SYLLABUS

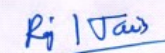# SKILL ENHANCEMENT COURSES

(Common to all Undergraduate Programme under the Faculty of Arts / Commerce / Fine Arts / Science / Social Sciences)
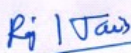
2024-2028

SKILL ENHANCEMENT COURSES

Introducing Skill Enhancement courses into the Undergraduate Curriculum under the National Education Policy (NEP) 2020 signifies a significant leap forward in providing students with a holistic and practical education. These courses are crucial in equipping students with technical and professional skills, empowering them to excel and adapt to the dynamic job market. The University of Rajasthan has taken proactive steps in offering a diverse range of Skill Enhancement courses, encompassing domains such as Computer Science, communication, digital literacy, entrepreneurship, and leadership, among others. This invaluable exposure not only aids students in making well-informed career decisions but also substantially enhances their employability prospects. Embracing these skill-oriented courses, the NEP-2020 envisions cultivating a generation of capable and job-ready professionals, fostering a brighter and more promising future for young graduates.

Students enrolled in any undergraduate program at the University and its affiliated/constituent colleges are provided with diverse skill enhancement courses during the **First and Second Semesters**. This pool of courses offers students the opportunity to choose from various options to enrich their skills and knowledge. Students can tailor their learning experiences by selecting courses that align with their interests and career aspirations, ensuring a well-rounded education and enhanced employability prospects. The list of such courses is as follows –

S. No.	Course Code-Course Title	Is offered to NC Students	Total Credit	Delivery Type of the Course	Page No.
1.	SEC-51T-101-Computer Fundamentals	Yes	2	T	05-08
2.	SEC-51P-102-Introduction to Office Productivity Software	No	2	P	09-11
3.	SEC-51P-103-Data Analysis Using Excel	No	2	P	12-14
4.	SEC-51T-104-Business Communication Skills	Yes	2	T	15-17
5.	SEC-51T-105-Effective Communication Skills	No	2	T+P	18-20
6.	SEC-51T-106-Learning Life Skills	No	2	T+P	21-23
7.	SEC-51T-107-Logical and Critical Thinking	Yes	2	T	24-26
8.	SEC-51T-108-Quantitative Aptitude and Data Interpretation	Yes	2	T	27-28
9.	SEC-51T-109-Finance for Everyone	Yes	2	T	29-31
10.	SEC-51T-110- Basics of Tourism Concepts	Yes	2	T	32-34
11.	SEC-51T-111-Data Literacy	Yes	2	T	35-36
12.	SEC-51T-112-Bio-Fertilizer	No	2	T+P	37-39
13.	SEC-51T-113-Nursery and Gardening Techniques	No	2	T+P	40-42
14.	SEC-51T-114-अनुवाद कौशल	Yes	2	T	43-45
15.	SEC-51T-115-प्रभावी हिन्दी लेखन	Yes	2	T	46-48
16.	SEC-51T-116-Pest Management and Control	No	2	T+P	49-51
17.	SEC-51T-117-Vermicomposting	No	2	T+P	52-54
18.	SEC-51T-118-Understanding Union Budget and Economic Survey	Yes	2	T	55-57
19.	SEC-51T-119-Survey Methodology	Yes	2	T	58-59
20.	SEC-51T-120-Disaster Management	Yes	2	T	60-62

Students enrolled in any undergraduate program at the University and its affiliated/constituent colleges are provided with diverse skill enhancement courses during the **Third and Fourth Semesters**. This pool of courses offers students the opportunity to choose from various options to enrich their skills and knowledge. Students can tailor their learning experiences by selecting courses that align with their interests and career aspirations, ensuring a well-rounded education and enhanced employability prospects. The list of such courses is as follows –
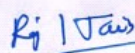
S. No.	Course Code-Course Title	Is offered to NC Students	Total Credit	Delivery Type of the Course	Page No.
1.	SEC-63-201- Environmental Management	Yes	2	T	63-65
2.	SEC-63P-202- Toy Making for Fun, Joy and Holistic Development of Children	No	2	P	66-67
3.	SEC-63P-203- Computer Applications in Fashion Design	No	2	P	68-69
4.	SEC-63P-204- Image Styling	No	2	P	70-71
5.	SEC-63T-205- Intellectual Property Rights (IPR)	Yes	2	T	72-74
6.	SEC-63T-206- Graphics and Animation Designing	Yes	2	T	75-77
7.	SEC-63T-207- Digital Marketing	Yes	2	T	78-80
8.	SEC-63T-208- Introduction to Cyber Security	Yes	2	T	81-83
9.	SEC-63P-209- Introduction to Python Programming	No	2	P	84-86
10.	SEC-63P-210- Frontend Web Designing	No	2	P	87-88
11.	SEC-63P-211- Introduction to SCILAB	Yes	2	P	89-90
12.	SEC-63T-212- Vedic Mathematics	Yes	2	T	91-92
13.	SEC-63T-213- Entrepreneurship Theory and Practice	Yes	2	T	93-95
14.	SEC-63T-214- Global Business Environment	Yes	2	T	96-97
15.	SEC-63T-215- Apiculture	No	2	T+P	98-100
16.	SEC-63T-216- Introduction to Bioinformatics	No	2	T+P	101-103
17.	SEC-63T-217- Herbal Plants	No	2	T+P	104-106
18.	SEC-63T-218- Mushroom Culture Technology	No	2	T+P	107-109
19.	SEC-63T-219- Documentation of Museum Exhibits	Yes	2	T	110-112
20.	SEC-63T-220- Use of Chemicals in Daily Life	No	2	T+P	113-115

Students enrolled in any undergraduate program at the University and its affiliated/constituent colleges are provided with diverse skill enhancement courses during the **Fifth and Sixth Semesters**. This pool of courses offers students the opportunity to choose from various options to enrich their skills and knowledge. Students can tailor their learning experiences by selecting courses that align with their interests and career aspirations, ensuring a well-rounded education and enhanced employability prospects. The list of such courses is as follows –

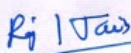| S. No.	Course Code-Course Title	Is offered to NC Students	Total Credit	Delivery Type of the Course	Page No.
1.	SEC-75T-301- Climate Change	Yes	2	T	116-118
2.	SEC-75P-302- Kidvid Mastery: Crafting Interactive Digital Content for Young Minds	No	2	P	119-120
3.	SEC-75P-303- Food Preservation	No	2	P	121-122
4.	SEC-75P-304- Dyeing and Printing	No	2	P	123-124
5.	SEC-75P-305- Off-Loom Weaving	No	2	P	125-126
6.	SEC-75T-306- E-Commerce Technologies	Yes	2	T	127-129
7.	SEC-75T-307- Cyber Security and Ethics	Yes	2	T	130-132
8.	SEC-75P-308- Android Apps Development Using Google's Android Studio	No	2	P	133-134
9.	SEC-75P-309- Data Science using Python	No	2	P	135-136
10.	SEC-75T-310- Principals of Event Management	Yes	2	T	137-138
11.	SEC-75T-311- Exploring Business Opportunities & Market Survey	Yes	2	T	139-140

SEC-51T-101 – Computer Fundamentals

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-101	Computer Fundamentals		5	2
Level of Course	**Type of the Course**	**Credit Distribution**	**Offered to NC Student**	**Delivery Type of the Course**	
		Theory | **Practical**			
Introductory	Skill Enhancement	2 | -	Yes	30 Hours Theory	
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. To provide students with a comprehensive understanding of Information Technology and its evolution, including the different generations of computers and types of computer systems. 2. To familiarize students with the architecture of a computer system, encompassing the CPU, ALU, memory, input/output devices, and hardware-software interactions. 3. To introduce students to various operating systems, such as UNIX, Linux, Windows, and their types, enabling them to comprehend the significance of operating systems in computing. 4. To acquaint students with different programming languages, including low-level and high-level languages, procedural programming, object-oriented programming, functional programming, scripting languages, and their respective applications. 5. To enable students to utilize the Internet effectively, including web browsing, understanding domain names and URLs, utilizing email services, participating in online communication, and exploring e-commerce and m-commerce platforms. 6. To educate students about social, legal, and ethical aspects of information technology, raising awareness about cyber threats, cybercrime prevention, and the importance of data security. 7. To provide insights into various cyber threats and attacks, such as computer viruses, malware, identity theft, phishing, and SQL injection, and to equip students with preventive measures against such threats.				

Examination Scheme-

Regular Students –
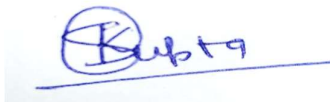
Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-101 –Computer Fundamentals	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Computer Fundamentals will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-101 –Computer Fundamentals	1 Hrs	50 Marks	20 Marks

The question paper for Computer Fundamentals will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-101- Computer Fundamentals

Unit – I

Introduction to Information Technology: Evolution and generation of computers, Type of computers, Micro, mini, mainframe and Super computer, Architecture of a computer system: CPU, ALU, Memory (RAM, ROM families, Cache Memory, Input/Output Devices, Pointing Devices, Hardware and Software

Operating System and Programming Languages: Concept of Operating System, Need, Types of Operating Systems, Batch, Single User, Multi-Processing, Distributed and Timeshare operating systems, Introduction to UNIX, Linux, Windows, Window NT, Virtual Machine, Programming Languages, Low Level and High Level, Generation of Languages, 3 GL and 4 GL languages, Procedural Programming Languages, Object Oriented Programming languages, Functional Programming Languages, Scripting Languages, Logic Programming Languages, Command Line Interface and Graphical User Interface

(8 Hours Lecture)

Unit -II

The Internet: History and Functions of the Internet, Working with Internet, Web Browsers, World Wide Web, Uniform Resource Locator and Domain Names, Uses of Internet, Search for Information, Email, Chatting, Instant Messenger Services, News Group, Teleconferencing, Video Conferencing, E-Commerce and M-Commerce, E-services -Online Banking, Online Payment Modes, Mobile Wallets, Social Networking Sites, E-Learning/ Online Educations, Cloud-Based Storage, Digital Signature
Manage an E-Mail Account, E-Mail Address, Configure E-Mail Account, Login to an Email, Receive Email, Sending Email, Sending Files as Attachments, address book, Downloading files
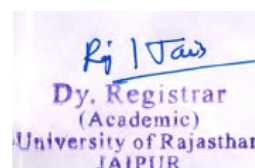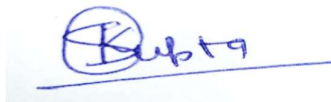
(8 Hours Lecture)

Unit -III

Social, Legal, Ethical Matters and Network Security: Types of Cyber Threats, how to identify Safe Websites/ Portals, Secure Seals (Verisign/Trust pay etc.), Secure Browsing Habits and Mailing Etiquettes, Social, Legal and ethical aspect of IT, Effects on the way we work Socialise, Operational Areas, Cyber Crime, Prevention of Cyber Crime, Cyber Law, Indian IT Act, Intellectual Property Right, Software Piracy, Copy right and Patent, Software Licencing, Proprietary Software, Free and Open-Source Software, GPL Licence,

(7 Hours Lecture)

Unit-IV

Cyber Security Threats: Security Threats and Attacks (Passive, Active), Types and Effects, Computer Virus, Malware, Adware, Ransomware, Spyware, Emotet , Identity Theft, Denial of Service, Man in Middle, Phishing, MySQL/SQL Injection, Password Attacks

Network Security: Risk Assessment and Security Measures, Assets and Type (Data, Applications System and Network), Security issues and Security Measure (Firewall,

Encryption/Decryption), Prevention
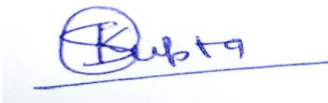
(7 Hours Lecture)

Suggested Books and References –

1. Introduction to Computers by Peter Norton, McGraw-Hill Education
2. Computer Fundamentals by P.K. Sinha and Priti Sinha
3. Fundamental of Computers, Anita Goel
4. Fundamental of Computers, V. Rajaraman
5. Computer Fundamentals and Programming in C, Reema Thereja
6. Computers: Understanding Technology by Floyd Fuller and Brian Larson
7. Computer Science: An Overview by J. Glenn Brookshear
8. Discovering Computers by Misty E. Vermaat, Susan L. Sebok, Steven M. Freund, and Jennifer T. Campbell.
9. Computers Are Your Future by Catherine Laberta
10. The Elements of Computing Systems: Building a Modern Computer from First Principles by Noam Nisan and Shimon Schocken
11. How Computers Work by Ron White and Timothy Edward Downs
12. The Complete Idiot's Guide to the Internet by Peter Kent and Joe Kraynak
13. Cybersecurity for Beginners by Raef Meeuwisse.
14. Cybersecurity: The Beginner's Guide by Dr. Erdal Ozkaya and Hispasec Sistemas

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Students will gain a strong foundational knowledge of Information Technology and the historical progression of computers, leading to a broader perspective on technological advancements.
2. Students will be able to comprehend the architecture of a computer system, including the roles of CPU, ALU, memory, and input/output devices, fostering a deeper understanding of hardware-software interactions.
3. Students will acquire knowledge of different operating systems and programming languages, allowing them to make informed decisions while selecting appropriate tools for various applications.
4. Students will develop proficiency in using the Internet for research, communication, and e-commerce purposes, enhancing their digital literacy skills.
5. Students will understand the importance of social, legal, and ethical aspects of IT and be able to make responsible and secure choices while using technology.
6. Students will be able to identify potential cyber threats and adopt preventive measures to safeguard personal and organizational data from cyber-attacks.
7. By the end of the course, students will be equipped with essential skills and knowledge to navigate the digital world safely, making them more confident and informed users of technology.

SEC-51P-102 – Introduction to Office Productivity Software

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51P-102	Introduction to Office Productivity Software		5	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	-	2	2	60 Hours Practical
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – The objective of this course is to provide participants with a comprehensive understanding of the fundamental features and functionalities of word processing tools, electronic spreadsheets, and presentation software. Through hands-on practice and theoretical knowledge, participants will develop the skills necessary to efficiently create, format, and manage documents, spreadsheets, and presentations. By the end of the course, participants will be able to use these tools effectively to enhance their productivity in various professional and personal scenarios.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-51P-102- Introduction to Office Productivity Software	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Introduction to Office Productivity Software** should be as follows –

- Three Practical Exercises of 10 Marks each from each Unit – 30 Marks
- Viva-Voce – 5 Marks
- Record – 5 Marks

The duration of the Practical Examination will be 1 Hour.

Detailed Syllabus

SEC-51P-102 – Introduction to Office Productivity Software

Unit – I

Word Processing Tools:

Text Basics, Text Formatting and saving files, Objects- Shapes, Clipart and Picture, Word Art, Smart Art, Page Number, Date & Time, Inserting Text boxes Chart, Header & Footers, Bullets and numbered lists, Tables, Styles and Content, Merging Documents Sharing and Maintaining Document. Proofing the Printing

(20 Hours Practical)

Unit -II

Electronic Spreadsheet:

Introduction to spreadsheet, formatting Excel workbook, Perform Calculations with Functions, Sort and Filter Data, Create Charts, PivotTables and Pivot Charts, Protecting and Sharing the workbook, Use Macros to Automate Tasks, Proofing and Printing

(20 Hours Practical)

Unit -III

POWERPOINT:

Setting Up PowerPoint Environment, creating slides and applying themes, working with bullets and numbering, Working with Objects, Hyperlinks and Action Buttons, Working With Movies and Sounds, Using SmartArt and Tables., Animation and Slide Transition, Using slide Master, Slide show option, Proofing and Printing

.   **(20 Hours Practical)**

Suggested Books and References –
1. Microsoft Office for Beginners by M.L. Humphrey
2. Microsoft Word 2016 Step by Step by Joan Lambert and Curtis Frye
3. Excel 2016 Bible by John Walkenbach
4. PowerPoint 2016 For Dummies by Doug Lowe
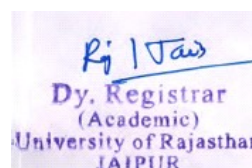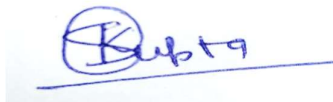5. Microsoft Office 2016 In Practice by Randy Nordell

Course Learning Outcomes:

By the end of the course, students should be able to:
1. **Word Processing:**
   ➢ Format documents using advanced text styling and alignment.
   ➢ Manipulate text with cut, copy, paste, and find & replace functions.
   ➢ Enhance document layout with headers, footers, and page numbering.
   ➢ Create visually appealing content using tables, objects, and styles.
   ➢ Efficiently merge documents and manage templates for streamlined work.
2. **Electronic Spreadsheet:**
   ➢ Apply formatting and calculations using a variety of functions.

➤ Organize and analyze data through sorting, filtering, and charts.
➤ Automate tasks with macros and protect workbooks with passwords.
➤ Create dynamic pivot tables for data visualization and analysis.

3. **PowerPoint:**
  ➤ Design captivating presentations with themes, formatting, and multimedia.
  ➤ Incorporate interactive elements like hyperlinks and action buttons.
  ➤ Apply animations and transitions for engaging slide shows.
  ➤ Customize master slides for consistent and polished presentations.

SEC-51P-103 – Data Analysis Using Excel

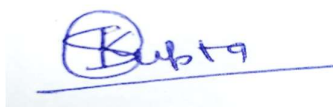| Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-103	Data Analysis Using Excel		5	2
Level of Course	**Type of the Course**	**Credit Distribution**	**Offered to NC Student**	**Delivery Type of the Course**	
		Theory | **Practical**			
Introductory	Skill Enhancement	- | 2	No	60 Hours Practical	
Prerequisites	XII Pass				
Objectives of the Course:	**Objectives of the Course –** 1. To Understand Data Analysis Fundamentals and Excel Basics: 2. Understanding the process of cleaning and transforming data. 3. Understanding Visualization of data. 4. Understanding Inbuilt functions of MS Excel and User defined functions 5. To understand Statistical Tools for Data analysis. 6. Apply Data Analysis to Real-world Scenarios.				

Examination Scheme-
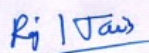
Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-51P-103-Data Analysis Using Excel	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Data Analysis Using Excel** should be as follows –
- Three Practical Exercises of 10 Marks each from each Unit – 30 Marks
- Viva-Voce – 5 Marks
- Record – 5 Marks

The duration of the Practical Examination will be 1 Hour.

