Industrial Chemistry and Environmental Pollution" by A. K. Srivastava and Gaurav Dwivedi
This book discusses the impact of industrial chemistry on the environment and strategies for pollution control and sustainable practices.
 4. "Chemical Process Technology" by Dr. V. R. Kulkarni
A textbook that covers various chemical processes and technologies used in industrial settings.
 5. "Industrial Chemistry: Emerging Trends" by Sanjay P. Jadhav and Avinash H. Salunkhe
This book explores emerging trends in industrial chemistry, including green chemistry, nanotechnology, and sustainable practices.
 6. "Principles and Practice of Industrial Chemistry" by Dr. R. M. Gogte
A textbook that delves into the principles and practices of industrial chemistry, including chemical engineering aspects.
 7. "Chemical Engineering in the Pharmaceutical Industry" by Dr. Subramanyam Sripada
While focused on the pharmaceutical industry, this book discusses the role of chemical engineering and industrial chemistry in pharmaceutical manufacturing.

Semester-II Industrial Chemistry P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course objectives for a "Course in Industrial Chemistry" includes imparting skills and Knowledge to students about Introduction to Industrial Chemistry, Chemical Processes and Operations, Chemical Plant Design and Safety, Chemical Production and Manufacturing, Quality Control and Assurance, Environmental Compliance and Sustainability, Materials and Product Development, Chemical Analysis and Testing, Industrial Chemical Safety and

Health, Energy Efficiency and Resource Management, Regulatory Compliance and Quality Standards and Case Studies including Practical Applications.

Course Outcome:

CO1: Students will appreciate the importance of environmental compliance and sustainable practices in industrial chemistry, including waste management and pollution control.

CO2: Students will understand the development of new materials and products through chemical processes, focusing on research and development.

CO3: Students will be proficient in advanced analytical techniques, instrumentation, and testing procedures used in industrial chemistry.

CO4: Students will prioritize the safety and health of workers in industrial chemical facilities, including the handling of hazardous materials.

CO5: Students will be skilled in optimizing energy use and resource management in industrial processes, contributing to efficiency and sustainability.

Course Content:

Unit 1: Environmental Compliance and Sustainability

- Environmental regulations and sustainable practices in industrial chemistry
- Waste management, pollution control, and sustainability initiatives

Unit 2: Materials and Product Development

- The development of new materials and products through chemical processes
- Research and development in industrial chemistry, innovation, and product design

Unit 3: Chemical Analysis and Testing

- Advanced analytical techniques, instrumentation, and testing procedures
- Laboratory safety, calibration, and data interpretation

Unit 4: Industrial Chemical Safety and Health

- Occupational safety and health in industrial chemical facilities
- Hazardous materials handling, exposure assessment, and safety culture

Unit 5: Energy Efficiency and Resource Management

- Energy optimization and resource management strategies in industrial processes
- Energy efficiency audits, resource conservation, and process integration

Books Recommended:

1. "Industrial Chemistry" by B.K. Sharma
This comprehensive book covers various aspects of industrial chemistry, including chemical processes, unit operations, and industrial applications.

2. "Introduction to Industrial Chemistry" by Dr. K. Venkatesan and B. D. Tyagi
An introductory textbook that provides an overview of industrial chemistry and its significance in various industries.
3. "Industrial Chemistry and Environmental Pollution" by A. K. Srivastava and Gaurav Dwivedi
This book discusses the impact of industrial chemistry on the environment and strategies for pollution control and sustainable practices.
4. "Chemical Process Technology" by Dr. V. R. Kulkarni
A textbook that covers various chemical processes and technologies used in industrial settings.
5. "Industrial Chemistry: Emerging Trends" by Sanjay P. Jadhav and Avinash H. Salunkhe
This book explores emerging trends in industrial chemistry, including green chemistry, nanotechnology, and sustainable practices.
6. "Principles and Practice of Industrial Chemistry" by Dr. R. M. Gogte
A textbook that delves into the principles and practices of industrial chemistry, including chemical engineering aspects.
7. "Chemical Engineering in the Pharmaceutical Industry" by Dr. Subramanyam Sripada
While focused on the pharmaceutical industry, this book discusses the role of chemical engineering and industrial chemistry in pharmaceutical manufacturing.