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Detailed Syllabus

SEC-51P-103 – Data Analysis Using Excel

Unit-I

Introduction: Introduction to data analysis concepts. Excel's interface and its features. Data entry, formatting, and basic calculations on the worksheet. Introduction to Simple Excel functions (SUM, AVERAGE, COUNT, date formats etc.). Various forms of storing an Excel file. Managing worksheets and workbooks. Storing Workbooks.

(16 Hours Practical)

Unit-II

Data Cleaning and Transformation Importing data from various sources (CSV, text, databases). Data cleaning techniques (removing duplicates, handling missing values). Text-to-columns and data splitting. Data validation and conditional formatting.

(12 Hours Practical)

Unit-III

Visualization: Creating basic charts (bar, line, pie). Customizing charts (titles, labels, legends). Using advanced chart types (scatter plots, histograms). Adding trend lines and data labels. Creating dynamic charts with slicers. Probability Distributions and their graphical representation. Pivot Tables: Creating, modifying, and summarizing data. Pivot Charts: Visualizing Pivot Table data. Introduction to What-If Analysis
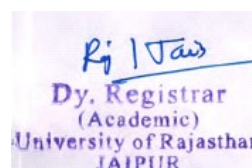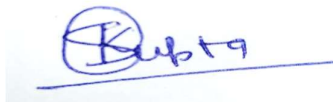
(16 Hours Practical)

Unit-IV

Data Analysis Tools: Introduction to basic statistical functions (STDEV, MIN, MAX). Using Excel's built-in analysis tools (Correlation, Regression). Introduction to Power Query for data transformation. User Defined Formulae, Data Analysis Tool-Pack, Preparation of Correlation Matrix, Fitting multiple Regression equation. Generating Random Numbers, Statistical Inference tools: Application of Z-Test, t-test, F-tests, ANOVA- One way and Two-way.

(16 Hours Practical)

Suggested Books and References –

1. Paul McFedries (2022): Excel Data Analysis For Dummies, 5th Edition, John Wiley & Sons, ISBN: 978-1-119-84442-6
2. K. Berk (Author), Partrick Carey (2003), Data Analysis with Microsoft Excel, Duxbury Press; New edition (25 March 2003), ISBN-13 : 978-0534407148

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3. Robert de Levie(2003), Advanced Excel for Scientific Data Analysis, OUP USA (9 October 2003), ISBN-13 : 978-0195170894
4. Manisha Nigam(2019): Data Analysis with Excel, BPB Publications; First Edition (5 September 2019), ISBN-13 : 978-9388176675
5. L. Winston Wayne (2019): MICROSOFT EXCEL 2019: DATA ANALYSIS & BUSINESS MODEL, 6th Edn., PHI Learning Pvt. Ltd. (11 October 2019), ISBN-13 : 978-9389347180
6. Wayne Winston(2017), Microsoft Excel Data Analysis and Business Modeling, Microsoft Press; 5th edition, ISBN-13 : 978-1509304219
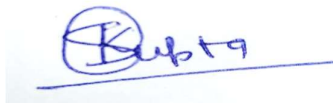
Suggested E-resources:

Online Lecture Notes and Course Materials:
1. E-PG Pathshala:
   https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=fBYckQKJvP3a/8Vd3L08tQ==
2. **Lecture Notes:**
   1. https://www.gacbe.ac.in/pdf/ematerial/18BCS5EL-U5.pdf
   2. https://drive.google.com/file/d/11yrw1jBoI2RRaBIj4Vy3XpZQhaM8D1dz/view?pli=1
   3. https://www.guru99.com/excel-tutorials.html
   4. https://gacbe.ac.in/pdf/ematerial/18MEC24C-U4.pdf

Course Learning Outcomes:
After completing this short-term course students will gain with
1. Proficiency in Excel.
2. Data Analytical tools with Excel.
3. Data Visualization tools with MS-Excel:
4. Creating Pivot-Table Mastery.
5. Participants will have a solid foundation for further studies in data analysis, statistics, or related fields.
6. Successful completion of the course can enhance participants' career prospects by equipping them with sought-after data analysis skills.
7. Participants will be better equipped to solve real-world problems using data-driven insights and informed decision-making.
8. Students will realize confident navigating and utilizing Excel for various data analysis tasks.

SEC-51T-104 – Business Communication Skills

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-104	Business Communication Skills		5	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lectures
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • Acquire the essentials of business communication skills. • Acquire career skills and truly pursue to partake in a successful career path. • Teach them all types of business correspondences including electronic. • Prepare good resume, prepare for interviews and group discussions. • Explore desired career opportunities in the employment market in consideration of an individual SWOT.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-104-Business Communication Skills	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Business Communication Skill will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-104-Business Communication Skills	1 Hrs	50 Marks	20 Marks

The question paper for Business Communication Skill will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour The examinees will have to give their answers on an OMR sheet only to be provided by

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the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-51T-104 – Business Communication Skills

Unit – I

Introduction to the Essentials of Business Communication
Meaning, Process and Functions, Channels and Types of Communication, Effective Communication and its Barriers, Importance of Business Communication

(7 Hours Lecture)

Unit – II

Business Correspondence
Advertisement, Inviting Tender and Placing Order, Notice, Circular, Memo, Minutes of Meeting, Appreciation and Complaint Letters

(8 Hours Lecture)

Unit – III

Oral Business Communication
Greetings and Telephonic Conversation, PPT Making and Presentation Skills Interview, Group Discussion

(8 Hours Lecture)

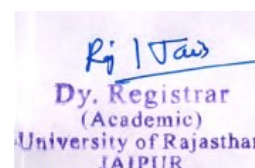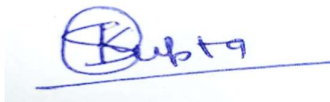### Unit – IV

Electronic Communication
Email Writing, Virtual Business Meetings, Use of social media for Business Communication, Internet Etiquette and Correct use of Emoticons

(7 Hours Lecture)

Suggested Books and References –

1. English Communication – A Textbook for AECC-2 (Cambridge),
   Somak Mandal/ Sharmishtha Chatterjee Sriwastav (Cambridge)
2. Interact – A Course in Communicative English,
   Malathy Krishnam/ Zinia Mitra/ Binayak Ray (Cambridge)
3. English Fluency – I, Pooja Khanna/ Neerja Deswal
4. Sen Madhucchanda (2010), An Introduction to Critical Thinking, Pearson, Delhi
5. Silvia P.J. (2007), How to Read a Lot, American Psychological Association, Washington DC
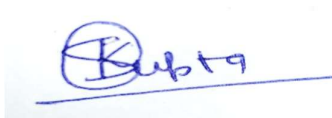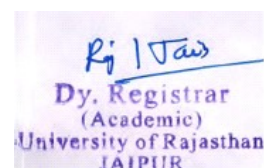
Suggested E-resources:

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1. **Online Lecture Notes and Course Materials:**
   Online platform SWAYAM

Course Learning Outcomes:

By the end of the course, students should be able to:
1. By the end of this program participants should have a clear understanding of what good communication skills are and what they can do to improve their abilities.
2. Participate in a digital lifestyle conversant with computers, applications, Internet and nuances of cyber security.
3. Engage in effective communication by respecting diversity and embracing good listening skills.
4. Distinguish the guiding principles for communication in a diverse, smaller internal world.

SEC-51T-105 – Effective Communication Skills

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-105	Effective Communication Skills		5	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	Skill Enhancement	2	-	No	20 Lectures and 20 Hour Activity Based
Prerequisites	XII Pass				
Objectives of the Course:	• Develop a deep understanding of key concepts • To acquire good LSRW • To Prepare them for course and employment • Understand the importance of empathetic listening • Master a subject or tool with hands-on projects				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-105-Effective Communication Skills	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Effective Communication Skills will be so set that it has 40 multiple-choice questions (Bilingual) of One mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on an OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-105 – Effective Communication Skills

Unit – I

Communication Process

Meaning of Communication and its Components, Types of Communication, Barriers of Communication, Activity-based Learning

(8 Hours Lecture)

Unit – II

Non-Verbal Communication

Meaning of non-verbal communication, Introduction to modes of non-verbal communication, Do's and Don'ts, Activity-based Learning

(7 Hours Lecture)

Unit – III

Listening and Speaking Skills

Techniques of Effective Listening, Listening and Comprehension, Understanding English Sounds, Tone and Intonation, Activity-based Learning

(8 Hours Lecture)

Unit – IV

Reading and Writing Skills

Techniques of Effective Reading, Reading and Comprehension, Common Errors, Activity-based Learning
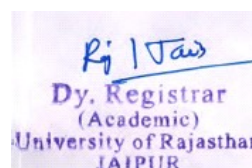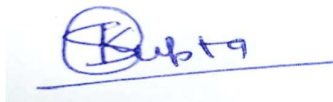
(7 Hours Lecture)

Suggested Books and References –

1. English Communication – A Textbook for AECC-2 (Cambridge),
   Somak Mandal/ Sharmishtha Chatterjee Sriwastav (Cambridge)
5. Interact – A Course in Communicative English,
   Malathy Krishnam/ Zinia Mitra/ Binayak Ray (Cambridge)
6. English Fluency – I, Pooja Khanna/ Neerja Deswal
7. Sen Madhucchanda (2010), An Introduction to Critical Thinking, Pearson, Delhi
8. Silvia P.J. (2007), How to Read a Lot, American Psychological Association, Washington DC

Suggested E-resources:

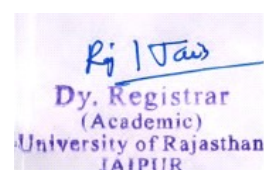1. **Online Lecture Notes and Course Materials:**
   Online platform SWAYAM

Course Learning Outcomes:

By the end of the course, students should be able to:
1. By the end of this program participants should have a clear understanding of what good communication skills are and what they can do to improve their abilities.
2. Participate in a digital lifestyle conversant with computers, applications, Internet and nuances of cyber security.
3. Engage in effective communication by respecting diversity and embracing good listening skills.
4. Distinguish the guiding principles for communication in a diverse, smaller internal world.

SEC-51T-106 – Learning Life Skills

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
I/II	SEC-51T-106	Learning Life Skills	5	2

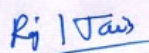| Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	No	20 Lectures and 20 Hour Activity Based
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • To help young students to better understand themselves • To get along well with others • To make responsible and mature decisions • To cope with life's inevitable challenges realistically and effectively				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-106-Learning Life Skills	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Learning Life Skills will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-51T-106 – Learning Life Skills

Unit – I

 Life Skills-Introduction, Need and Significance, Benefits and Methods of Life Skills Education; Important Reports and Declarations related to Life Skill Education, Contributions of Various International Organizations to Life Skill Education, Classification of Life Skills - Generic, Problem Specific and Area Specific Skills.

(08 Lectures)

Unit –II

Social Skills-Self Awareness, Empathy, Effective Communication, Leadership; Interpersonal Relationship: Friendship, Parent-youth conflict, generational gap.

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(08 Lectures)

Unit –III

Thinking Skills- Creative Thinking, Critical Thinking, Decision Making, Problem-Solving, Comprehending and Memorising.
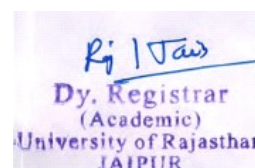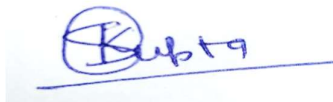
(07 Lectures)

Unit-IV

Emotional Skills- Coping with Stress, Coping with Emotions; Positive Emotions and States; Coping with Anger and Aggression**.**

(07 Lectures)

Suggested Books and References –

1. Saravanakumar, A. R. (2020) Life Skill Education through Lifelong Learning. Maharashtra, India, Laxmi Book Publication.
2. Verma, S. (2014) Development of Life Skills and Professional Practice. Noida, India, Vikas Publishing House Pvt. Ltd.
3. UNICEF Comprehensive Life Skills Framework.
4. AIF Handbook of Activities on Life Skills (2018)
5. Adolescence and Life Skills (2003) Commonwealth Youth Programme Asia Centre, Tata Mc Graw- Hill
6. Family Health International, NACO, USAID (2007), Life Skills Education tool kit for Orphans and vulnerable children in India
7. Life Skills Resource Manual, Schools Total Health Program, (2006), Health Education and Promotion International Inc., Chennai.

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8. Kumar. J. Keval, (2008), Mass Communication in India, Jaico Publication India Pvt. Ltd.
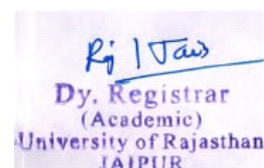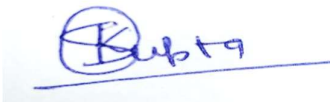
Suggested E-resources:

1. www.AIF.org
2. www.unicef.org
3. www.who.org

Course Learning Outcomes:

By the end of the course, students will be able to:
1. identify and share the interests, aspirations, strengths and weaknesses by enhancing self-awareness.
2. develop social and communication skills and learn to maintain healthy relationships.
3. analyse and evaluate situations, actions and thoughts rationally and creatively.
4. learn to manage and cope with stress and deal effectively with positive and negative emotions.

SEC-51T-107 – Logical and Critical Thinking

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-107	Logical and Critical Thinking		5	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – This course aims to equip students with a comprehensive understanding of various logical reasoning concepts and critical thinking techniques. Through a diverse range of topics and exercises, the course seeks to enhance students' ability to analyze information, evaluate arguments, solve complex problems, and make informed decisions. By the end of the course, students should have a solid foundation in logical reasoning and critical thinking, empowering them to excel in various academic, professional, and everyday scenarios.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-107- Logical and Critical Thinking	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

    The question paper of Logical and Critical Thinking will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-107- Logical and Critical Thinking	1 Hrs	50 Marks	20 Marks

    The question paper of Logical and Critical Thinking will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-107- Logical and Critical Thinking

Unit – I

Alphabet test, Alphanumeric series, Analogy, Analytical and Decision Making, Arithmetic Reasoning, Artificial Language,

(7 Hours Lecture)

Unit – II

Blood Relations, Calendars, Cause and Effect, Classification, Clocks, Code Inequalities, Coded equations, Coding and Decoding, Course of Action, Critical path, Critical Reasoning, Cubes and cuboids,

(8 Hours Lecture)

Unit – III

Data Sufficiency, Decision-making, Deductive Reasoning/Statement Analysis, Dice, Direction questions, Embedded Images, Figure Matrix, Input-Output, Mirror and Water Images, Odd One Out, Ordering and Ranking, Paper folding; unfolding questions

(8 Hours Lecture)

Unit – IV

Picture Series and Sequences, Puzzles, Reasoning Analogies, Seating Arrangements, Shape Construction, Statement and Assumptions, Statement and Conclusions, Syllogism, Venn Diagram, Verbal Reasoning, Visual Reasoning
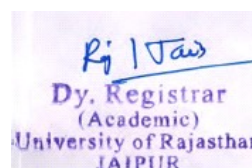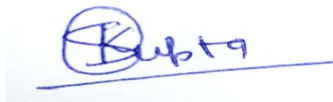
(7 Hours Lecture)

Suggested Books and References –

1. A Modern Approach to Logical Reasoning by R.S. Aggarwal
2. Logical and Analytical Reasoning by A.K. Gupta
3. How to Prepare for Logical Reasoning for CAT by Arun Sharma
4. Verbal and Non-Verbal Reasoning by R.S. Aggarwal
5. Analytical Reasoning by M.K. Pandey
6. Logical Reasoning and Data Interpretation for CAT by Nishit K. Sinha
7. The PowerScore LSAT Logical Reasoning Bible by David M. Killoran
8. Critical Thinking: A Student's Introduction by Gregory Bassham, William Irwin, and Henry Nardone
9. Thinking, Fast and Slow by Daniel Kahneman
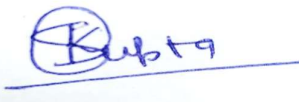10. The Art of Thinking Clearly by Rolf Dobell
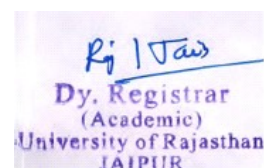
Course Learning Outcomes:

By the end of the course, students should be able to:

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1. Demonstrate Proficiency in Various Logical Reasoning Techniques: Students will grasp the fundamental principles of logical reasoning and apply techniques such as analogy, classification, coding-decoding, statement analysis, syllogism, and more.
2. Enhance Critical Thinking Skills: Students will develop the ability to critically evaluate information, identify assumptions, and analyze arguments to make well-reasoned decisions.
3. Solve Complex Problems: Students will be adept at solving intricate problems involving arithmetic reasoning, puzzles, sequencing, and other logical challenges.
4. Interpret Visual and Verbal Data: Students will effectively interpret visual information, such as figure matrices, and comprehend verbal reasoning exercises to arrive at accurate conclusions.
5. Navigate Various Question Types: Students will become proficient in handling a wide range of logical reasoning question formats, including seating arrangements, blood relations, calendars, and more.
6. Strengthen Decision-Making Abilities: Students will sharpen their decision-making skills by considering cause and effect relationships, identifying critical paths, and applying course of action principles.
7. Enhance Test-Taking Abilities: Students will be well-prepared for competitive exams and assessments that include logical reasoning sections, as they will have practiced a diverse set of reasoning challenges.
8. Apply Logical Thinking in Real-Life Contexts: Students will be able to apply logical and critical thinking techniques to real-life situations, improving their problem-solving abilities in various domains.

SEC-108 – Quantitative Aptitude and Data Interpretation

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
I/II	SEC-51T-108	Quantitative Aptitude and Data Interpretation	5	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • To provide a strong foundation in the number system and basic arithmetic concepts. • To understand divisibility rules, decimal fractions, greatest common divisor (GCD), least common multiple (LCM), surds, indices, and simplifying square and cube roots. • To solve problems related to averages, ages, allegations, and percentages.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-108- Quantitative Aptitude and Data Interpretation	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Quantitative Aptitude and Data Interpretation will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

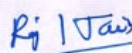| Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-108- Quantitative Aptitude and Data Interpretation	1 Hrs	50 Marks	20 Marks

The question paper for Quantitative Aptitude and Data Interpretation will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet

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Detailed Syllabus

SEC-51T-108 – Quantitative Aptitude and Data Interpretation

Unit – I

Number system, divisibility, decimal fractions, GCD & LCM, surds and indices, Squares and Cubes, square roots and cube roots, problems on averages and ages, allegations, percentages.