Course : Archaeological Excavation Skills [SEC-027]

Semester-I

Archaeological Excavation Skills P-I

Credit (L+T+P): 1+0+2

Course Objective:

The Course on "Certificate in Archaeological Excavation Skills" is likely to be a specialized and relatively short course that focuses primarily on hands-on skills and practical knowledge related to archaeological excavation.

Course Outcome:

CO1: Upon completing this Course, students should be able to describe the principles of archaeological excavation and explain the ethical considerations in the field.

CO2: After this Course, students should be able to demonstrate the proper use of excavation tools and equipment, execute excavation procedures safely, and select suitable sites for excavation.

CO3: Students will be able to understand the significance of stratigraphy, identify changes in soil layers, and effectively document context changes at excavation sites.

CO4: At the end of course, students should be proficient in systematically recovering artifacts, properly handling and labeling finds, and accurately recording artifact provenance.

CO5: Students should be able to explain the principles of site preservation, develop strategies to minimize site damage, and introduce basic conservation techniques for archaeological materials.

Course Content:**Unit 1: Introduction to Archaeological Excavation**

- Overview of archaeology and the excavation process
- Historical development of archaeological excavation methods
- Ethical considerations in excavation

Unit 2: Excavation Techniques

- Tools and equipment used in excavation
- Proper excavation procedures and safety protocols
- Site selection and preparation

Unit 3: Stratigraphy and Context

- Understanding stratigraphy and its importance
- Recognizing soil layers and features
- Documentation of context changes

Unit 4: Artifact Recovery and Handling

- Systematic recovery of artifacts
- Importance of proper handling and labeling
- Recording artifact provenance

Unit 5: Site Preservation and Conservation

- Site preservation principles
- Strategies to minimize site damage
- Introduction to conservation techniques

Semester-II
Archaeological Excavation Skills P-II

Credit (L+T+P): 1+0+2

Course Objectives:

The Course on "Certificate in Archaeological Excavation Skills" is likely to be a specialized and relatively short course that focuses primarily on hands-on skills and practical knowledge related to archaeological excavation.

Course Outcome:

CO1: After completing this unit, students will be prepared for archaeological fieldwork, assemble excavation kits and equipment, and demonstrate an understanding of safety protocols and field procedures.

CO2: Students should be able to actively participate in supervised excavation projects, apply excavation techniques and skills, and effectively manage daily excavation routines and documentation.

CO3: Upon completing this unit, students will be proficient in taking accurate field notes, creating sketches and photographs of excavation areas, and producing comprehensive mapping and site documentation.

CO4: Students will be able to identify common artifact types, conduct basic artifact analysis and categorization, and discuss the cultural and historical significance of archaeological finds.

CO5: At the conclusion of this unit, students should be able to follow guidelines for writing excavation reports, successfully complete a small excavation project, and deliver a final presentation of their findings.

Course Content:**Unit 1: Fieldwork Preparation**

- Preparing for archaeological fieldwork
- Assembling excavation kits and equipment
- Safety training and field procedures

Unit 2: Hands-on Excavation

- Participation in supervised excavation projects
- Application of excavation techniques and skills
- Daily excavation routines and recording

Unit 3: Documentation and Recording

- Accurate field note-taking
- Sketching and photography of excavation areas
- Mapping and site documentation

Unit 4: Artifact Identification and Analysis

- Recognizing common artifact types
- Basic artifact analysis and categorization
- Understanding the cultural and historical significance of finds

Unit 5: Report Writing and Certificate Project

- Guidelines for writing excavation reports
- Completion of a small excavation project
- Final presentation of findings

Books Recommended:

1. "Archaeological Excavations: A Manual" by K.N. Dikshit - This book provides a comprehensive guide to archaeological excavation techniques, focusing on practical aspects and methods used in Indian archaeological projects.
2. "A Guide to Archaeological Sites in India" by R.K. Mohanty - While not solely focused on excavation skills, this book offers valuable insights into various archaeological sites in India, their historical context, and the excavation work conducted at these sites.
3. "Field Archaeology in India" by A. Ghosh - Written by renowned Indian archaeologist Amalananda Ghosh, this book covers the basics of field archaeology, excavation techniques, and field documentation as applied in the Indian context.
4. "Excavations at Harappa: Being an Account of Archaeological Excavations at Harappa" by Daya Ram Sahni - This classic work by an early Indian archaeologist details the excavations at Harappa, one of the major Indus Valley Civilization sites.
5. "The Archaeology of India" by Dilip K. Chakrabarti - While not exclusively about excavation skills, this book offers a broader perspective on Indian archaeology, including aspects of excavation and fieldwork.
6. "Principles and Methods of Archaeology" by B.B. Lal - Dr. B.B. Lal is a prominent Indian archaeologist, and this book covers various aspects of archaeology, including excavation techniques and methodologies used in India.
7. "Archaeological Excavations: A Field Manual" by S. Chakraborty and R.K. Srivastava - This book offers practical guidance on archaeological excavation techniques and fieldwork in the Indian context.

Course : Jyotish Shastra and Karmkand [SEC-028]

Semester-I

Jyotish Shastra and Karmkand P-I

Credits (L+T+P) : 1+0+2

Course Objective: The "Certificate in Jyotish Shastra and Karmkand" aims to provide students with a comprehensive understanding of Jyotish Shastra (Vedic Astrology) and Karmkand (rituals and ceremonies) within the context of Hindu traditions. The course is designed to equip students with both theoretical knowledge and practical skills, enabling them to apply these ancient sciences in a meaningful and accurate manner.

Course Outcome:

After Completion of the Course , the student will be able to:

CO1: will Develop a foundational understanding of Jyotish Shastra. Recognize the cultural and historical context of astrological practices.

CO2: Interpret basic astrological charts confidently. Apply theoretical knowledge to analyze individual birth charts.

CO3: Understand the dynamics of planetary movements. Make basic predictions using transit analysis.

CO4: Familiarity with the fundamental concepts of Karmkand. Ability to perform basic rituals for specific occasions.

CO5: Develop a code of ethics for practicing Jyotish Shastra. Apply ethical considerations in astrological consultations.

Course Content:**Unit 1: Introduction to Jyotish Shastra**

- Overview of Jyotish Shastra
- Historical development and cultural context
- Significance and applications in daily life

Unit 2: Basics of Astrological Charts

- Construction and interpretation of birth charts (Kundli)
- Elements of a birth chart: planets, signs, houses
- Practical exercises in reading basic charts

Unit 3: Planetary Movements and Transits

- Study of planetary movements and their effects
- Impact of transits on individuals
- Predictive astrology based on planetary positions

Unit 4: Karmkand - Rituals and Ceremonies (Introduction)

- Overview of Karmkand
- Basic rituals for different life events
- Significance of Pujas and Yagnas

Unit 5: Ethics in Jyotish Shastra and Karmkand

- Ethical considerations in astrological practice
- Responsible use of astrological insights
- Case studies on ethical dilemmas

पाठ्यक्रम परिणाम:

पाठ्यक्रम पूरा होने के बाद, छात्र सक्षम होंगे:

CO1: ज्योतिष शास्त्र की मूलभूत समझ विकसित होगी। ज्योतिषीय प्रथाओं के सांस्कृतिक और ऐतिहासिक संदर्भ को पहचानने में सक्षम।

CO2: बुनियादी ज्योतिषीय चार्ट की आत्मविश्वास से व्याख्या कर पायेगा। व्यक्तिगत जन्म कुंडली का विश्लेषण करने के लिए सैद्धांतिक ज्ञान लागू करने में सक्षम।

CO3: ग्रहों की गतिविधियों की गतिशीलता को समझने में सक्षम। पारगमन विश्लेषण का उपयोग करके बुनियादी भविष्यवाणियाँ करने में सक्षम।

CO4: कर्मकांड की मूलभूत अवधारणाओं से परिचय। विशिष्ट अवसरों के लिए बुनियादी अनुष्ठान करने की क्षमता।

CO5: ज्योतिष शास्त्र का अभ्यास करने के लिए एक आचार संहिता विकसित करने में सक्षम। ज्योतिषीय परामर्श में नैतिक विचारों को लागू करने में सक्षम।

पाठ्यक्रम सामग्री:

इकाई 1: ज्योतिष शास्त्र का परिचय

- ज्योतिष शास्त्र का अवलोकन
- ऐतिहासिक विकास और सांस्कृतिक संदर्भ
- दैनिक जीवन में महत्व और अनुप्रयोग

इकाई 2: ज्योतिषीय चार्ट की मूल बातें

- जन्म कुण्डली का निर्माण एवं व्याख्या
- जन्म कुण्डली के तत्व: ग्रह, राशियाँ, घर
- बुनियादी चार्ट पढ़ने में व्यावहारिक अभ्यास

यूनिट 3: ग्रहों की चाल और पारगमन

- ग्रहों की चाल और उनके प्रभावों का अध्ययन
- व्यक्तियों पर गोचर का प्रभाव
- ग्रहों की स्थिति पर आधारित भविष्यसूचक ज्योतिष

यूनिट 4: कर्मकांड – अनुष्ठान और समारोह (परिचय)

- कर्मकाण्ड का अवलोकन
- विभिन्न जीवन घटनाओं के लिए बुनियादी अनुष्ठान
- पूजा और यज्ञ का महत्व

इकाई 5: ज्योतिष शास्त्र और कर्मकांड में नीतिशास्त्र

- ज्योतिषीय अभ्यास में नैतिक विचार
- ज्योतिषीय अंतर्दृष्टि का जिम्मेदारीपूर्ण उपयोग
- नैतिक दुविधाओं पर केस अध्ययन

Books Recommended:

Jyotish Shastra:

1. **"Brihat Parashara Hora Shastra"** by Sage Parashara: This ancient text is one of the foundational works in Vedic astrology and provides insights into various aspects of astrology.
2. **"Phaladeepika"** by Mantreswara: Written by Mantreswara, this classical work covers predictive astrology and is widely studied by enthusiasts.
3. **"Jataka Parijata"** by Vaidyanatha Dikshita: This text is a comprehensive guide to horoscopy and is considered a valuable resource for understanding predictive astrology.

Karmkand:

1. **"Nitya Karma Puja Prakash"** by Pandit Lekhram: This book is a guide to daily rituals and pujas performed in Hindu households. It covers various aspects of Karmkand.
2. **"Karma Kanda"** by Swami Sivananda: Swami Sivananda provides insights into the significance and performance of rituals in Hinduism. This book is a good introduction to Karmkand practices.
3. **"Nitya Karma Puja Prakash"** by Pandit Gopinath Kaviraj: Another valuable resource on daily rituals and pujas, this book delves into the details of Karmkand.

Semester-II

Jyotish Shastra and Karmkand P-II

Credits (L+T+P) : 1+0+2

Course Objective: The "Certificate in Jyotish Shastra and Karmkand" aims to provide students with a comprehensive understanding of Jyotish Shastra (Vedic Astrology) and Karmkand (rituals and ceremonies) within the context of Hindu traditions. The course is designed to equip students with both theoretical knowledge and practical skills, enabling them to apply these ancient sciences in a meaningful and accurate manner.

After Completion of the Course , the student will be able to:

CO1: Analyze complex astrological charts using advanced concepts. Make accurate predictions incorporating advanced astrological elements.

CO2: Interpret Dashas for predictive astrology. Apply predictive techniques to make accurate astrological predictions.

CO3: Gain practical experience in performing Karmkand rituals. Demonstrate proficiency in conducting various ceremonies.

CO4: Develop a holistic approach by integrating Jyotish Shastra and Karmkand. Apply traditional practices to address modern challenges.

CO5: Apply knowledge and skills in a practical setting through a capstone project. Identify and discuss emerging trends in Jyotish Shastra and Karmkand.

Course Content:

Unit 1: Advanced Concepts in Jyotish Shastra

- In-depth study of planetary houses
- Exploration of divisional charts (Vargas)
- Advanced concepts in Nakshatras

Unit 2: Dashas and Predictive Techniques

- Understanding planetary periods (Dashas)
- Predictive techniques and timing of events
- Application of predictive astrology in real-life scenarios

Unit 3: Practical Application of Karmkand

- Hands-on experience in conducting rituals
- Detailed study of specific ceremonies
- Guest lectures by experienced practitioners

Unit 4: Integration of Jyotish Shastra and Karmkand

- Integrating astrology and rituals for holistic guidance
- Addressing contemporary challenges through traditional practices
- Collaborative projects combining Jyotish and Karmkand

Unit 5: Capstone Project and Future Trends

- Capstone project on a real-life case study
- Exploration of emerging trends in Jyotish Shastra and Karmkand
- Final reflections and future directions in the field