(08 Hours Lecture)

Unit -II

Profit & loss, partnership, discount, simple & compound interest, ratio & proportion and variation.

(06 Hours Lecture)

Unit -III

Time and work, time, speed and distance, geometry and mensuration, coordinate geometry, functions, inequalities, quadratic and other equations, logarithms, permutations and combinations, probability, set theory

(08 Hours Lecture)

Unit-IV

Basic modes of data Interpretation, Data, Nature of Data, Data represents variable, types of variable need for capturing data, Data interpretation -definition, organization and presentation, Tabular presentation. Tables, bar Charts- Simple, Stacked, Composite, representation of percentage, show deviation, XY Charts, Pie Charts, Cases, Challenges of data interpretation, Data Sufficiency
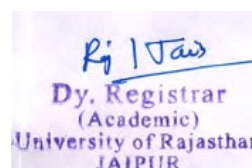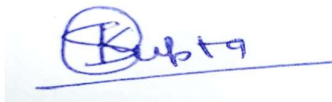
(08 Hours Lecture)

Suggested Books and References –

1. R.S. Aggarwal, Quantitative Aptitude for Competitive Examinations, S. Chand, 2018.
2. Arun Sharma, Teach Yourself Quantitative Aptitude, McGraw Hill, 2019.
3. P.A. Anand, Wiley Quantitative Aptitude For Competitive Exams, Wiley India Pvt.Ltd, 2015.
4. Rajesh Verma, Fast Track Objective Arithmetic, Arihant Publications, 2018.
5. Nishit K. Sinha - The Pearson Guide to Quantitative Aptitude and Data Interpretation for the CAT-Pearson Education (2012)

Course Learning Outcomes:

By the end of the course, students will be proficient in solving a range of mathematical problems, interpreting data, and making informed

decisions in various contexts. They will develop skills of quantitative reasoning that can be applied both academically and in practical situations.

SEC-51T-109 – Finance for Everyone

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
I/II	SEC-51T-109	Finance for Everyone	5	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture

Prerequisites	XII Pass
Objectives of the Course:	Objectives of the Course – The course "Finance for Everyone" aims to provide participants with a solid foundation in financial literacy and personal finance management. Through comprehensive lessons, it seeks to familiarize students with essential financial concepts, various financial institutions, investment strategies, taxation principles, and insurance planning. The course is designed to empower individuals with the knowledge and skills necessary to make informed financial decisions and effectively manage their finances.

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-109- Finance for Everyone	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Finance for Everyone will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-009- Finance for Everyone	1 Hrs	50 Marks	20 Marks

The question paper for Finance for Everyone will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-109 – Finance for Everyone

Unit – I

Lesson:1 – Introduction to Financial Literacy and Personal Finance
Lesson:2 – Brief about Financial Institutions (Banks, NBFC and Insurance Companies)
Lesson:3 – Financial Planning and Decisions
Lesson:4 – Introduction to Financial Forecasting and Budgeting

(08 Hours Lecture)

Unit -II

Lesson:1 – Introduction to Banking and Electronic Banking (Including Digital Payments)
Lesson:2 – Basic Concepts of Investment
Lesson:3 – Basics of Money Market
Lesson:4 – Brief about Capital Market and its types
.

(08 Hours Lecture)

Unit -III

Lesson:1 – Introduction to Insurance Planning
Lesson:2 – Various Types of Insurance
Lesson:3 – Introduction to Indirect Tax (GST)

(06 Hours Lecture)

Unit-IV

Lesson:1 – Income Tax: An Introduction
Lesson:2 – Basic Concepts of Taxation (Including Residential Status and Heads of Income)
Lesson:3 – Personal Tax Planning and Reduction of Tax Liability
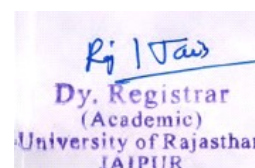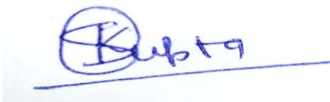
(08 Hours Lecture)

Suggested Books and References –

1. Finance for everyone: Devinder Kumar Anand, Vikas Publishing House Pvt Ltd.
2. Basics of Finance and Banking: Bhattacharya & Agarwal, Himalya Publishing House.
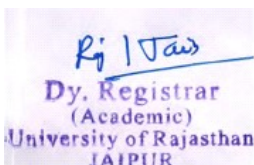
Course Learning Outcomes:

By the end of the course, students should be able to:

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1. Recognize the significance of financial literacy and its role in making informed financial decisions.
2. Understand the functions and roles of different financial institutions, including banks, NBFCs, and insurance companies.
3. Develop effective financial planning skills, set financial goals, and make prudent financial decisions.
4. Apply financial forecasting and budgeting techniques to manage expenses and achieve financial objectives.
5. Navigate electronic banking, including digital payments, and utilize online banking services effectively.
6. Grasp fundamental investment concepts, assess risk and return relationships, and explore different investment options.
7. Comprehend the basics of the money market and its importance in short-term financing.
8. Gain insight into the capital market and its primary and secondary segments, along with various traded securities.
9. Understand the significance of insurance planning, choose appropriate insurance products, and manage financial risks.
10. Identify different types of insurance, such as life, health, property, and liability insurance, and their respective benefits.
11. Gain a basic understanding of the Goods and Services Tax (GST) and its implications.
12. Familiarize themselves with income tax, its fundamental concepts, residential status determination, and various sources of income.
13. Employ personal tax planning strategies, optimize tax liabilities, and explore tax-saving investment options

SEC-51T-110 – Basics of Tourism Concepts

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-110	Basics of Tourism Concepts		5	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. Introduce students to the core concepts of tourism, including its historical development, types, forms, and components. 2. Provide insights into the characteristics and patterns of growth in domestic and international tourism. 3. Develop an understanding of the motivations driving tourism demand and the factors influencing individuals' choices to travel. 4. Explore the wide-ranging impacts of tourism, including economic, socio-cultural, and environmental effects, both positive and negative.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-110- Basics of Tourism Concepts	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Basics of Tourism Concepts will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

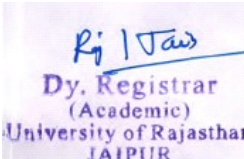| Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-110- Basics of Tourism Concepts	1 Hrs	50 Marks	20 Marks

The question paper for Basics of Tourism Concepts will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by

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the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-51T-110 – Basics of Tourism Concepts

Unit I

Tourism Concepts: Definitions and historical development of tourism, Types of tourist-Visitor-Excursionists, Types and Forms of Tourism, Tourism system: Nature, characteristic, Tourism: Components and Characteristics

(08 Hours Lecture)

Unit II

Domestic Tourism: features, pattern of growth and profile
International Tourism: Tourist generating and destination regions Tourism motivation and tourism demand

(08 Hours Lecture)

Unit III

Tourism Impacts: Positive and Negative Impacts of Tourism; Economic, Socio-Cultural, and Environmental Impact

(07 Hours Lecture)

Unit IV

Tourism Organizations: Objectives and Role of ITDC, TFCI, IRCTC
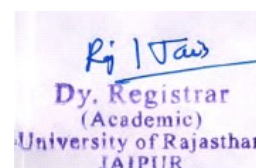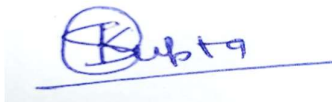
(07 Hours Lecture)

Suggested Books and References –

1. Burkart & Medlik : Tourism: Past, Present and Future
2. Chunky Gee et-al: Travel Industry
3. Cooper C., Fletcher J., Gilbert D and Wanhil. S: Tourism: Principles and Practices
4. J.K. Sharma: Tourism Planning and Development -
5. McIntosh, R.W.: Tourism: Principles and Practices
6. Mill and Morrison: Tourism systems
7. P.C. Sinha: Tourism Management Vol. - 4
8. Prannath Seth: Successful Tourism Management
9. R. Gartner: Tourism Development
10. Sagar Singh: Studies in Tourism

Course Learning Outcomes:

By the end of the course, students should be able to:

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1. Identify and assess the positive and negative impacts of tourism on different sectors.
2. Understand the economic effects of tourism, including income generation and employment opportunities.
3. Analyze the socio-cultural impacts of tourism on local communities and cultural heritage.
4. Recognize the environmental impacts of tourism and its effects on ecosystems and natural resources.

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SEC-51T-111 – Data Literacy

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-111	Data Literacy		5	2
Level of Course	**Type of the Course**	**Credit Distribution**	**Offered to NC Student**	**Delivery Type of the Course**	
		Theory | **Practical**			
Introductory	Skill Enhancement	2 | -	Yes	30 Hours Lecture	
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – The objective of this course is to develop students' data literacy skills. This course will give students skills in understanding and interpreting data from simple descriptive representation of data, to the use of graphs.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T--111- Data Literacy	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for Data Literacy will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-111- Data Literacy	1 Hrs	50 Marks	20 Marks

The question paper for Data Literacy will be so set that it has 50 multiple choice questions (Bilingual) of One mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-111 – Data Literacy

Unit – I

Data- Meaning and Types, Nature and Properties of Data, Uses of Data

(07 Hours Lecture)

Unit -II

Sources of Data, Types of Government Data, Types of Measurement, Reliability and Validity

(07 Hours Lecture)

Unit -III

Techniques of data Collection, Text as Data, Different Data sets and how to read them

(08 Hours Lecture)

Unit-IV

Data visualization, Graphical and Tabular representation of data, Types of Data Analysis

(08 Hours Lecture)

Suggested Books and References –

1. Walliman Nicholas, Research Methods- The Basics, Routledge, 2011
2. Pandey P. and Pandey M.M, Research Methodology: Tools and Techniques, Bridge Center, 2015
3. Kothari C. R. Research Methodology: Tools and Techniques, (Chapter 6), New Age International Publishers, 1990
4. Research Methods, Alagappa University, Unit 8-11, Vikas Publishing House, 2020
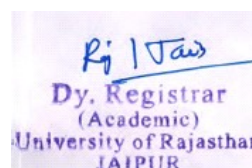
Suggested E-resources:
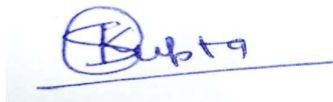
Online Lecture Notes and Course Materials:
1. https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=sP9KhysDemvbqPHPOAmaYw==
2. https://egyankosh.ac.in/bitstream/ unit 2
3. https://www.toppr.com/guides/maths/statistics/data/
4. **https://www.simplilearn.com/what-is-data-article**

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Identify different types of data and data sources
2. Evaluate how quantitative data is used within everyday life and academics;
3. Recognise the limitations of quantitative data;

4. Apply basic data literacy skills to practical analysis of datasets.

SEC-51T-112 – Biofertilizers

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-112	Biofertilizers		5	2
Level of Course	Type of the Course	Credit Distribution	Offered to NC Student	Delivery Type of the Course	
		Theory	Practical		
Introductory	Skill Enhancement	2	-	No	15 Hours Lecture +30 Hours Lab Activity / Fieldwork
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – The concept of biofertilizers and develop the skills for handling microbial inoculants. The growth and multiplication conditions of useful microbes and their role in mineral cycling and nutrition to plants. Various methods of decomposition of biodegradable waste and their conversion to compost				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-112-Biofertilizers	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for biofertilizers will be so set that it has 40 multiple choice questions (Bilingual) of One mark each. The Question paper will be of duration of 1 hours. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-112 – Biofertilizers

Unit –I

Biofertilizers - Introduction, status and scope; Rhizobia: isolation, purification, morphology, identification, and mass cultivation. Actinorrhizal symbiosis.

(04 Hours Lecture)

Unit -II

Azospirillum: isolation and mass multiplication – carrier-based inoculant, associative effect of different microorganisms. *Azotobacter*: classification, characteristics – crop response to *Azotobacter* inoculum, maintenance and mass multiplication

(04 Hours Lecture)

Unit –III

Cyanobacteria (blue green algae), *Azolla* and *Anabaena azollae* association, nitrogen fixation, factors affecting growth, blue green algae and *Azolla* in rice cultivation. FCO specifications and quality control of biofertilizers
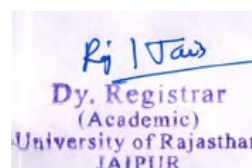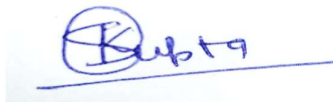
(04 Hours Lecture)

Unit-IV

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

(03 Hours Lecture)

Practical:
1. Sterilization of glassware, culture media, other substances, materials and equipment
2. Study of heterocyst in cyanobacteria.
3. Isolation and culturing of Rhizobium from root nodules of leguminous crops.
4. Preparation of media for microbial biofertilizers.
5. Preparation of media for microbes.
6. Isolation of Azotobacter from root nodules of leguminous crops.
7. Cultivation of blue-green algae.
8. Study of different types of Cyanobacteria used for nitrogen fixation.
9. Study various biocontrol methods and their applications Pheromone trap, Trichoderma, Pseudomonas, Neem etc.
10. Preparation of Vermicompost.

(30 Hours Lab Activity)

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Suggested Books and References –

1. Dubey, R.C. (2005). A Text Book of Biotechnology. S. Chand and Co, New Delhi.
2. John Jothi Prakash, E. (2004). Outlines of Plant Biotechnology. Emkay Publication, New Delhi.
3. Kumaresan, V. (2005). Biotechnology, Saras Publications, New Delhi.
4. Sathe, T.V. (2004). Vermiculture and Organic Farming. Daya Publishers.
5. Subha Rao, N.S. (2000). Soil Microbiology, Oxford and IBH Publishers, New Delhi.
6. Vayas, S.C, Vayas, S. and Modi, H.A. (1998). Bio-fertilizers and organic Farming. Akta Prakashan, Nadiad
7. Somani, L.L. (2004). Handbook of Biofertilizers. Agrotech Publishing Academy, Udaipur-313002
8. Khosla, R. (2017). Biofertilizers and Biocontrol Agents for Organic Farming Kojo Press
9. Trueman's Biofertilizers. (2018). Trueman Book Company, Jalandhar.
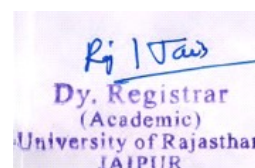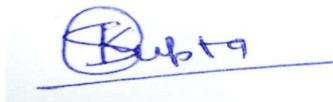
Suggested E-resources:

1. Azotobacter - Isolation and characterization -- https://youtu.be/1Z1VhgJ2h6U
2. Rhizobium -- Identification and characterization - https://youtu.be/jELlo-pMvc4

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Develop conceptual skill about identifying microbes, and bio-fertilizers
2. Gain knowledge about developing commercial enterprise of bio-fertilizers.

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SEC-51T-113 – Nursery & Gardening Techniques

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
I/II	SEC-51T-113	Nursery & Gardening Techniques	5	2

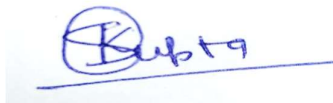| Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	No	15 Hours of Lecture +30 Hours of Lab Activity / Fieldwork
Prerequisites	Biology courses of Central Board of Secondary Education or equivalent.				
Objectives of the Course:	Objectives of the Course – The program is aimed to teach students the basic knowledge required to develop entrepreneurship skills in the development of Nursery, Gardening and Landscaping. This course would train students to initiate a remunerative enterprise owing to a high demand of skilled professionals in this field				
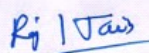
Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-113- Nursery & Gardening Techniques	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for Nursery & Gardening Technique will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-51T-113 – Nursery & Gardening Techniques

Unit –I

Nursery: definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities - Planting - direct seeding and transplants.

(03 Hours Lecture)

Unit -II

Seed: Structure and types - Seed dormancy; causes and methods of breaking dormancy-Seed storage: Seed banks, factors affecting seed viability, genetic erosion – Seed production technology - seed testing and certification

(04 Hours Lecture)

Unit -III

Vegetative propagation: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants – greenhouse - mist chamber, shed root, shade house and glass house
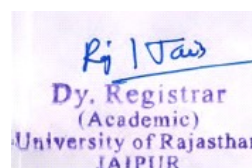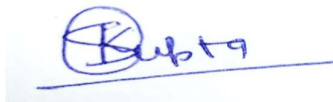
(04 Hours Lecture)

Unit-IV

Gardening: definition, objectives and scope - different types of gardening-landscape and home gardening, parks and its components - plant materials and design-computer applications in landscaping, Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.

(04 Hours Lecture)

Practical: -
1. Study of germination of dormant & non-dormant seeds (Pea, tomato, maize, bean).
2. Seed viability test.
3. To estimate bulk density and porosity of Garden soils.
4. To determine moisture content & water-holding capacity of Garden Soils.
5. Study of different types of tools & accessories for Nursery
6. Methods of preparation of nursery beds and sowing of seeds.
7. Media for propagation of plants in Nursery Beds, Pots and Mist chambers.
8. Study and practice different propagation methods viz., cutting, layering, division, grafting and budding.
9. Introduction and practising Bonsai training, pruning and wiring.
10. Study of different types of gardens (indoor and outdoor) and key features of gardens (Paths & Avenues, Hedges & Edges, Lawn, Flowerbeds, Arches & Pergolas, Fencing, Water bodies, Rock Garden).
    11. Visit to a horticulture/forest nursery

12. Hands on training on sowing methods of seed and vegetative propagation techniques.
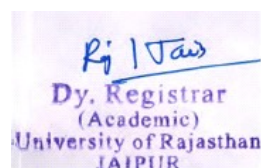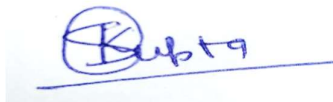
(30 Hours Lab Activity)

Suggested Books and References –

1. Agrawal, P.K. (1993). Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
2. Bose T.K. and Mukherjee, D. (1972). Gardening in India, Oxford and IBH Publishing Co., New Delhi.
3. Jules J. (1979). Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, USA.
4. Kumar, N. (1997). Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
5. Sandhu, M.K. (1989). Plant Propagation, Wile Eastern Ltd., Bangalore, Madras
6. Ratha Krishnan, M. *et al*., (2014). Plant Nursery management: Principles and Practices, Central Arid Zone Research Insititute (ICAR) Jodhpur, Rajasthan.
7. Roy, R. K., Roy, R. K. (2013). Fundamentals of Garden Designing: A Colour Encyclopaedia. India: New India Publishing Agency.
8. Littlepage, R., Littlepage, R. (2017), Fundamentals of Garden Design: An Introduction to Landscape Design. (n.p.): Create Space Independent Publishing Platform

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Describe and differentiate between the types of gardens.
2. Develop a concept of nursery and gardening.
3. Gain knowledge about developing commercial enterprise of nursery

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SEC-51T-114 –अनुवाद कौशल

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-114	अनुवाद कौशल		5	2
Level of Course	Type of the Course	Credit Distribution	Offered to NC Student	Delivery Type of the Course	
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. अन्य भाषा के साहित्य को लक्ष्यभाषा में उपलब्ध करवाना 2. वैश्विक ज्ञान को लक्ष्यभाषा में उपलब्ध करवाना 3. ज्ञान का विस्तार				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-114- अनुवाद कौशल	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **अनुवाद कौशल** will be so set that it has 40 multiple choice questions (Bilingual) of One mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-114- अनुवाद कौशल	1 Hrs	50 Marks	20 Marks

The question paper for **अनुवाद कौशल** will be so set that it has 50 multiple choice questions (Bilingual) of One mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-114 – अनुवाद कौशल

Unit –I

- अनुवाद, आवश्यकता और महत्त्व
- अनुवाद के प्रकार
- अनुवाद की प्रक्रिया

Unit –II

- अनुवाद कार्य की प्रकृति
- अनुवाद और समतुल्यता
- अनुवाद की समस्याएँ

Unit –III

- अँग्रेजी से हिन्दी में अनुवाद
- अन्य भारतीय भाषाओं से हिन्दी में अनुवाद
- प्रशासनिक–पारिभाषिक शब्दावली

Unit-IV

- पाठ : मालगुडी डेज़ – मालगुडी की कहानियाँ आर. के. नारायण (02 कहानियाँ)
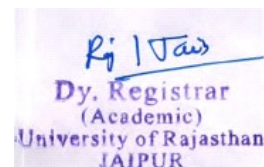
Suggested Books and References –

1. मालगुडी की कहानियाँ, आर.के. नारायण, राजपाल एंड संस, नई दिल्ली, 2017
2. अनुवाद : सिद्धांत एवं व्यवहार, डॉ. जयन्ती प्रसाद नौटियाल, राजकमल प्रकाशन, नई दिल्ली
3. अनुवाद सिद्धांत और प्रयोग, जी. गोपीनाथन, अभिजीत पब्लिकेशन्स, 2008
4. अनुवाद : सिद्धांत और समस्याएँ, डॉ. रवीन्द्रनाथ श्रीवास्तव– डॉ. कृष्णकुमार गोस्वामी, आलेख प्रकाशन, 2008

Course Learning Outcomes:
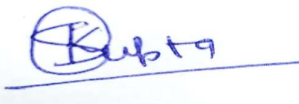
अनुवाद कौशल के अध्ययन को पूरा करने पर, छात्र निम्नलिखित क्षमताओं को प्राप्त करेंगे-
1. अनुवाद शब्द की परिभाषा और इसे सभी भाषाओं के बीच संवाद में महत्वपूर्णता की व्याख्या करना।
2. भाषाई और सांस्कृतिक अंतरों को पार करने में अनुवाद के भूमिका को पहचानना।
3. साहित्यिक, तकनीकी, कानूनी और वैज्ञानिक अनुवाद सहित विभिन्न अनुवाद प्रकार के बीच अंतर करना।
4. प्रत्येक प्रकार के अनुवाद के साथ जुड़े विशेष चुनौतियों का विश्लेषण करना।
5. स्रोत पाठ विश्लेषण से लेकर लक्ष्य पाठ उत्पादन तक की विभिन्न चरणों की जाँच करना।
6. सटीक और सांस्कृतिक रूप से सही अनुवाद उत्पन्न करने में शामिल कदमों का वर्णन करना।
7. लाक्षिक अनुवाद, पैराफ्रेजिंग, अनुकूलन और स्थानीयकरण जैसे विभिन्न अनुवाद विधियों के साथ अवगत होंना।
8. पाठ की प्रकृति और लक्ष्य दर्शक के आधार पर उपयुक्त विधियों का प्रयोग करना।
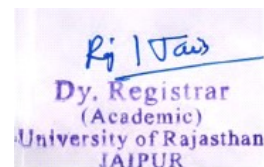
9. अनुवाद समता की अवधारणा समझें और स्रोत पाठ के अर्थ और शैली को बनाए रखने में इसकी भूमिका समझना।

10. अर्थ की प्राप्ति में सामान्य चुनौतियों का विश्लेषण करना।, जैसे कि मुहावरे और सांस्कृतिक सूक्ष्मताएँ।

11. रूपांतरण, सुचनांक, और सांस्कृतिक प्रतिस्थानन जैसी तकनीकों का अन्वेषण करें ताकि इच्छित अर्थ को प्रभावी रूप से प्रस्तुत करना।

12. इन तकनीकों को विभिन्न अनुवाद परिदृश्यों में लागू करना।

13. लक्ष्य भाषा में पठनीयता को बनाए रखते हुए स्रोत पाठ के प्रति वफादारी के लिए अनुवादक की जिम्मेदारी को मान्यता देना।

14. अनुवाद प्रक्रिया के दौरान अनुवादकों के द्वारा नैतिक विचारणाएँ और चुनौतियों का मूल्यांकन करना।

15. अंग्रेजी से हिंदी में चयनित अंशों का अनुवाद करना, जिससे कि पाठ्यक्रम में सीखे गए अनुवाद सिद्धांतों की समझ प्रदर्शित हो सके।

16. सटीक और प्रभावी अनुवाद के लिए उपयुक्त विधियों, तकनीकों, और रणनीतियों का प्रयोग करना।

SEC-51T-115 – प्रभावी हिन्दी लेखन

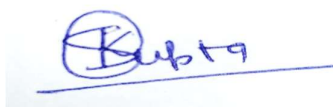| Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
I/II	SEC-51T-115	प्रभावी हिन्दी लेखन	5	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	Skill Enhancement	2	-	Yes	30 Hours
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. विद्यार्थी को लेखन स्तर पर कुशल बनाना 2. विविध लेखन शैलियों व शब्द भण्डार का ज्ञान 3. अभिव्यक्ति की सशक्तता और सटीकता प्राप्त करना				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-115- प्रभावी हिन्दी लेखन	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **प्रभावी हिन्दी लेखन** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-115- प्रभावी हिन्दी लेखन	1 Hrs-EoSE	50 Marks-EoSE	20 Marks-EoSE

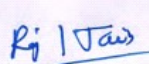The question paper for **प्रभावी हिन्दी लेखन** will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-115 - प्रभावी हिन्दी लेखन

Unit –I

- लेखन –कौशल की आवश्यकता
- लेखन कौशल के उद्देश्य
- लेखन कौशल का विकास

Unit –II

- रचनात्मक आयाम
- पत्र लेखन
- रिपोर्ट लेखन
- कहानी लेखन
- फीचर लेखन

Unit –III

- प्रायोगिक आयाम
- कार्यशाला
- उच्चारण अभ्यास (जैसा बोलेगा वैसा लिखेगा)

Unit-IV

- शब्दकोश का उपयोग
- वर्तनी अशुद्धि परिमार्जन
- वक्तृता कौशल

Suggested Books and References –
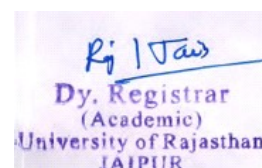
1. रचनात्मक लेखन, संपा रमेश गौतम, भारतीय ज्ञानपीठ–वाणी प्रकाशन 2022 नई दिल्ली
2. मीडिया लेखन, वाणी प्रकाशन 2018, तीसरा संस्करण, नई दिल्ली
3. रेडियो लेखन, राजेन्द्र मिश्र, तक्षशिला प्रकाशन, 2009
4. पटकथा : एक परिचय,मनोहर श्याम जोशी, राजकमल प्रकाशन, 2000, नई दिल्ली

Course Learning Outcomes:

प्रभावी लेखन कौशल" को पूरा करने पर, छात्र निम्नलिखित क्षमताओं को प्राप्त करेंगे:
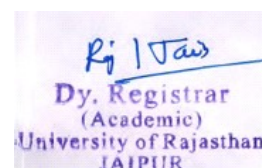
1. विभिन्न व्यक्तिगत और पेशेवर प्रसंगों में मजबूत लेखन कौशल के महत्व को मान्यता देना।
2. स्पष्ट संवाद में सहायक होने और विचारों को प्रस्तुत करने में प्रभावी लेखन का योगदान समझाना।
3. लेखन कौशल का विकसन करने के लक्ष्यों को पहचानना, जिसमें स्पष्टता, प्रसंज्ञानशीलता, और लिखित संवाद में रुचिकरता को बढ़ावा देना शामिल है।
4. विचारों को स्पष्ट और सुसंगत तरीके से लिखकर व्यक्त करने की क्षमता को बढ़ावा देना।
5. सुधारित लेखन प्रवीणता के लिए व्याकरण नियम, विराम चिह्न, और वाक्यबद्धता का उपयोग करना।

6. रचनात्मक आयामों में गहराई में जाएं, जिसमें कल्पनाशील और कलात्मक अभिव्यक्तियाँ शामिल होना।

7. ऐतिहासिक भाषाका प्रयोग करके पाठकों को रोचक तरीके से आकर्षित करने वाले लेखित कार्य बनाना।

8. विभिन्न उद्देश्यों के लिए दैनिक पत्र, ईमेल, और संवादों को तैयार करने में परिपूर्णता विकसित करना।

9. दैनिक संवाद में प्रभावी तरीके से संवाद करने के लिए उपयुक्त भाषा और भाषा का प्रयोग करना।

10. ऐसे निबंध, रिपोर्ट, और संक्षेप तैयार करने की प्रवीणता हासिल करना जो जानकारी और विचारों को प्रभावी रूप से प्रस्तुत करता हो।

11. विभिन्न लेखन प्रारूपों के विशिष्ट घटकों और संरचनाओं को समझना।

12. आकर्षक और संवादात्मक कथानकों को तैयार करने के कौशल हासिल करना।

13. अच्छी तरह से प्लाट और पात्र विकास के साथ कहानियों को बनाने की क्षमता विकसित करना।

14. फीचर लेखन की कला और उसकी तकनीकों को समझना, जिनसे जानकारी को रचनात्मक तरीके से प्रस्तुत किया जा सकता हो।

15. पाठकों को सूचित करने और मनोरंजन करने वाले लेखों को तैयार करने के लिए उपयुक्त तकनीकों का प्रयोग करना।

16. रिज्यूम, कवर पत्र, और प्रस्तावों जैसे दस्तावेजों के लिए आवश्यक प्रैक्टिकल लेखन कौशल की ज्ञान प्राप्त करना।

17. योग्यता और संवाद को प्रभावी बनाने के लिए तकनीकों का प्रयोग करना।

18. सहयोग और सहकारीता को प्रोत्साहित करने वाली लेखन कार्यशालाओं में भाग लेना।

19. संवाद कौशल को और भी बेहतर बनाने के लिए सुरक्षित प्रतिक्रिया प्राप्त करना।

20. वाक्यांशों को सही ढंग से उच्चारित करने के लिए उच्चारण कौशल विकसित करना।

21. सही उच्चारण का अभ्यास करके लिखित सामग्री को मौखिक रूप से प्रभावी ढंग से संवादित करना।

22. शब्दकोषों और शब्दसंग्रहों का उपयोग शब्दावली को समृद्ध करने और शब्द चयन को बेहतर बनाने के लिए करना।

23. उच्च शब्दावली का प्रयोग करके विचारों को और अधिक स्पष्ट और जीवंत ढंग से प्रस्तुत करने का प्रयास करना।

24. सुधारने और संपादन की कला को सीखकर व्याकरण, विराम चिह्न, और शैली में सुधार करना।

25. स्पष्टता और प्रभाव के लिए लिखित काम को पूर्णता और प्रभाव के लिए पुनः संवाद करना।

SEC-51T-116 – Household Pests and their Management

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
I/II	SEC-51T-116	Household Pests and their Management	5	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	0	No	15 Hours of Lecture +30 Hours of Lab Activity / Fieldwork

Prerequisites	XII Pass
Objectives of the Course:	Objectives of the Course – The study aims to know the basics of common household pests like cockroaches, mosquito, housefly, termites, etc. and their medical importance in human life.
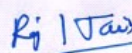
Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-116- Household Pests and their Management	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for **Household Pests and their Management** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The Question paper will be of duration of 1 hours. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-51T-116- Household Pests and their Management

Unit - I

Introduction to household pests and mode of disease transmission
Housefly: Systematic position, Morphology and identification characters, life cycle, mode of disease transmission, control measures
Silverfish: Systematic position, Morphology and identification characters, life cycle, their damage and control

(4 Hours Lecture)

Unit -II

Mosquito: Systematic position, Morphology and identification characters, life cycle, role of the mosquito in virus/ protozoan borne diseases, control measures-preventive and curative, WHO initiated programmes
Ants: Systematic position, Morphology and identification characters, castes and social life, ant mounds, their mode of damage and control

(4 Hours Lecture)

Unit -III

Termite: Systematic position, Morphology and identification characters, castes and social life, termitarium, their mode of damage and control
Crickets: Systematic position, Morphology and identification characters, life cycle, control measures
(3 Hours Lecture)

Unit-IV

Cockroach: Systematic position, Morphology and identification characters, life cycle, spread of diseases carrying pathogens, control measures
Bedbug: Systematic position, Morphology and identification characters, life cycle, inflammation and their control measures
*Pediculus***:** Systematic position, Morphology and identification characters, life cycle, *Pediculus* borne disease and their control measures

(4 Hours Lecture)

Practicums:
1. **Permanent slides**
   Mosquito: W.M. of adults of *Anopheles, Aedes, or Culex* (male and female), larvae of mosquito; *Anopheles, Aedes, or Culex*
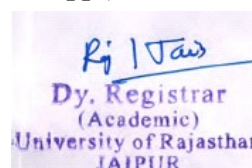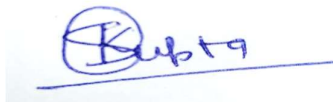   **Cockroach:** nymph stage
   Silver fish: W.M. ; Bedbug: W.M.
   Termite: W.M. of termite castes: queen, soldier: nasute & mandibulate, worker
   Ants: W. M ; *Pediculus***: W.M**
2. **Specimens:** *Periplaneta americana, Musca domestica*, crickets
3. **Laboratory rearing and study of life cycle of mosquitoes (any one genera:** *Anopheles, Aedes, or Culex spp.***)**

4. **Laboratory rearing and study of life cycle of cockroaches**
5. **Field visits to study termitarium, ant mounds and mosquito breeding sites**

(30 Hours Lab Activity)

Suggested Books and References –

1. Medical and Veterinary Entomology by Gary R. Mullen and Lance A. Durden, 3rd Edition 2009, ISBN 978-0-12-814043-7,
2. Insect-Borne Diseases in the 21st Century by Marcello Nicoletti, 2020, ISBN 978-0-12-818706-7
3. Pests and vector-borne diseases in the livestock industry by Garros, Claire, editor.; Bouyer, Jérémy, editor.; Takken, Willem, editor.; Smallegange, Renate C., 2018, ISBN: 9789086868636
4. Biological and environmental control of disease vectors by Cameron, M. M. (Mary M.), editor.; Lorenz, L. M. (Lena M.), 2013, ISBN: 9781845939861
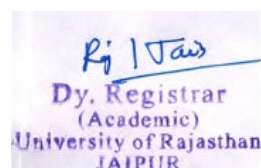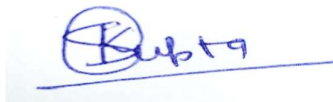
Suggested E-resources:

1. Medically important vectors:
   https://vidyamitra.inflibnet.ac.in/index.php/content/index/5fd9f1678007bef4453de567

Course Learning Outcomes:

By the end of the course, students should be able to:

1. To understand the common household pest
2. Able to differentiate between various household pest on the basis of their basic morphological characters and life cycle.
3. Student will be able to answer which life stage is damaging to the human dwellings
4. Student will be aware of common disease-causing vectors inhabiting our houses like mosquito, housefly, bedbug, termites, etc.
5. Gain awareness about the diseases they spread like malaria, dengue, chikungunya, local inflammation, diarrhoea, etc.
6. Able to manage and control these pests with basic knowledge given

SEC-51T-117 – VERMICOMPOSTING

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-117	Vermicomposting		5	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	No	15 Hours Lecture +30 Hours Lab Activity / Fieldwork
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – This is a skill-oriented course aimed at understanding the concept of vermicomposting, get hands-on experience while learning and to practice it techniques in appropriate site/location.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-117-Vermicomposting	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for **Vermicomposting** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-117- Vermicomposting

Unit - I
Earthworms – Taxonomic position, external features- shape, size, colour, segmentation, setae& clitellum. Reproductive system-Male & Female, copulation, cocoon formation & fertilization,; ecological grouping – Epigeic species, Endogeic species and Anecics.

(4 Hours Lecture)

Unit -II
Vermiculture – definition, scope and importance; common species for culture; Environmental parameters; culture methods – wormery – breeding techniques; indoor and outdoor cultures - monoculture and polyculture – merits and demerits; Limiting factors-climatic factors, pH, humidity, Temperature, gases, xenobiotics

(4 Hours Lecture)

Unit -III

Vermicomposting of wastes in field pits, ground heaps, tank method, roof shed method, wedges & bin method; harvesting the compost, storage, Vermiwash-Preparation and application vermicomposting harvest and processing. Nutritional composition of vermicompost; Comparison with other fertilizers.

(4 Hours Lecture)

Unit-IV

Applications of vermiculture –use of vermicastings in organic farming/horticulture, earthworms for management of municipal/selected biomedical solid wastes; as feed/bait for capture/culture fisheries; forest regeneration.

(3 Hours Lecture)
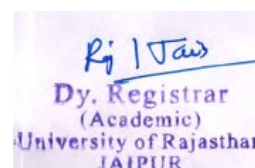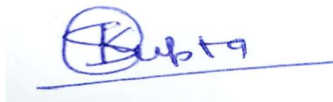
Practicals:

1. Collection of earthworms from soil and identification
2. Study of life stages and development of Earthworms
3. Study of vermiculture, Vermiwash and vermiculture equipment and devices
4. Analysis of vermicompost nutritional status
5. Visit to a vermicompost manufacturing unit

(30 Hours Lab Activity)

Suggested Books and References –
1. Sultan Ahmed Ismail, 2005. The Earthworm Book, Second Revised Edition. Other India Press, Goa, India.
2. Bhatnagar & Patla,2007. Earthworm vermiculture and vermin-composting, Kalyani Publishers, New Delhi.
3. Mary Violet Christy,2008. Vermitechnology, MJP Publishers, Chennai.
4. Aravind Kumar, 2005.Verms &Vermitechnology, A.P.H. Publishing Corporation, New Delhi.