पाठ्यक्रम परिणाम:

पाठ्यक्रम पूरा होने के बाद, छात्र सक्षम होंगे:

CO1: उन्नत अवधारणाओं का उपयोग करके जटिल ज्योतिषीय चार्ट का विश्लेषण करने में सक्षम। उन्नत ज्योतिषीय तत्वों को शामिल करते हुए सटीक भविष्यवाणियाँ करने में सक्षम।

CO2: भविष्यसूचक ज्योतिष के लिए दशाओं की व्याख्या करने में सक्षम। सटीक ज्योतिषीय भविष्यवाणियाँ करने के लिए पूर्वानुमानित तकनीकों को लागू करने में सक्षम।

CO3: कर्मकांड अनुष्ठान करने में व्यावहारिक अनुभव प्राप्त करें। विभिन्न समारोहों के संचालन में दक्षता प्रदर्शित करने में सक्षम।

CO4: ज्योतिष शास्त्र और कर्मकांड को एकीकृत करके समग्र दृष्टिकोण विकसित करने में सक्षम। आधुनिक चुनौतियों से निपटने के लिए पारंपरिक प्रथाओं को लागू करने में सक्षम।

CO5: अंतिम सेमेस्टर में प्रोजेक्ट के माध्यम से ज्ञान और कौशल को व्यावहारिक सेटिंग में लागू करने में सक्षम। ज्योतिष शास्त्र और कर्मकांड में उभरती प्रवृत्तियों को पहचानने और चर्चा करने में सक्षम।

पाठ्यक्रम सामग्री:

इकाई 1: ज्योतिष शास्त्र में उन्नत अवधारणाएँ

- ग्रह गृहों का गहन अध्ययन
- प्रभागीय चार्ट की खोज (वर्गास)
- नक्षत्रों में उन्नत अवधारणाएँ

यूनिट 2: दशाएं और भविष्यवाणी तकनीकें

- ग्रहों की अवधि (दशा) को समझना
- पूर्वानुमानित तकनीकें और घटनाओं का समय
- वास्तविक जीवन परिदृश्यों में भविष्यसूचक ज्योतिष का अनुप्रयोग

यूनिट 3: कर्मकांड का व्यावहारिक अनुप्रयोग

- अनुष्ठानों के संचालन में व्यावहारिक अनुभव
- विशिष्ट समारोहों का विस्तृत अध्ययन
- अनुभवी चिकित्सकों द्वारा अतिथि व्याख्यान

यूनिट 4: ज्योतिष शास्त्र और कर्मकांड का एकीकरण

- समग्र मार्गदर्शन के लिए ज्योतिष और अनुष्ठानों को एकीकृत करना
- पारंपरिक प्रथाओं के माध्यम से समकालीन चुनौतियों का समाधान करना
- ज्योतिष और कर्मकांड को मिलाकर सहयोगात्मक परियोजनाएँ

यूनिट 5: परियोजना कार्य और भविष्य के रुझान

- वास्तविक जीवन के मामले के अध्ययन पर परियोजना कार्य
- ज्योतिष शास्त्र एवं कर्मकाण्ड में उभरती प्रवृत्तियों का अन्वेषण
- क्षेत्र में अंतिम विचार और भविष्य की दिशाएँ

Books Recommended:

Jyotish Shastra:

4. "**Brihat Parashara Hora Shastra**" by Sage Parashara: This ancient text is one of the foundational works in Vedic astrology and provides insights into various aspects of astrology.
5. "**Phaladeepika**" by Mantreswara: Written by Mantreswara, this classical work covers predictive astrology and is widely studied by enthusiasts.
6. "**Jataka Parijata**" by Vaidyanatha Dikshita: This text is a comprehensive guide to horoscopy and is considered a valuable resource for understanding predictive astrology.

Karmkand:

4. "**Nitya Karma Puja Prakash**" by Pandit Lekhram: This book is a guide to daily rituals and pujas performed in Hindu households. It covers various aspects of Karmkand.
5. "**Karma Kanda**" by Swami Sivananda: Swami Sivananda provides insights into the significance and performance of rituals in Hinduism. This book is a good introduction to Karmkand practices.
6. "**Nitya Karma Puja Prakash**" by Pandit Gopinath Kaviraj: Another valuable resource on daily rituals and pujas, this book delves into the details of Karmkand.

Course : Radio Jockey [SEC-029]

Semester-I Radio Jockey P-I

Credits (L+T+P) : 1+0+2

Course Objective: The Certificate Course in RJ, is designed for freshers or beginners who wish to learn the skills and presentation techniques required to work as broadcaster, announcer or anchor for radio, television or internet streaming 1. The course is aimed at providing students with an understanding of concepts about

radio broadcasting, presentation techniques, writing scripts, voice modulation, and live compering for radio, television, and events .

Course Outcome:

CO1: Students will develop a comprehensive understanding of the radio industry, its history, and the specific duties associated with being a radio jockey.

CO2: Students will demonstrate improved communication skills essential for successful radio jockeying, including effective voice modulation, interviewing techniques, and scriptwriting proficiency.

CO3: Students will gain technical competence, being able to operate radio equipment, edit sound, and conduct live broadcasts.

CO4: Students will be capable of planning, organizing, and executing radio shows with engaging content and effective audience interaction.

CO5: Students will exhibit professionalism and ethical behavior, navigating challenges and criticism while upholding the standards of radio broadcasting.

Course Content:

Unit 1: Introduction to Radio Broadcasting

- History and evolution of radio
- Overview of the radio industry
- Understanding different radio formats
- Introduction to the role of a radio jockey

Unit 2: Communication Skills for Radio

- Verbal communication techniques
- Voice modulation and diction
- Interviewing skills
- Scriptwriting for radio

Unit 3: Technical Aspects of Radio Jockeying

- Basics of radio equipment and technology
- Operating radio software and hardware
- Understanding sound editing tools
- Live broadcasting techniques

Unit 4: Radio Programming and Content Creation

- Planning and organizing radio shows
- Creating engaging and relevant content
- Music selection and playlist creation
- Audience engagement strategies

Unit 5: Professionalism and Ethics in Radio

- Code of conduct for radio jockeys
- Legal and ethical considerations
- Building a professional persona
- Handling challenges and criticism

Books Recommended:

1. "Become a Radio Jockey" by R. K. Biswas:

This book is designed to guide aspiring radio jockeys and covers various aspects of the profession.

2. "The Radio Jockey Handbook" by K. M. Cherian:

While the author is not specifically Indian, the book covers the fundamentals of radio jockeying and could be a helpful resource.

3. "Broadcast Journalism: Techniques of Radio and Television News" by Andrew Boyd:

This book provides insights into broadcast journalism, including radio, and might contain useful information for aspiring radio jockeys.

4. "Radio: The Book" by Steve Warren and Paul Marszalek:

Though not focused solely on radio jockeying, this book covers various aspects of radio and could provide a broader understanding of the medium.

5. "The Radio Station: Broadcast, Satellite & Internet" by Michael C. Keith:

This book covers the technical and practical aspects of radio broadcasting, which could be relevant for anyone interested in radio jockeying.

Semester-II Radio Jockey P-II

Credits (L+T+P) : 1+0+2

Course Objective: The Certificate Course in RJ, is designed for freshers or beginners who wish to learn the skills and presentation techniques required to work as broadcaster, announcer or anchor for radio, television or internet streaming 1. The course is aimed at providing students with an understanding of concepts about radio broadcasting, presentation techniques, writing scripts, voice modulation, and live compering for radio, television, and events .

Course Outcome:

CO1: Students will demonstrate advanced communication skills, including nuanced voice modulation, improvisation, and the ability to host specialty shows.

CO2: Students will exhibit proficiency in advanced radio production, including sound editing, commercial creation, collaboration, and remote broadcasting.

CO3: Students will develop skills in utilizing social media, building an online presence, creating podcasts, and integrating online platforms with radio content.

CO4: Students will be equipped with the tools necessary for career development in the radio industry, including resume building, job search strategies, and networking skills.

CO5 : Students will present a comprehensive capstone project, complete a successful radio station internship, and reflect on their overall learning and growth during the course.

Course Content:

Unit 1: Advanced Communication Skills

- Implementing advanced voice modulation techniques.
- Enhancing improvisation skills.
- Applying advanced interview techniques.
- Hosting specialty shows.