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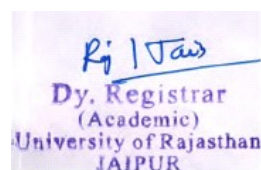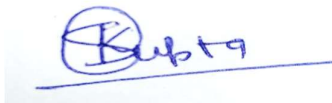
5. Jordan & Verma,2009. Invertebrate Zoology, Chand & Company Ltd.
6. Edwards, C.A & J.R Lofty Vermicoloogy – The Biology of earthworm, 1997 Chapman & Hall Publications N.Y.U.S.A.

Course Learning Outcomes:

By the end of the course, students should be able to:

(i) To develop basic theoretical knowledge about morphology, ecology and role of earthworms in enhancing soil fertility.
(ii) To perform vermicomposting using the locally available organic waste items.
(iii) To adopt vermicomposting as a tool of organic farming on a smaller scale.

SEC-51T-118 – Understanding Union Budget and Economic Survey

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-118	Understanding Union Budget and Economic Survey		5	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – The course seeks to familiarize students with basic concepts related to the Union Budget and Economic Survey. It aims to equip students with sufficient knowledge and skills to analyze budgets and economic surveys.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-118-Understanding Union Budget and Economic Survey	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for Understanding Union Budget and Economic Survey will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-118-Understanding Union Budget and Economic Survey	1 Hrs	50 Marks	20 Marks

The question paper for Understanding Union Budget and Economic Survey will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR

sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-51T-118- Understanding Union Budget and Economic Survey

Unit -I

Types of Expenditures, Revenue/Receipts, Taxes and Deficits; Introduction to budget; Types of Budgets- Traditional, Zero Based, Gender and Incremental Budgeting; Need for the budget.

(07 Hours Lecture)

Unit -II

Process of Union budget making in India; Components of Union Budget; Structure of Union Budget; Budget Estimates- Actual, Revised and Budget Estimates; Important Features of Union Budget and State Budget.

(08 Hours Lecture)

Unit- III

Importance of the Economic Survey, Main Ingredients of Economic Survey; The Current State of the Economy. Recent Fiscal Developments.

(07 Hours Lecture)

Unit- IV

Main Features of Physical, Digital and Social Infrastructures; Current Policy Emphasis; Challenges for the Economy.

(08 Hours Lecture)

Suggested Books and References –
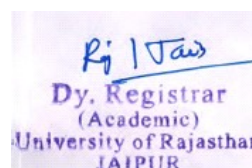
Given the nature of the course, readings will be updated every year

1.   Centre for Budget and Governance Accountability. Recent reports.
2.   Ministry of Finance, Economic and social classification of the budget.
3.   Ministry of Finance, Union budget (lates).
4.   Ministry of Finance, Economic Survey (latest).
5.   State Budget, Government of Rajasthan (latest).

Course Learning Outcomes:
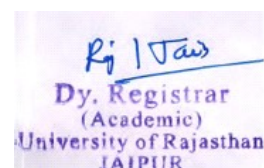
By the end of the course, students should be able to –
1.   Understand the concepts of government expenditures, revenue, taxes, and deficits, and their roles in public finance.
        2.   Differentiate between various types of expenditures and taxes, and explain their significance.

3. Comprehend the purpose and importance of creating budgets and the different budgeting approaches.
4. Explain the process of formulating the Union Budget in India and its key components.
5. Analyze budget estimates, actual figures, and revised estimates in the context of government finances.
6. Recognize the role and significance of the Economic Survey in assessing the nation's economic health.
7. Identify the main sections and elements of the Economic Survey and interpret its findings.
8. Describe the current economic state of the country based on data from the Economic Survey.
9. Evaluate recent fiscal developments and their implications.
10. Differentiate between physical, digital, and social infrastructures, and understand their importance.
11. Assess current policy priorities and challenges in the economic landscape.
12. Analyze policy measures aimed at addressing economic challenges and promoting growth.

SEC-51T-119 – Survey Methodology

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-119	Survey Methodology		5	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – Survey methodology as a scientific field seeks to identify principles about the sample design, data collection instruments, statistical adjustment of data and data processing that can create systematic and random survey errors.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-51T-119-Survey Methodology	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for Survey Methodology will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The Question paper will be of duration of 1 hours. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-119-Survey Methodology	1 Hrs	50 Marks	20 Marks

The question paper for Survey Methodology will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-51T-119 – Survey Methodology

Unit-I

Introduction; types of data; Sources of data; methods of data collection; Survey Design- Coverage and sampling, Choosing the method of collecting data, writing effective questions, the logic of constructing questionnaires, testing survey questions.

(07 Hours Lecture)

Unit-II

Face-to-face interviews, Telephone surveys, Self-administered questionnaires: mail surveys and other applications, Internet surveys, Interactive Voice Response, Mixed mode surveys: When and why.

(08 Hours Lecture)

Unit-III

Processing of survey data- Data cleaning, Weighting survey data and checking for consistency; Incomplete data: Diagnosis, Imputation and accommodating measurement errors; The basic of data Management; Representation of sample data.

(07 Hours Lecture)

Unit-IV
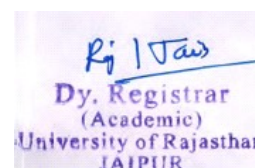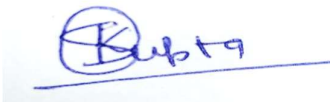
Descriptive Statistics Analysis (Applications) – Mean, Median, Mode, Dispersion, Skewness and Kurtosis.

(08 Hours Lecture)

Suggested Books and References –

1. Andres, Lesley (2012). Designing and Doing Survey Research, London: Sage.
2. Dillman, D.A. (1978) Mail and telephone surveys: The total design method, New York: Wiley.
3. Edith D. de Leeuw, Joop Hox, Don Dillman (2008). International Handbook of Survey Methodology, Routledge.
4. Engel. U., Jann, B., Lynn, P., Scherpenzeel, A. and Sturgis, P. (2014). Improving Survey Methods: Lessons from Recent Research, New York: Routledge.
5. Groves, R.M.; Fowler, F. J.; Couper, M.P.; Lepkowski, J.M.; Singer, E.; Tourangeau, R. (2009). Survey Methodology, New Jersey: John Wiley & Sons.
6. Kumar, R. (2014). Research methodology: A step by step guide for beginners, 4th ed. Sage Publications.

Course Learning Outcomes:

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By the end of the course, students should be able to develop an understanding of how commonly available data is collected and processed.

SEC-51T-120 – Disaster Management

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
I/II	SEC-51T-120	Disaster Management		5	2
Level of Course	**Type of the Course**	**Credit Distribution**	**Offered to NC Student**	**Delivery Type of the Course**	
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. To make students aware about the concept of disasters. 2. To make students aware about the causes and impacts of various natural and man-made disasters. 3. To enable students to find ways of managing disasters. 4. To develop response mechanism in case of emergencies at individual, community and national level.				
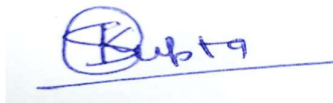
Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (Midterm + EoSE)	Minimum Marks (Midterm + EoSE)
Theory	SEC-51T-120–Disaster Management	1 Hrs-MT 1 Hrs-EoSE	10 Marks-MT 40 Marks-EoSE	4 Marks-MT 16 Marks-EoSE

The question paper for Disaster Management will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-51T-120–Disaster Management	1 Hrs	50 Marks	20 Marks

The question paper for Disaster Management will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by

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Detailed Syllabus

SEC-51T-120- Disaster Management

Unit I

Introduction to Disaster
Definition and types. Concept of hazard, risk and vulnerability. Causes and effects of disasters. Disaster Profile of India.

(6 Hours Lecture)

Unit II

Natural and Man-made Disasters
Natural: Causes and impacts of earthquakes, floods, droughts, volcanic eruptions, tsunamis, landslides, avalanches, cyclones, tornadoes. Man-made: Impacts of wars, dam failure, nuclear disasters, industrial disasters, fire, epidemics, accidents, and terrorism. Related case studies.

(8 Hours Lecture)

Unit III

Disaster Management
Disaster Management Cycle, Capacity building, Training programs, mock drills. Disaster risk reduction. Disaster Mitigation Measures (structural and non-structural mitigation measures).

(8 Hours Lecture)

Unit IV
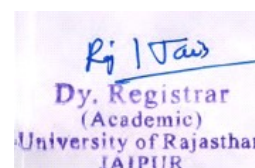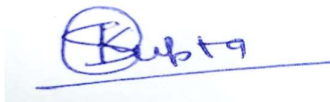
National Response Mechanism
Disaster Management Policy and Act. National Disaster Management Authority. National Institute of Disaster Management (NIDM), National Disaster Response Force (NDRF), State Disaster Management Authority (SDMA).
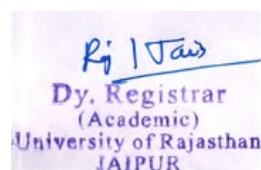
(8 Hours Lecture)

Suggested Books and References –

1. Coppola D.P. (2007). Introduction to International Disaster Management. Butterworth Heinemann.
2. Pine J.C. (2009). Natural Hazards Analysis: Reducing the Impact of Disasters. CRC Press, Taylor and Francis Group.
3. Schneid, T.D. & Collins, L. (2001). Disaster Management and Preparedness. Lewis Publishers, New York, NY.
4. Shaw R., and Krishnamurthy, R.R. (2009). Disaster: Global Challenges and Local Solutions.
5. Smith K. (2001). Environmental Hazards: Assessing Risk and Reducing Disaster. Routledge Press.

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6. Singh S., & Jeetendra, Disaster Management, Pravalika publication, Allahabad.

Course Learning Outcomes:

At the end of the course, students will –
- Develop an understanding of different environmental disasters and their management.
- Be aware of emergency response protocols and be available in case of crises.
- Have an understanding of preparedness, prevention and management strategies.

SEC-63T-201 – Environmental Management

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-201	Environmental Management		6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. To make students aware about the fundamentals concept of environmental management system. 2. To provide students with information to obtain competencies for environmental auditing. 3. To develop ability to plan, execute and document the environmental audit. 4. To provide students with a basic understanding of sustainable development approaches, green accounting, environmental valuation, environmental impact assessment and environmental audit and their role in effective environmental Management. 5. To provide knowledge about the various pollution prevention acts.				

Examination Scheme-

Regular Students –
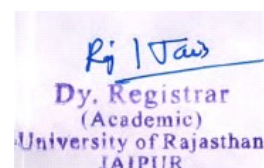
Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-201 – Environmental Management	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **Environmental Management** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-201 – Environmental Management	1 Hrs	50 Marks	20 Marks

The question paper for **Environmental Management** will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-63T-201- Environmental Management

Unit I
Introduction to Environmental Management
Introduction to environmental management system (EMS): Goals ISO 14000 and ISO 14001. Dimensions of Environmental Management: Economic, Socio-cultural, Technological, Ethical and Moral, Political and Legal Dimensions. Environmental Management Plan. Life-cycle analysis.

(7 Hours Lecture)

Unit II
Environmental Audit and Impact Assessment
Introduction, objectives, procedure and importance of Environmental Impact Assessment (EIA), Preliminary aspects of and social impact assessment. Corporate Social Responsibilities. Introduction, definition and types of auditing, Benefits of Environmental Audit, Environmental Audit Programme in India.

(8 Hours Lecture)

Unit III
Environmental Acts
Air (Prevention and Control of Pollution) Act 1981. Environmental (Protection) Act, 1986. Hazardous and waste management and handling rules 1989. Water (Prevention and Control of Pollution) Act, 1974. Biological Diversity Act, 2002.

(7 Hours Lecture)
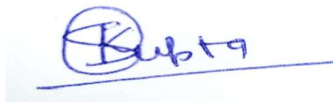
Unit IV
Environmental Economics
Definition and scope of environmental economics, economics and environment, environmental valuation, green marketing and clean technologies. green accounting Concept of the resource. Ecolabeling /Eco mark scheme. Environmental Kuznets Hypothesis. Cost-benefit analysis. Sustainable Development.

(8 Hours Lecture)

Suggested Books and References –

1. Ajith Sankar, R.N. (2015). Environmental Management, Oxford University Press, New Delhi.
2. Uberoi, N. K. (2003). Environmental Management, Second Edition, Excel Books.
3. Anjaneyulu, Y. (2002). Environmental Impact Assessment Methodologies. BSP BS Publications, Hyderabad.
4. Barrow, C. J. (1999). Environmental management: Principles and practice. Routledge.
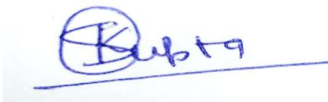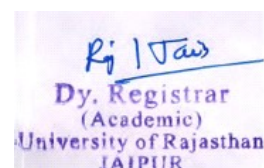
5. Barrow, C. J. (2006). Environmental Management and Development, , Routledge.
6. Hanley, N., Jainson, F., Shorgen, & White B. (1999) Environmental Economics – In Theory and Practice. Macmillan India Ltd, New Delhi.
7. Humphrey, N. & Hadley, M. (2000) Environmental Auditing, Palladian Law Publishing Ltd, Cambridge, Isle of Wight.
8. Hunt, D. & Johnson, C. (1995). Environmental Management Systems, McGraw Hill, London.
9. Shukla S.K & Shrivastav P.R (1992). Concepts in Environmental Impact analysis. Commonwealth Publishers, New Delhi
10. Theodore, M. K. & Theodore, L. (2021). Introduction to Environmental Management, 2nd Edition. CRC Press.
11. Tiefenbacher, J (ed.) (2022), Environmental Management - Pollution, Habitat, Ecology, and Sustainability, Intech Open, London.
12. Vankhede G. (2012). Environmental Impact Assessment. Biotech Books New Delhi.

Course Learning Outcomes:

At the end of the course, students will be able to–
- Explain the fundamentals of environmental management, environmental impact assessment, environmental audit and environmental economics.
- Develop a critical understanding of the complexity of environmental management.
- Develop knowledge and skills necessary to enable them to undertake environmental impact assessment.
- Develop skills in identifying and solving problems arising during various developmental projects.
- Understand and analyse the implications of economic development on environmental resources.
- Acquire knowledge of the pollution control acts and management strategies.

SEC-63P-202 – Toy Making for Fun, Joy and Holistic Development of Children

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
III/IV	SEC-63P-202	Toy Making for Fun, Joy and Holistic Development of Children	6	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	60 Hours Practical

Prerequisites	XII Pass
Objectives of the Course:	Objectives of the Course – • This course focuses on the fundamental skills required for creating age-appropriate toys, games and play activities for children. • Students will learn that toys are not just for entertainment or recreation, but can also be used as a learning resource for the mental, physical, social and emotional development of the child. Toys can open up and ignite the mind of the child. • Students will learn the skills of creating interactive and entertaining videos for children.

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-63P-202- Toy Making for Fun, Joy and Holistic Development of Children	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

- Organize FGD for a better understanding of Toys Games and Play = 10 marks
- Plan and prepare two toys for = (15 + 15 marks)
  a) Indoor Toys & Outdoor Games (0-3 years)
  b) Indoor Toys & Outdoor Games (Pre-school)
  c) Indoor Toys & Outdoor Games (6-8 years)
  d) Games and Outdoor Play (8-12 years)
  e) Indoor Toys & Outdoor Games (12-14 years)

Detailed Syllabus

SEC-63P-202- Toy Making for Fun, Joy and Holistic Development of Children
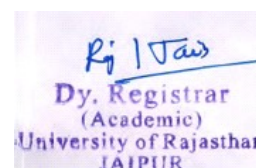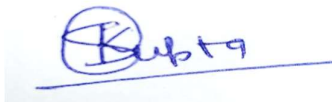
1) Conceptual understanding of Toys, Games and Play in the Child's World of Learning and Holistic Development through FGD.

2) Plan and prepare Toys and Games/activities with concepts, competencies, and learning skills for Holistic Development for the following -
   (a) Indoor Toys and Outdoor Games (age 0-3 years)
   (b) Indoor Toys and Outdoor Games (Pre-school) (age 3-6 years)
   (c) Indoor Toys and Outdoor Games (Classes I & II) (age 6-8 years)
   (d) Games and Outdoor Play (8-12 years)
   (e) Games and Outdoor Play (12-14 years)

3) Organise a fun and entertainment Mela for Children using Indigenous Toys, Games and Play Materials etc.

Suggested Books and References –

- Toy Based Pedagogy Book.pdf A Handbook Learning for Fun, Joy and Holistic Development Part – I Department of School Education and Literacy Ministry of Education GOI
- https://egyankosh.ac.in/bitstream/123456789/13407/1/Unit-16.pdf
- Practices in Modern Pre-School Education IGNOU MES_084

Course Learning Outcomes:
- The Course would help students to pursue career in School Education and Early Childhood Care Centers.
- The students will be able to make careers for curriculum developers, teachers and teacher educators on the various.