Unit 2: Radio Production

- Advanced sound editing and production.
- Creating commercials and promotional content.
- Collaborating on production projects.
- Understanding remote broadcasting techniques.

Unit 3: Social Media and Online Presence

- Utilizing social media for radio promotion.
- Building an online presence as a radio personality.
- Basics of podcasting.
- Integrating online platforms with radio shows.

Unit 4: Career Development in Radio

- Building resumes and portfolios.
- Implementing effective job search strategies.
- Networking in the radio industry.
- Learning from guest lectures by industry professionals.

Unit 5: Capstone Project

- Creating a final project showcasing radio skills.

Books Recommended:

1. "Become a Radio Jockey" by R. K. Biswas:

This book is designed to guide aspiring radio jockeys and covers various aspects of the profession.

2. "The Radio Jockey Handbook" by K. M. Cherian:

While the author is not specifically Indian, the book covers the fundamentals of radio jockeying and could be a helpful resource.

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4. "Radio: The Book" by Steve Warren and Paul Marszalek:

Though not focused solely on radio jockeying, this book covers various aspects of radio and could provide a broader understanding of the medium.

5. "The Radio Station: Broadcast, Satellite & Internet" by Michael C. Keith:

This book covers the technical and practical aspects of radio broadcasting, which could be relevant for anyone interested in radio jockeying.

Course : Fundamental of Computers & Office Automation [SEC-030]

Semester-I

Fundamental of Computers & Office Automation P-I

Credits (L+T+P) : 1+0+2

Course Objective: The course "Fundamentals of Computer and Office Automation" is designed to provide students with a foundational understanding of computer technology and the use of office automation tools in a professional setting. The primary objectives of this course typically include Computer Literacy,

Office Software Proficiency, Efficient Document Management, Effective Communication, File and Data Management, Basic Troubleshooting, Information Security Awareness, Time Management and Productivity, Professionalism and Ethics, Collaboration and Teamwork, Adaptation to Technological Changes with Practical Applications

Course Outcome:

- CO1. By the end of the course, students should be proficient in fundamental computer skills,
- CO2. By the end of the course, students should be able to Proficiently Use Technology for Navigating and utilizing a variety of information technology tools and software applications.
- CO3. By the end of the course, students should be able to Understand Operating System Concepts: Demonstrate a strong understanding of operating system fundamentals, including processes, memory management, file systems of DOS and Windows.
- CO4. By the end of the course, students should be proficient in using Microsoft Office applications
- CO5. By the end of the course, students should be proficient in using Microsoft PowerPoint

Unit 1. Fundamental of Computer:

Block Diagram, Computer Generation and Classification, Characteristics, Types and Applications

Input/Output Units & Computer Memory: Input Devices, Output devices, Keyboard, Mouse, Harddisk, Floppy Disk, CD-ROM, DVD, Plotters, Scanners, Printer, Monitor etc. Computer Memory, Types of Memory

Unit 2. Information Technology: Meaning and needs of Information Technology and IT application in India, Scientific, Business, Educational, Entertainment Application, Industry Automation, Weather Forecasting awareness of ongoing information technology in India.

Computer Languages:

Programming, Machine & Assembly Language, High & Low level Language, Compiler, Interpreter & Assembler.

Computer and Communication: Single User, Multi user, Workstations, and overview of LAN, WAN, MAN, Overview of Modem, email, Internet facilities through WWW

Unit 3. DOS: Introduction to Operating System, Booting Sequence, Warm and Cold Boot, Definition of a File, File naming rules, Introduction to basic DOS commands, Types of DOS Commands

MS-Windows: Introduction to MS-Windows, Features of Windows, Various versions of Windows & its use, My Computer, Recycle Bin, Desktop icons & Windows explorer, Screen Descriptions, Dialogue Boxes and Tool Box, Working with Files & Folders, Shortcuts, accessories, Start Button & Program List.

Unit 4. Introduction to MS-Office:

MS-Word: Introduction to MS-Word, Features and area of use, Word Screen Description, Working with MS-Word, Word Processing Terminology, Editing

Document, Find & Replace, Tab Stops, Formatting the Documents, Spell Check, Inserting Clipart.