SEC-63P-203 – Computer Applications in Fashion Design
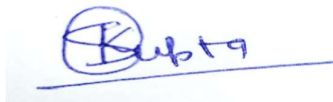
Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
III/IV	SEC-63P-203	Computer Applications in Fashion Design	6	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	60 Hours Practical

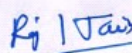| Prerequisites	XII Pass
Objectives of the Course:	Objectives of the Course – • To acquire proficiency in CorelDraw and Adobe Photoshop for a solid foundation in design software. • To apply CAD techniques in fashion design, focusing on colour, textures, silhouettes, and intricate fashion details. • To explore the use of accessories in CAD fashion design, enhancing the overall aesthetic appeal. • To create visually compelling mood boards through CAD, skilfully integrating colour stories and textures. • To execute theme-based dressing concepts using CAD, showcasing creativity and design innovation.
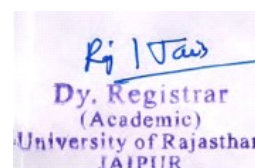
Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-63P-203- Computer Applications in Fashion Design	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

• Develop and dress up a fashion figure in CAD software = 20 marks
• Prepare mood boards on different themes = 20 marks

Detailed Syllabus

SEC-63P-203- Computer Applications in Fashion Design

1: Basics of Design Software
    i. CorelDraw
    ii. Adobe Photoshop

2: CAD in Fashion Design
    iii. Colour
    iv. Textures
    v. Silhouettes & fashion details
    vi. Accessories
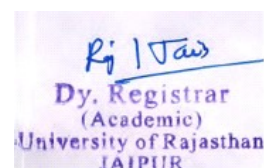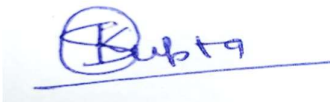
3: Fashion Design Creations through CAD
    vii. Mood Boards with colour a story and textures
    viii. Dressing up according to themes

Suggested Books and References –

1. Corel Draw 9 - Manual Avanzado, ,2000, by Francisco Paz Gonzalez
2. Adobe Photoshop 7.0 Classroom in a Book, 25 June 2002, by Adobe Creative Team

Course Learning Outcomes:

- Students will proficiently navigate CorelDraw and Adobe Photoshop, mastering fundamental design software skills.
- Students will apply CAD techniques in fashion design, demonstrating expertise in handling colour, textures, silhouettes, and fashion details.
- Students will creatively incorporate accessories into CAD fashion designs, enhancing their ability to create visually appealing ensembles.
- Students will showcase their design prowess by producing mood boards with compelling colour stories and textures and executing themed dressing concepts using CAD.

SEC-63P-204 – Image Styling

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63P-204	Image Styling		6	2
Level of Course	Type of the Course	Credit Distribution	Offered to NC Student	Delivery Type of the Course	
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	60 Hours Practical
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • Understand physical traits, personality, and design principles in fashion. • Analyze figure types and identify personal style. • Explore the impact of clothing on personality.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-63P-204- Image Styling	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

- Analyze the given figure type and its related problems = 20 marks
- Dressing and wardrobe planning for different figure types and body preparation = 20 marks

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Detailed Syllabus

SEC-63P-204 - Image Styling
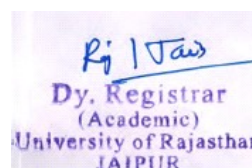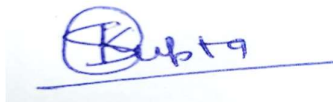
1. **Physical traits and personality**
   - Body and figure types
   - Body proportion
   - Figure type & problems
   - Personality

2. **Figure analysis** – identifying your physical self and facial features

3. **Physical attractiveness** – its determinants and social effects

4. **Concepts and principles of design**
   - Effects of design elements and principles on clothing
   - Fashion fundamentals
   - Development of future fashion trends of garments and accessories

5. **Personality and dressing**
   - Principles of illusion dressing
   - Personal style expression
   - Etiquette and personal grooming
   - Colour and personal style analysis

6. **Identifying clothing needs and wardrobe planning**
   - Wardrobe analysis and organization
   - Wardrobe style identification
   - Organization and categorization of wardrobe
   - Elements of a basic wardrobe
   - Tips for garment maintenance

7. **Personal shopping**
   - Preview of apparel/accessory stores ad brands in context to style, size andbudget
   - Optimizing wardrobe

Suggested Books and References –
1. Funder, D.C. 2001, The Personality Puzzle (2nd ed), New York: W.W. Norton
2. Phares, J.E. 1991, Introduction to Personality (3rd ed), New York: Harper Collins

Course Learning Outcomes:
- Tailoring figure analysis to individual preferences.
- Students explore attractiveness determinants and social implications.
- Mastering personalized fashion trend prediction through design concepts.
- Developing skills in personality-driven dressing, illusion techniques, and color analysis.
   - Gaining expertise in identifying personal clothing needs and organizing wardrobes.

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- Offering practical insights for optimizing personal shopping choices based on style, size, and budget.

SEC-63T-205 – Intellectual Property Rights (IPR)

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
III/IV	SEC-63T-205	Intellectual Property Rights (IPR)	6	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory

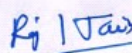| Prerequisites	XII Pass
Objectives of the Course:	Objectives of the Course – 1. To familiarize undergraduate students with the fundamental concepts of Intellectual Property Rights (IPR). 2. To raise awareness among students about the importance and necessity of protecting intellectual property. 3. To provide an understanding of the nature, scope, and various types of intellectual properties. 4. To introduce students to the different utilities and approaches involved in obtaining benefits from intellectual property. 5. To expose students to current trends in IPR and career opportunities in the field. 6. To inform students about government initiatives aimed at fostering intellectual property rights.

Examination Scheme-
Regular Students –
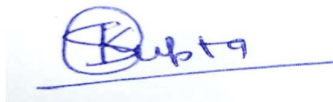
Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-205– Intellectual Property Rights (IPR)	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE
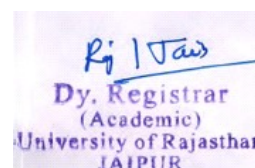
The question paper for **Intellectual Property Rights (IPR)** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-205 – Intellectual Property Rights (IPR)	1 Hrs	50 Marks	20 Marks

The question paper for Intellectual Property Rights (IPR) will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question

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paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus
SEC-63T-205- Intellectual Property Rights (IPR)

Unit I

Foundations of Intellectual Property Rights (IPR):
- Meaning of Rights, Property in IPR, Meaning of Intellectual in IPR,Characteristics of IP, Defining IPR, Rights Granted by IP, Need for IPRs, Economics of IP
- Legal basis and rationale behind the development of IP system, Legal Principles of International Intellectual Property Regime: Introduction to TRIPS

(8 Hours Lecture)

Unit II

Introduction to types of Intellectual Property:
- Meaning, Criteria of Protection, Subject Matter and Term of: Copyright & Related Rights, Patent, Trade Mark, Industrial Design,Geographical Indication
- Other forms of IP: Semiconductor Integrated Circuits Layout Design, Protection of Plant Varieties & Farmers' right, Trade Secrets, traditional knowledge, Traditional Cultural Expressions

(8 Hours Lecture)

Unit III

Enforcement of IP Rights
- Protecting your rights
- Controller General of Patents, Designs & Trade Marks (CGPDTM)
- IP Infringement
- Nature of Remedies in IP Law
- Illustrations and Case Studies
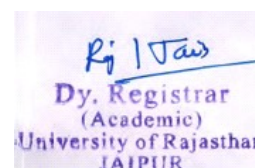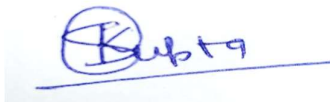
(7 Hours Lecture)

Unit IV

IP Landscape in India
- National Intellectual Property Rights (IPR) Policy, 2016
- Government Schemes in IPR
- Start-ups and IP
  - Universities and IP
  - Career Opportunities in IP

Suggested Books and References –
- V. K Ahuja, Law relating to Intellectual Property Rights. India, Lexis Nexis, 2017
- Manju Pathak, An Introduction to Intellectual Property Rights, New India Pub Agency NIPA, 2023
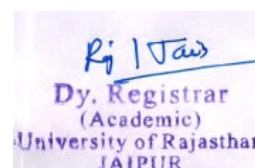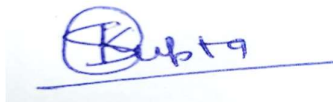
Suggested E-Resources:
- WIPO: https://www.wipo.int/about-ip/en/
- WIPO Intellectual Property Basics: A Q&A for Students:
- https://tind.wipo.int/record/29090/files/wipo_pub_1056.pdf
- SWAYAM: https://onlinecourses.swayam2.ac.in/cec24_lw09/preview
- NPTEL: https://archive.nptel.ac.in/courses/109/106/109106137/
- CGPDTM: http://www.ipindia.nic.in/
- National IPR Policy 2016:
- https://ipindia.gov.in/writereaddata/Portal/Images/pdf/National_IPR_Policy_English.pdf

Course Learning Outcomes:

Upon completion of this course, students will be able to:
- Define Intellectual Property Rights and explain their significance in the modern world.
- Identify and differentiate between various types of intellectual property such aspatents, trademarks, copyrights, and trade secrets.
- Understand the legal frameworks and the methods employed to obtain protection.
- Analyse case studies and real-world examples to understand the practical implications of intellectual property protection.
- Explore and assess potential career paths in the field of IPR, includingopportunities in law, business, academia, and research.
- Demonstrate an understanding of government policies and initiatives aimed at promoting innovation and protecting intellectual property rights.
- Engage in informed discussions and debates on the role of intellectual property rights in fostering innovation and creativity in society.

SEC-63T-206 – Graphics and Animation Design

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-206	Graphics and Animation Design		6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	No	30 Hours Lecture
Prerequisites	The prerequisites for the course include a basic computer and a creative mindset.				
Objectives of the Course:	Objectives of the Course – 1. Understand and apply fundamental design principles such as balance, contrast, unity, and hierarchy. 2. Develop a keen eye for aesthetics and visual communication. 3. Understand the importance of branding in design. 4. Develop skills in creating memorable logos and consistent brand identities. 5. Gain insight into the print production process and industry-standard practices. 6. Create a professional portfolio showcasing a diverse range of graphic design projects.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-206- Graphics and Animation Design	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE
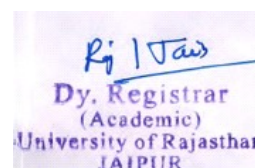
The question paper for **Graphics and Animation Design** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-206- Graphics and Animation Design	1 Hrs	50 Marks	20 Marks

The question paper for **Graphics and Animation Design** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be

provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-63T-206 - Graphics and Animation Design

Unit - I

Graphic Design: Introduction to Graphic design, Design process and thinking, Manipulation, Graphic Designing Software & Tools, and Designing for different mediums (print, web, social media). Editing of Image, Transformation & Retouching, Colour Correction & Effects.

(6 Hours Lecture)

Unit -II:

.

Visual Design: Introduction to Visual Design, Fundamentals Visuals Compositions, Typography, Principles of Layout Design, Colour Theory, Visual Design Software & Tools, Layout and Composition, Image retouching,

(8 Hours Lecture)

Unit -III

Print Media: Introduction to Print Media, Print Layouts, Design for Print Media, video capturing, working with clips, Sound and Video Editing, Working with transition and Animation effects

(8 Hours Lecture)
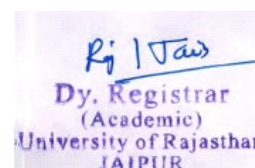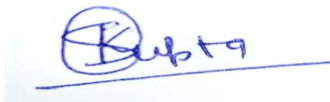
Unit-IV

Brand Designing & Illustration: Introduction to Brand Designing & Illustration, Digital Imaging and Printing, Campaign Design, Graphic Design for Interactive Media, Design for Logo, Poster, digital ads

(8 Hours Lecture)
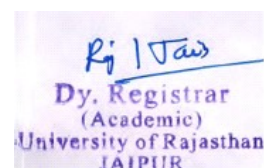
Suggested Books and References –
1. Graphic Design for Everyone, 2019, Cath Caldwell, DK Publishing
2. The History of Graphic Design, 2021, Jens Muller, Publisher: Taschen
3. David, Dabner, Sanra, Stewart & Eric, Zempol. (2014). Graphic Design Shool. Thames & Hudson Sharma, M.C.(2009). Corel Draw Graphics Suite X4 : BPB
4. How to use graphic design to sell things, explain things, make things look better, make people laugh, make people cry, and (every once in a while) change the world, Bierut Michael, Thames & Hudson Ltd.

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Course Learning Outcomes:

By the end of the course, students should be able to:

1. Understand and apply fundamental design principles such as balance, contrast, unity, and hierarchy.
2. Develop a keen eye for aesthetics and visual communication.
3. Understand the importance of branding in design.
4. Develop skills in creating memorable logos and consistent brand identities.
5. Gain insight into the print production process and industry-standard practices.
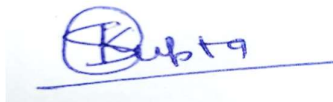6. Create a professional portfolio showcasing a diverse range of graphic design projects.

SEC-63T-207 – Digital Marketing

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
III/IV	SEC-63T-207	Digital Marketing	6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lecture
Prerequisites	The prerequisites for the course include basic internet knowledge and an analytical mindset.				
Objectives of the Course:	Objectives of the Course – 1. Learn how to create a comprehensive digital marketing strategy aligned with business objectives. 2. Understand the importance of target audience identification and segmentation. 3. Gain proficiency in using analytics tools to track and measure digital marketing performance. 4. Explore social media platforms and develop strategies for effective social media marketing. 5. Learn the fundamentals of email marketing, including list building, segmentation, and automation. 6. Stay updated on the latest trends and technologies shaping the digital marketing landscape.				

Examination Scheme-

Regular Students –

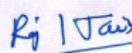| Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-207 – Digital Marketing	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **Digital Marketing** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-207 – Digital Marketing	1 Hrs	50 Marks	20 Marks

The question paper for **Digital Marketing** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration

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of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC – 63T-207 - Digital Marketing

Unit - I

Digital Marketing Fundamentals: Define digital marketing, Importance, CRM platform, CRM models, Content Marketing, Understanding Traffic, Understanding Leads, Developing digital marketing strategy in Integration form

(6 Hours Lecture)

Unit -II:

Website Planning and SEO: Understanding Domain and Webhosting, www, Domains, Buying a Domain, One Page Website, Basic Concepts of Search Engine Optimization (SEO), Keyword Planner Tools, OnPage SEO Techniques- Content Optimization, Off–Page SEO Techniques, Google Analytics, Search Engine working, Keywords, titles, meta tags

(9 Hours Lecture)

Unit -III
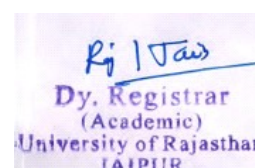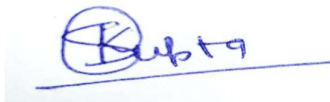
Email Marketing and Google Adwords: Email Marketing- Introduction and Significance, Designing e-mail marketing campaigns using Mail Chimp, Building E-mail List and Signup Forms, Email Marketing Strategy, Email Strategy, Triggers in Email, Email Software and Tools, Planning Email Campaign, Email Templates Basics of Google Ad, Types, Pricing Models, PPC, Ad Page Rank, Billing and Payments

(8Hours Lecture)

Unit-IV

Social Media Optimization (SMO) and Social Media Marketing (SMM): Monitoring Traffic Behavior and preparing Reports, SMM Introduction and Significance, Facebook Marketing, setting up Facebook Advertising Account, Designing Facebook Advertising Campaigns, Introduction to LinkedIn Marketing

(7 Hours Lecture)
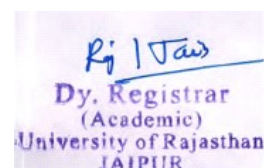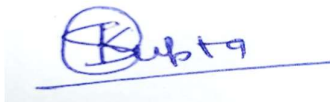
Suggested Books and References –

1. The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns by Ian Dodson, Wiley; 1st edition (2016)
2. Digital Marketing for Dummies by Ryan Deiss and Russ Henneberry, For Dummies.
3. Seema Gupta, "Digital Marketing" Mc-Graw Hill, 1st Edition, 2017
4. Puneet Singh Bhatia, "Fundamentals of Digital Marketing", Pearson, 1st Edition, 2017
5. Vandana Ahuja, "Digital Marketing", Oxford University Press Philip Kotler, "Marketing 4.0: – Moving from Traditional to Digital", Wiley
6. Ryan, Damien: Understanding Digital Marketing - Marketing Strategies for Engaging the Digital Generation. Kogan Page Limited.

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Learn how to create a comprehensive digital marketing strategy aligned with business objectives.
2. Understand the importance of target audience identification and segmentation.
3. Gain proficiency in using analytics tools to track and measure digital marketing performance.
4. Explore social media platforms and develop strategies for effective social media marketing.
5. Learn the fundamentals of email marketing, including list building, segmentation, and automation.
6. Stay updated on the latest trends and technologies shaping the digital marketing landscape.

SEC -63T-208 – Introduction to Cyber Security

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
III/IV	SEC-208	Introduction to Cyber Security	6	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Lectures

Prerequisites	No Prerequisite
Objectives of the Course:	Objectives of the Course – 1. Develop an awareness of the importance of cybersecurity in today's digital landscape. 2. Learn how to secure social media accounts, e-payments, computer and mobile data. 3. Stay updated on the latest trends and developments in the field of cybersecurity. 4. Explore the various types of cyber threats, including malware, phishing, ransomware, and social engineering. 5. Understand the motivations behind cyber-attacks and the potential impact on individuals and organizations. 6. Gain exposure to common cybersecurity tools and technologies.

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-208– Introduction to Cyber Security	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **Introduction to Cyber Security** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-208 – Introduction to Cyber Security	1 Hrs	50 Marks	20 Marks

The question paper for **Introduction to Cyber Security** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC –63T- 208 - Introduction to Cyber Security

Unit - I

Introduction to Cyber Space, History of Internet, Cyber Crime, Information Security, Computer Ethics and Security Policies, email security, securing web browser, Antivirus, Guidelines for secure password and wi-fi security, Guidelines for setting up a Secure password, Two-steps authentication, Password Manager

(7 Hours Lecture)

Unit -II

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Guidelines for basic Windows security, Guidelines for social media security, Tips and best practices for safer Social Networking, User Account Password, Smartphone security guidelines, Online Banking, Credit Card and UPI Security, Online Banking Security, Mobile Banking Security, Security of Debit and Credit Card, POS Security, Security of Micro ATMs, e-wallet Security Guidelines

(8 Hours Lecture)

Unit -III

Social Engineering, Types of Social Engineering, How Cyber Criminal Works, how to prevent for being a victim of Cyber Crime, Cyber Security Threat Landscape and Techniques, Emerging Cyber Security Threats, Cyber Security Techniques, Firewall

(8 Hours Lecture)
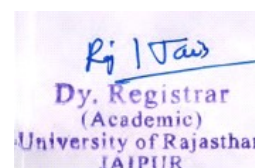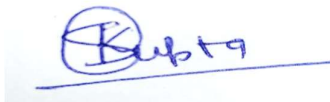
Unit-IV

Cyber Security Initiatives in India, Cyber Security Incident Handling, Cyber Security Assurance, IT Security Act, Hackers-Attacker-Countermeasures, Web Application Security, Digital Infrastructure Security, Defensive Programming, Information Destroying and Recovery Tools, Destroying Sensitive Information

(7 Hours Lecture)

Suggested Books and References –

1. V. S. Bagad, I. A. Dhotre and Manish Khodaskar, "Information and Cyber Security", Technical Publications, 2nd Edition, 2019.
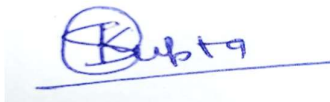
2. Surya Prakash Tripathi, RitendraGoel and Praveen Kumar Shukla, "Introduction to Information Security and Cyber Laws", Dreamtech Press, 1st Edition, 2014.
3. Nilakshi Jain and Dhananjay R. Kalbande, "Digital Forensic: The Fascinating World of Digital Evidences", Wiley, 1st Edition, 2016.
4. R. K. Tiwari, P. K. Sastry and K. V. Ravikumar, "Computer Crime and Computer Forensic", Select Publisher, 1st Edition 2002.

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Develop an awareness of the importance of cybersecurity in today's digital landscape.
2. Learn how to secure social media accounts, e-payments, computer and mobile data.
3. Stay updated on the latest trends and developments in the field of cybersecurity.
4. Explore the various types of cyber threats, including malware, phishing, ransomware, and social engineering.
5. Understand the motivations behind cyber-attacks and the potential impact on individuals and organizations.
6. Gain exposure to common cybersecurity tools and technologies.

SEC-63P-209 – Introduction to Python Programming

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63P-209	Introduction to Python Programming		6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	60 Hours Practical
Prerequisites	No Prerequisite				
Objectives of the Course:	Objectives of the Course – ▪ Understand Python Fundamentals ▪ Master Control Structures ▪ Explore Object-Oriented Programming ▪ Utilize Python Data Structures ▪ Handle Files and Exceptions ▪ Integrate Python with SQL				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-63P-209- Introduction to Python Programming	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Introduction to Python Programming** should be as follows –
- Two Practical Exercises of 15 Marks each
- Viva-Voce – 5 Marks
- Record – 5 Marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC –63P- 209 - Introduction to Python Programming

UNIT-I

Python Concepts: Origin, Comments, Variables and Assignment, Identifiers, Basic Style Guidelines, Standard Types, Operators, Built-in Functions, Numbers and Strings, if statement, while Statement, for Statement, break Statement

(15 hours Practical)

Unit-II

Classes and Functions: Classes in Python, Principles of Object Orientation, Creating Classes, Instance Methods, Class variables, Inheritance, Polymorphism, Type Identification, Python libraries, Built-in Functions, List type built in Methods, Tuples, Tuple Operators, Set

(15 hours Practical)

Unit-III
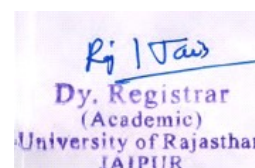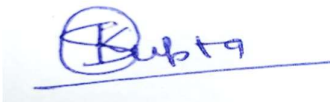
Dictionaries: Introduction to Dictionaries, Sorting and Looping, File Objects, File Built-in Function, Command-line Arguments, File Execution, Regular Expression, Special Symbols

(15 hours Practical)

Unit-IV

Exceptions: Concepts of Exceptions, Raising Exceptions, SQL Database Connection using Python, Creating and Searching Tables, Reading and storing config information on database

(15 hours Practical)

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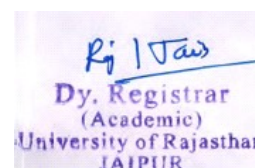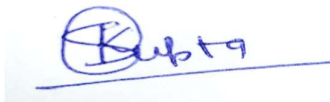
Suggested Books and References –

1. Downey, A.B., (2015), *Think Python How to think like a Computer Scientist*, 3rd edition.
2. Taneja, S. & Kumar, N., (2017), *Python Programming- A Modular Approach*. Pearson Education.
3. Brown, M. C. (2001). *The Complete Reference: Python*, McGraw Hill Education.
4. Dromey, R. G. (2006), *How to Solve it by Computer*, Pearson Education.
5. Guttag, J.V.(2016), *Introduction to computation and programming using Python*. MIT Press.
6. Liang, Y.D. (2013), *Introduction to programming using Python*. Pearson Education

Course Learning Outcomes:

By the end of the course, students should be able to:
1. Articulate the origin and development of Python and apply basic Python programming concepts such as variables, operators, and built-in functions in real-world scenarios.
2. Write Python programs using control structures like if, while, and for loops, and demonstrate their application in solving problems.
3. Create Python classes, utilize object-oriented principles such as inheritance and polymorphism, and manage class variables and methods effectively.
4. Efficiently use Python's data structures like lists, tuples, sets, and dictionaries for data storage, retrieval, and manipulation.
5. Implement file-handling operations in Python, use regular expressions for pattern matching, and handle exceptions to make robust programs.
6. Establish SQL database connections using Python, create and search tables, and manage database operations through Python scripts.

SEC-63P-210 – Frontend Web Designing

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
V/VI	**SEC-63P-210**	**Frontend Web Designing**			**2**
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical l**		
Introductory	**Skill Enhancement**	**-**	**2**	**No**	**60 Hours Practical**
Prerequisites	The prerequisites for the course include a basic computer and a creative mindset.				
Objectives of the Course:	Objectives of the Course – This course is designed for beginners who are interested in learning the fundamentals of web design. The course is divided into four comprehensive units, each focusing on a key aspect of web design. By the end of the course, students will have the skills to create a basic, functional, and visually appealing website.				

Examination Scheme-
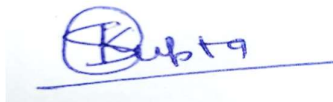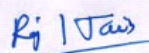
Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	**SEC-63P-210- Frontend Web Designing**	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Frontend Web Designing** should be as follows –
- Two Practical Exercises of 15 Marks each
- Viva-Voce – 5 Marks
- Record – 5 Marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-63P-210 – Frontend Web Designing

Unit - I

Introduction to Web Design: UX/UI principles, Basic Web Design Concepts, Layouts, color theory, typography, visual hierarchy, HTML Basics: Tags, elements, webpage structure, CSS Basics: Selectors, properties, HTML Lists, Creating Links, Creating a Data Table

(20 Hours Practical)

Unit -II

Introduction to Cascading Style Sheets, Color in CSS, Typography in CSS, The Box Model in CSS, The Role of ID and Class in CSS, Page Layout Techniques, Responsive Design and Layouts, Responsive layouts, CSS Grid, Media Queries, Making websites responsive, Bootstrap Framework

(20 Hours Practical)

Unit -III

Introduction to JavaScript, role in web design, Working with the Document Object Model, Basic JavaScript Functions: Dropdown menus, sliders, modals, jQuery Basics, Forms and Validation

(20 Hours Practical)

Unit-IV

Website Optimization, Image optimization, performance tuning, SEO Basic, Web Accessibility, Basic Features of Web Authoring Software, Publishing on the Web, Client Website-Planning, Constructing and Quality Control
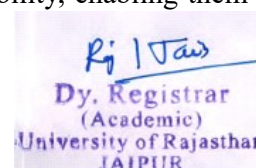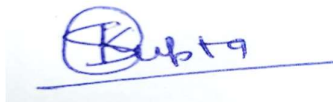
(20 Hours Practical)

Suggested Books and References –
1. Powell. Thomas A., JavaScript: The Complete Reference
2. lemay. Laura, rafe colburn, jennifer kyrnin, Mastering HTML, CSS & JavaScript Web, BPB Publication, 2016
3. Vishvajeet. Sisodia, Basic of Web Design, HTML, CSS3, Centrum Press, 2014.

Course Learning Outcomes:
By the end of this course, students will be able to design and develop functional, responsive, and visually appealing websites using fundamental web technologies. They will gain a solid understanding of UX/UI principles, basic HTML, and CSS to create structured and styled web pages. Students will also learn advanced CSS techniques, including responsive design with CSS Grid and Bootstrap, ensuring their websites adapt seamlessly across devices. With hands-on experience in JavaScript and jQuery, they will be able to implement interactive features like dropdown menus, sliders, and form validations. Additionally, students will acquire skills in website optimization, SEO, and web accessibility, enabling them to publish and

manage high-performance, accessible websites with an understanding of client needs and quality control processes.

SEC-63P-211 – Introduction to SCILAB

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63P-211	Introduction to SCILAB		6	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	60 Hours Practical
Prerequisites	No Prerequisite				
Objectives of the Course:	Objectives of the Course – • Develop Scilab Proficiency • Master Basic Scilab Syntax • Manipulate Scalars and Vectors • Function Plotting and Data Visualization • Matrix Operations • Understand and Manipulate Polynomials • Apply Linear Programming				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-63P-211- Introduction to SCILAB	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Introduction to SCILAB** should be as follows –
- Two Practical Exercises of 15 Marks each
- Viva-Voce – 5 Marks
- Record – 5 Marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-63P-211 - Introduction to SCILAB

Unit-I

Downloading and installing Scilab. The Scilab environment: The editor, command window, graphic window, window management and workspace customization. Basic syntax, mathematical operators, predefined constants, built-in functions, variable assignments.

(15 Hours Practical)

Unit-II

Scalars and vectors: Introduction, initializing vectors in Scilab. Mathematical relational and logical operators on vectors. Elementary mathematical functions, mathematical functions on scalars, trigonometric functions, inverse trigonometric functions, hyperbolic functions. Plotting of data and functions.

(15 Hours Practical)

Unit-III

Matrices on Scilab: Introduction, arithmetic operators for matrices, rank of a matrix, determinant, inverse of a matrix, solution of system of linear equations, Eigen-values and Eigen-vectors.

(15 Hours Practical)

Unit-IV

Polynomials: Introduction, creation of polynomials, basic polynomial commands, finding roots of polynomials, polynomial arithmetic, miscellaneous polynomial handling. Linear programming problems: Introduction, solution by Karmarkar algorithm.

(15 Hours Practical)

Suggested Books and References –

1. M. Affouf, Scilab by example, 2012
2. H. Ramachandran, A.S.Nair, Scilab (A free software to Matlab), 2011, S. Chand and Company.
3. Scilab for very beginners-www.scilab-enterprises.com

Course Learning Outcomes:

By the end of the course, students will be proficient in solving a range of Mathematical problems with big data sets using Scilab.

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SEC-63P-212 – Vedic Mathematics

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63P-212	Vedic Mathematics		6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory
Prerequisites	No Prerequisite				
Objectives of the Course:	This course aims to introduce students to the principles and techniques of Vedic Mathematics, providing them with tools to perform high-speed arithmetic, including addition, subtraction, multiplication, and division using ancient Sutras and Up-Sutras. Students will explore efficient methods for calculating squares, cubes, and their roots, enhancing their mental math skills. Additionally, the course covers Vedic approaches to solving algebraic equations, enabling students to tackle simple, simultaneous, and quadratic equations with ease and precision. Through these techniques, students will gain a deeper appreciation for the power and simplicity of Vedic Mathematics.				

Examination Scheme-
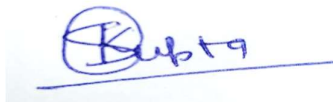
Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63P-212– Vedic Mathematics	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **Vedic Mathematics** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63P-212 – Vedic Mathematics	1 Hrs	50 Marks	20 Marks

The question paper for **Vedic Mathematics** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the

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University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-63P-212 - Vedic Mathematics

Unit-I

Introduction of Vedic mathematics: History, Sixteen Sutras and up sutra, Base, Subbase, Complementary Numbers and Nikhilam Number. High-Speed **Addition:** Without Carrying and Dot Method, Super-fast **Subtraction:** Nikhilam Navatashcaramam Dashatah.

(07 Hours)

Unit-II

Multiplication: Sutra Nikhilam, Sutra Urdhva Tiryak, Magic with 11-19, Multiplication with 99999, Multiplication of Numbers near bases
Magic Division: Nikhilam Method, The Flag Method

(08 Hours)

Unit-III

General Squares, Interesting mental Squares: 11-20; 40-50; 50-60; 60-70. Cubing below and above the bases, General Cubes, Square roots by Duplex Method, Digital root and Cube root

(07 Hours)

Unit-IV

Vedic Methods of Solution of Algebraic Equations: Sutra Paravartya Yojayet, Sutra Sunyma Samyasamuchaye, Anurupye Sunyamanyat. Solution of Simple Simultaneous Equations and some special form of quadratic equation
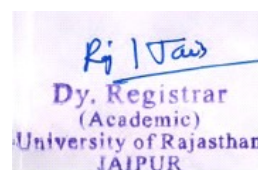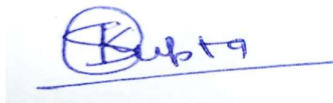
(08 Hours)

Suggested Books and References –

1. Vedic Mathematics Made Easy, Dahaval Bathia, Jaico Publishing, New Delhi 2011
2. Vedic Mathematics: Sixteen Simple Mathematical formulae from the Vedas, Jagadguru Swami Sri Bharati Krishna Trithaji, Motilal Banarasidas, New Delhi 2015.
3. Vedic Ganita, Navkar Prakashan, Ajmer, Rajasthan

Course Learning Outcomes:
By the end of the course, students will be proficient in improving mathematical calculation.

SEC-63T-213 – Entrepreneurship Theory & Practices

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
III/IV	SEC-63T-213	Entrepreneurship Theory & Practices	6	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	Skill Enhancement	2	-	Yes	30 Lectures
Prerequisites					
Objectives of the Course:	Objectives of the Course – The course aims at equipping the students with the basic understanding of the Entrepreneurship function, along with the skill sets and knowledge required to establish and run an enterprise successfully.				

Examination Scheme-
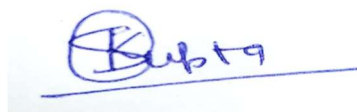
Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-213 : Entrepreneurship Theory & Practices	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE
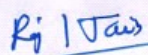
The question paper for **SEC-63T-213: Entrepreneurship Theory & Practices** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-213 : Entrepreneurship Theory & Practices	1 Hrs	50 Marks	20 Marks

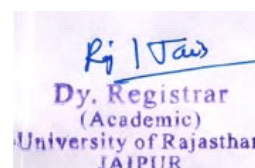The question paper for **SEC-63T-213: Entrepreneurship Theory & Practices** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-63T-213 : Entrepreneurship Theory & Practices

Unit –I

Entrepreneurship conceptual aspects: Entrepreneurship and economic development, role of Entrepreneurs, theories and concepts, barriers to Entrepreneurship, Entrepreneurs, managers and intrapreneurs.

(8 Lectures)

Unit -II

Entrepreneurial process & entrepreneurship development: Entrepreneurial competencies, traits, characteristics, motives, attitudes, achievement orientation, self-assessment.

(7 Lectures)

Unit - III

Preparing for an entrepreneurial career: Deciding for an entrepreneurial career, identification and selection of business opportunities, market assessment, technology search, production capacity, assessment of infrastructure requirements and other resources, business plan and its importance.

(7 Lectures)

Unit – IV
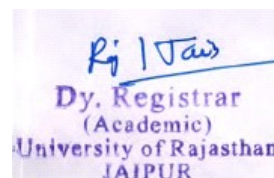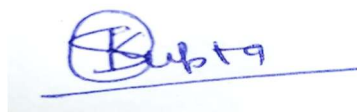
Institutional infrastructure to promote entrepreneurship: Overview, roles, schemes of promotional, financial, regulatory and other support system institutions
Emerging trends in entrepreneurship: Technopreneurship, entrepreneurs, agripreneurs, Women entrepreneurship, Portfolio entrepreneurship, Franchising.

(8 Lectures)

Suggested Books and References –
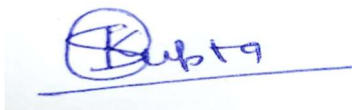
1. Charantimath, P.M. Entrepreneurship Development and Small Business Management, Person Education
2. Gupta CB, Srinivasan NP, Entrepreneurship Development in India, Text & Cases, Sultan Chand & Sons, New Delhi.
3. Desai Vasant, Fundamentals of Entrepreneurship and Small Business Management, Himalaya Publishing House.

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Course Learning Outcomes:

By the end of this course, students will have a comprehensive understanding of the role of entrepreneurship in economic development and the critical factors that influence entrepreneurial success. They will be equipped with knowledge of key theories and concepts related to entrepreneurship, including the differences between entrepreneurs, managers, and intrapreneurs, and the various barriers that can hinder entrepreneurial activities. Students will develop essential entrepreneurial competencies such as self-assessment, motivation, and achievement orientation, which are crucial for navigating the entrepreneurial process. Additionally, they will learn to identify and evaluate business opportunities, assess market potential, and understand the importance of technology and infrastructure in launching a successful venture. The course will also provide insights into the institutional support available for entrepreneurs, including promotional, financial, and regulatory frameworks. Finally, students will explore emerging trends in entrepreneurship, such as technopreneurship, agripreneurship, and franchising, preparing them for diverse entrepreneurial careers in the modern economy.

SEC-63T-214- Global Business Environment

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-214	Global Business Environment		6	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	Skill Enhancement	2	-	Yes	30 Lectures
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – This course aims to provide students with a comprehensive understanding of international business, focusing on the various types of international operations and the external environments that influence global business decisions. The course will explore key international institutions such as the WTO, IMF, and World Bank, along with their significance to Indian businesses. Students will also gain insight into exchange rate mechanisms, the implications of currency convertibility, and the impact of foreign investments. Additionally, the course will address globalization's role in human resource development and social responsibility within the context of regional economic organizations like SAARC and ASEAN.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-214 - Global Business Environment	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **SEC-63T-214- Global Business Environment** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-214- Global Business Environment	1 Hrs	50 Marks	20 Marks

The question paper for **SEC-63T-214- Global Business Environment** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give

their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

SEC-63T-214- Global Business Environment

Unit I

Introduction: International al Business: An Overview-Types of International Business, The External Environment the Economic, Political, Technological, Legal, Social- psychological

(8 Lectures)

Unit II

WTO and its importance for Indian Business, International Monetary Fund (IMF),

Word Bank: Objectives and Functions

(7 Lectures)

Unit III

Exchange rate determination, fixed and flexible exchange rate, convertibility of rupee and its implication.