MS-Excel: Introduction and area of use, Concepts of workbook and Worksheets, Using different Features with Data, Cell & Text, Inserting, Removing and Resizing of Columns & Rows, Different Views of Worksheets, Column Freezing, Labels Hiding, Splitting, Using different Features with data and Text, Use Formats, Formulae Calculation & Functions, Cell Formatting including Borders & Shading, Working with different Chart Types.

Unit 5. MS-PowerPoint:

Introduction and areas of Use, Working with MS-PowerPoint, Creating New Presentation, Using with wizards slides & its different views, inserting, Deleting and Copying of Slides, Working with Notes, Handout, Column & List and adding Graphics, Sound and Music in slides, Working with PowerPoint, Objects, designing and presentations of slides show, printing presentation notes handouts with print Options

Books Recommended:

1. Rajaraman V.: Professor Rajaraman has authored several books on computer science and information technology. His books cover topics like computer fundamentals, programming, and information systems.
Notable Book: "Fundamentals of Computers"
2. Rajesh Shukla: Rajesh Shukla has written books on office automation and information technology, with a focus on practical applications in the Indian context.
Notable Book: "Office Automation and Information Systems (OAIS)"
3. Ashok N. Kamthane: While Ashok N. Kamthane is known for his books on programming, he has also authored books that cover the basics of computer systems and information technology.
Notable Book: "Computer Fundamentals"
4. Sumita Arora: Sumita Arora's books are widely used in Indian schools and colleges to teach computer science and programming. While her books primarily focus on programming, they often include sections on computer fundamentals and information technology.
Notable Book: "Computer Science with C++"

Semester-II

Fundamental of Computers & Office Automation P-II

Credits (L+T+P) : 1+0+2

Course Objective: The course "Fundamentals of Computer and Office Automation" is designed to provide students with a foundational understanding of computer technology and the use of office automation tools in a professional setting. The primary objectives of this course typically include Computer Literacy,

Office Software Proficiency, Efficient Document Management, Effective Communication, File and Data Management, Basic Troubleshooting, Information Security Awareness, Time Management and Productivity, Professionalism and Ethics, Collaboration and Teamwork, Adaptation to Technological Changes with Practical Applications.

Course Outcome:

- CO1. By the end of the course, students should be proficient in the fundamentals of office automation.
- CO2. By the end of the course, students should be proficient in advanced word processing techniques
- CO3. By the end of the course, students should be proficient in advanced Spreadsheet processing techniques
- CO4. By the end of the course, students should be proficient email communication and Scheduling
- CO5. By the end of the course, students should be proficient in making Presentations and Business Communication

Unit 1: Introduction to Office Automation

- Definition and scope of office automation.
- Historical perspective and evolution.
- Benefits and importance in modern workplaces.
- Key components and tools.

Unit 2: Advanced Word Processing

- Mail Merge and Document Automation
- Long Documents and Styles
- Table of Contents and Indexing
- Working with Graphics and Multimedia Document Accessibility

Unit 2: Advanced Spreadsheet Techniques

- Advanced Functions and Formulas
- Data Analysis Tools
- PivotTables and PivotCharts
- Advanced Charting Techniques
- Spreadsheet Macros and Automation

Unit 4: Email Communication and Scheduling

- Effective email communication.
- Email etiquette and best practices.
- Managing email accounts and folders.
- Scheduling and calendar management.
- Integration with other office automation tools.

Unit 5: Presentations and Business Communication

- Creating and delivering effective presentations.
- Slide design and layout.
- Visual elements and multimedia integration.
- Business correspondence and report writing.
- Using communication tools for professional purposes.

Books Recommended:

1. Rajaraman V.: Professor Rajaraman has authored several books on computer science and information technology. His books cover topics like computer fundamentals, programming, and information systems.
Notable Book: "Fundamentals of Computers"
2. Rajesh Shukla: Rajesh Shukla has written books on office automation and information technology, with a focus on practical applications in the Indian context.
Notable Book: "Office Automation and Information Systems (O AIS)"
3. Ashok N. Kamthane: While Ashok N. Kamthane is known for his books on programming, he has also authored books that cover the basics of computer systems and information technology.
Notable Book: "Computer Fundamentals"
4. Sumita Arora: Sumita Arora's books are widely used in Indian schools and colleges to teach computer science and programming. While her books primarily focus on programming, they often include sections on computer fundamentals and information technology.
Notable Book: "Computer Science with C + +"