(7 Lectures)

Unit IV

Foreign Institutional Investors (FII), Foreign Direct Investment (FDI), Euro – Currency

Globalization and Human Resource Development, Globalization with Social Responsibility, SAARC, ASEAN **(8 Lectures)**
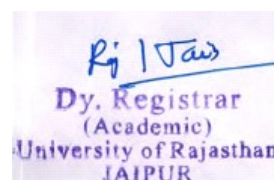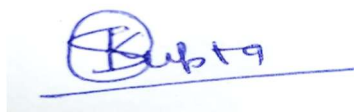
Suggested Books and References –

1. A Lowrth, Julian S. The finance, Investment and taxation decision of Multinational London, Basil Blackwell 1988.
2. Bhalla, V K and S. Shivaramu, International business environment and business New Delhi Anmil 1995.
3. Bhalla V K and International economy, Liberalisation Process, New Delhi, Aninni 1993
4. Daniel, John D and Radebangh, Lee H Internal Business 5"ed., New York Addison Wesley,1989.

Course Learning Outcomes:

By the end of this course, students will be equipped to analyze and navigate the complexities of international business environments, understanding the economic, political, technological, and legal

factors at play. They will comprehend the roles of global institutions like the WTO, IMF, and World Bank and their relevance to international trade and finance. Students will also be able to explain exchange rate systems, assess the impact of currency convertibility, and understand the dynamics of foreign investments, including FII and FDI. Furthermore, they will appreciate the implications of globalization on human resource development and corporate social responsibility, particularly within the frameworks of regional alliances such as SAARC and ASEAN.

SEC-63T-215- Apiculture

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-215	Apiculture		6	2
Level of Course	Type of the Course	Credit Distribution	Offered to NC Student	Delivery Type of the Course	
		Theory	Practical		
6	Skill Enhancement	2	-	NO	15 Hours Lecture +30 Hours Lab Activity / Fieldwork
Prerequisites	B. Sc II SEM				
Objectives of the Course:	Objectives of the Course – The aim of the study is to know the significance of beekeeping as an economically important agro based industry in agriculture for the rural communities to increase their income and create employment opportunities and entrepreneurial skills required for self-employment. To train students to understand the different species of domesticated honeybees, their biology, behaviour and role in pollination. To help students to learn the techniques of apiculture, optimisation of techniques based on climate and geographical regions and problems related apiculture industry and their management.				

Examination Scheme-
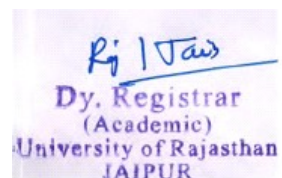
Regular Student –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-215- Apiculture	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The theory question paper for **SEC-63T-215- Apiculture** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

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Detailed Syllabus

SEC-63T-215- Apiculture

Unit – I

BIOLOGY OF BEES
Historical background of apiculture, classification, diversity and biology of honey bees, social organization of bee colony, behavioural pattern (bee dance, swarming, absconding etc.); products of apiculture (honey, bees wax, propolis, royal jelly, pollen etc.) and their uses.

(4 Lectures)

Unit -II
REARING OF BEES
Artificial bee rearing (Apiary), beehive- Newton and Langstronth; bee pasturage; selection of bee species for apiculture (*Apis cerana indica* and *A. mellifera*), methods and equipment (indigenous and modern) for beekeeping and extraction of honey bee products and their processing; apiary management- honey flow and lean period.

(5 Lectures)

Unit -III

PROBLEMS RELATED APICULTURE AND THEIR MANAGEMENT
Bee diseases, control and preventive measures; enemies of bees and their management; effects of pollutions on honeybees.

(3 Lectures)
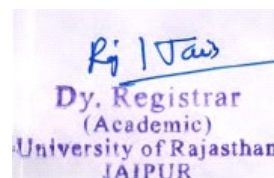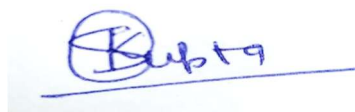
Unit-IV
ECONOMY OF BEEKEEPING
Pollination: significance of beekeeping in horticultural gardens and agricultural fields; employment opportunities, economics, scope of women empowerment in apiculture industry; role of small- and large-scale beekeeping in growth of Indian economy (honey production in India); honey mission and sweet kranti; organisations and training institutes involved in beekeeping in India.

(3 Lectures)

Practical:
1. Study of specimens and permanent slides: *Apis cerana indica*, *A. mellifera*, *A. dorsata*, *A. florea*, *Melipona sp.*, honeybee enemies, life history and social castes of honey bees: egg, larva, pupa, adult (queen, drone and worker), mouthparts, antenna, wings, sting apparatus and temporary mounts of legs (antenna cleaner, mid leg and pollen basket), honey bee diseases.
2. Study of structure of natural bee hives (different types of cells in honeybee comb) and artificial hive (Longstroth/Newton).
3. Equipment required for beekeeping (models/photograph)

4. Video demonstration of extraction and processing of honeybee products.
5. Analysis of honey: purity, physical and biochemical parameters.
6. Field visit to an apiary/honey production unit/agriculture field/gardens/orchard.

Suggested Books and References –

1. Singh, S (1962). Beekeeping in India, Indian Council of Agricultural Research, New Delhi.
2. Mishra, R. C. (1995). Honeybees and their management in India. Indian Council of Agricultural Research, New Delhi.
3. Prodt, P. J. (1962). Apiculture. Oxford and IBH, New Delhi.
4. Rahman, A. (2017). Beekeeping in India. Indian Council of Agricultural Research, New Delhi.
5. Gupta, J. K. (2016). Apiculture, Indian Council of Agricultural Research, New Delhi.

Suggested E-resources:

1. Apiculture https://vidyamitra.inflibnet.ac.in/index.php/content/index/5fd9f1678007bef4453de567

Course Learning Outcomes:

By the end of the course, students will be able to:
1. Gain knowledge of differentiating high-yielding varieties/species of domesticated honeybees, their biology, social organisation and significance.
2. Perceive the different types of techniques used in apiculture, honey and byproducts production.
3. Identify problems related to apiculture and their management.
4. Develop entrepreneurial skills necessary for self-employment, jobs as beekeepers and worker for collecting and packaging of honey bee products including honey, beeswax and pollen.

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SEC-63T-216– Introduction to Bioinformatics

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-216	Introduction to Bioinformatics		5	2
Level of Course	**Type of the Course**	**Credit Distribution**	**Offered to NC Student**	**Delivery Type of the Course**	
		Theory	Practical		
Introductory	Skill Enhancement	2	-	NO	15 Hours of Lectures + 30 Hours of Lab Activity
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course –The objective of this syllabus is to provide students with a foundational understanding of bioinformatics, its applications, and the fundamental tools and techniques used in the field.				

Examination Scheme

Regular Students

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (Midterm + EoSE)	Minimum Marks (Midterm + EoSE)
Theory	SEC-63T-216- Introduction to Bioinformatics	1 Hrs-MT 2 Hrs-EoSE	10 Marks-MT 40 Marks-EoSE	4 Marks-MT 16 Marks-EoSE

The theory question paper for **SEC-63T-216- Introduction to Bioinformatics** will be so set that it has 40 multiple choice questions (Bilingual) of One mark each. The Question paper will be of duration of 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology-

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Detailed Syllabus

SEC-63T-216- Introduction to Bioinformatics

Unit – I

Introduction to Bioinformatics
1. Introduction to Bioinformatics
   - Definition of bioinformatics and its applications.
   - Importance of bioinformatics in biology and medicine.
2. Data formats used in bioinformatics (FASTA, FASTQ, SAM/BAM, VCF, etc.)

(3 Lectures)

Unit -II

Biological Databases and Tools
1. Overview of biological databases (GenBank, UniProt, NCBI, etc.).
2. Introduction to basic bioinformatics tools (BLAST, ClustalW, etc.).

(4 Lectures)

Unit -III
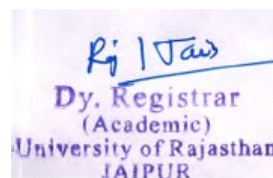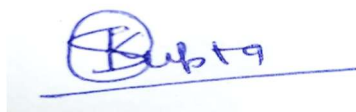
Pairwise Sequence Alignment
1. Basic introduction about sequence
   - Introduction to DNA, RNA, and protein sequences.
   - Basic sequence manipulation (sequence format, length, composition).
2. Pairwise Sequence Alignment
   - Understanding sequence alignment and its significance.
   - Introduction to global and local alignment concepts.

(4 Lectures)

Unit-IV

Multiple Sequence Alignment
1. Multiple Sequence Alignment
   - Understanding the need for multiple sequence alignment.
   - Introduction to progressive and iterative alignment methods.
2. Phylogenetic analysis
   - Simple tree-building techniques using sequence data.
   - Phylogenetic Analysis tool-ClustalW

(4 Lectures)

Practicals: **(30 Hours Lab Activity)**

1. BLAST search using a nucleotide sequence and interpretation of results.
2. Conversion of sequence files between different formats (e.g., FASTA to FASTQ) using command-line tools.
3. Global alignment of two DNA sequences using the Needleman-Wunsch algorithm.
4. Local alignment of two protein sequences using the Smith-Waterman algorithm.
5. Use of ClustalW to perform a multiple sequence alignment of several related protein sequences.
6. Construction of a phylogenetic tree using sequence data from a multiple sequence alignment.
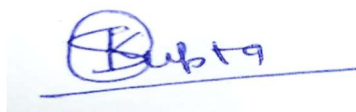
Suggested Books and References –

1. "Bioinformatics: Sequence and Genome Analysis" by David W. Mount
2. "Bioinformatics: A Practical Guide to the Analysis of Genes and Proteins" by Andreas D. Baxevanis and B.F. Francis Ouellette
3. "Essential Bioinformatics" by Jin Xiong
4. "Bioinformatics for Dummies" by Jean-Michel Claverie and Cedric Notredame
5. "Understanding Bioinformatics" by Marketa Zvelebil and Jeremy Baum
6. "Introduction to Bioinformatics" by Arthur Lesk
7. "Bioinformatics: Sequence, Structure, and Databanks" by Des Higgins and Willie Taylor
8. "Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids" by Richard Durbin et al.
9. "Genomics and Bioinformatics: An Introduction to Programming Tools for Life Scientists" by Tore Samuelsson
10. "Introduction to Computational Biology: Maps, Sequences, and Genomes" by Michael S. Waterman

Course Learning Outcomes:

By the end of the course, students should be able to:

1. Define and explain the concept of bioinformatics and its wide-ranging applications.
2. Identify the data formats, major biological databases and bioinformatics tools commonly used in bioinformatics and understand their purposes.
3. Perform and interpret pairwise and multiple sequence align

SEC-63T-217- Herbal Technology
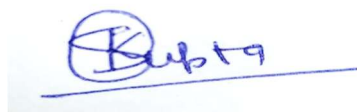
Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	**SEC-63T-217**	**Herbal Technology**		6	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Course Delivery Method**
		Theory	Practical	Total	
Intermediate	Skill Enhancement	2	-	2	Yes	15 Hours Lectures + 30 Hours Lab Activity/Fieldwork
Prerequisites		Introductory level Courses			
Objectives of the Course:		• Students should be able to identify different Medicinal plants and understand MAP values as people move back to Ayurvedic system. • Train student in practical laboratory skills for learn to identification of various MAP. • Teach the students for Chemical characterisation of some selected MAP. • Demonstrate to learn about drug adulteration and Phytochemical screening tests secondary metabolites.			
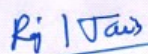
Examination Scheme-

Regular students-

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks (Midterm + EoSE)	Minimum Marks (Midterm + EoSE)
Theory	**SEC-63T-217-**Herbal Technology	01 Hr- MT 01 Hr- EoSE	10 Marks- MT 40 Marks- EoSE	04 Marks- MT 16 Marks- EoSE

The question paper for Herbal Technology will be so set that it has 40 multiple choice questions (Bilingual) of One mark each. The Question Paper will be of duration of 01 Hour. The Examinees will have to give their answers on an OMR sheet only to be provided by the University where evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-63T-217- Herbal Technology

Unit-I

Herbal medicines: Introduction, history and scope of medicinal plants in Ayurvedic systems.

02 Lectures

Unit-II

Pharmacognosy: Identification and uses of the following medicinal herbs in curing various disorders; Triphala, Ginger, Neem, Giloy, Chirayta and Turmeric.

04 Lectures

Unit-III

Phytochemistry: Active principles and methods of Chemical characterization of following medicinal herbs; *Catharanthus roseus* (anti-cancerous), *Withania somnifera* (tonic & immunity booster) and *Ephedra foliata* (Asthmatic problems).

04 Lectures
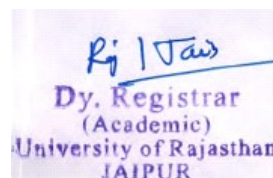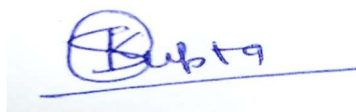
. **Unit-IV**

Analytical pharmacognosy: Drug adulteration types, methods of drug evaluation; Biological testing of herbal drugs - Phytochemical screening tests for secondary metabolites (alkaloids, phenolic compounds).

05 Lectures

Practical's

1. Preparing a document of some important medicinal plants used in your locality.
2. Study of MAP in college herbal garden to identify the species.
3. Develop a repository of some common medicinal & aromatic plants.
4. Characterization of active principal of some important medicinal plants.
5. Chemical test of some important medicinal plants.
6. Identify and list precautions for drug adulteration for some common MAP species around your locality.

7.   Chemical characterization of some secondary metabolite compounds.
8.   Documentation for important formulation Viz. Triphala, Ashtakavarga, Chyawanprash and dashmularishta.
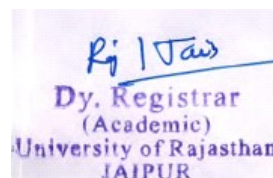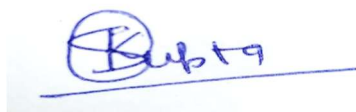
Suggested Books and References –

- Glossary of Indian medicinal plants, R.N.Chopra, S.L.Nayar and I.C.Chopra, 1956.   C.S.I.R, New Delhi.
- The indigenous drugs of India, Kanny, Lall, Dey and Raj Bahadur, 1984. International Book Distributors.
- Herbal plants and Drugs Agnes Arber, 1999. Mangal Deep Publications.
- Ayurvedic drugs and their plant source. V.V. Sivarajan and Balachandran Indra 1994. Oxford IBH publishing Co.
- Ayurveda and Aromatherapy. Miller, Light and Miller, Bryan, 1998. Banarsidass, Delhi.
- Principles of Ayurveda, Anne Green, 2000. Thomsons, London. 7. Pharmacognosy, Dr.C.K.Kokate et al. 1999. Nirali Prakashan.

Course Learning Outcomes:

At the end of the course, students should be able to:

1. Gain a comprehensive understanding of the principles of herbal medicine, including the historical and cultural context of its use.
2. Identify and classify important medicinal plants and herbs based on their botanical characteristics.
3. Explore the therapeutic applications of various herbs and how they can be integrated into modern health practices.
4. Demonstrate to learn about drug adulteration and Phytochemical screening tests secondary metabolites.

SEC-63T-218-Mushroom Culture Technology
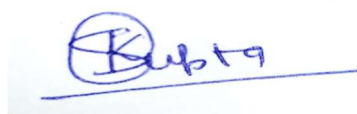
Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-218	Mushroom Culture Technology		6	2

Level of Course	Type of the Course	Credit Distribution			Offered to NC Student	Course Delivery Method
		Theory	Practical	Total		
Intermediate	Skill Enhancement	2	-	2	Yes	15 Hours of Lectures + 30 Hours of Lab Activity/Fieldwork

Prerequisites	Introductory level Courses
Objectives of the Course:	➤ Students should be able to identify different mushroom species and understand their growth requirements. ➤ Equip students with practical laboratory skills for mushroom culture, including media preparation, sterilization, and inoculation techniques. ➤ Teach the preparation of various substrates and production of mushroom spawn. ➤ Demonstrate how to create and manage the appropriate environmental conditions for mushroom fruiting.
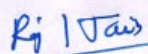
Examination Scheme-

Regular students-

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks (Midterm + EoSE)	Minimum Marks (Midterm + EoSE)
Theory	SEC-63T-218-Mushroom Culture Technology	01 Hr- MT 01 Hr- EoSE	10 Marks- MT 40 Marks- EoSE	04 Marks- MT 16 Marks- EoSE

The question paper for **SEC-63T-218-Mushroom Culture Technology** will be so set that it has 40 multiple choice questions (Bilingual) of One mark each. The Question Paper will be of duration of 01 Hour. The Examinees will have to give their answers on an OMR sheet only to be provided by the University where evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-63T-218-Mushroom Culture Technology

Unit-I

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

03 Lectures

Unit-II

Cultivation Technology: Infrastructure: substrates (locally available) Polythene bag, vessels, Inoculation hook, inoculation loop, low-cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag.

03 Lectures

Unit-III
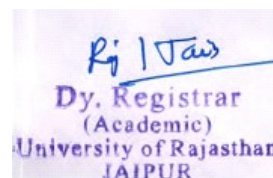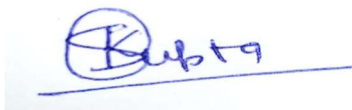
Pure culture: Medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation.

05 Lectures

Unit-IV

Harvesting, Post Harvest Handling and Storage techniques. Research Centres - National level and Regional level.

04 Lectures

Practicals

1. Study of basic structure of the edible fruiting body of a mushroom (*Agaricus bisporus*).
2. Understand and practice sterilization methods essential for mushroom culture.
3. Agar plates inoculation with mushroom spores or mycelium.
4. Substrate Preparation for mushroom cultivation.
5. Spawn Production using a prepared substrate.
6. Understanding effect of different factors on growth of fruiting bodies of mushrooms.
7. Understanding Post Harvest handling and storage of mushrooms.

Suggested Books and References –

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

Suggested e-resources:

https://nhb.gov.in/pdf/Cultivation.pdf

https://nptel.ac.in/
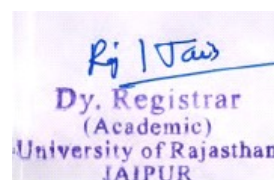
Course Learning Outcomes:

At the end of the course, students should be able to:

1. Set up and maintain a sterile culture environment and perform inoculation procedures.
2. Prepare substrates, inoculate them with spawn, and manage the colonization process.
3. Set up and monitor conditions such as temperature, humidity, and light for optimal mushroom growth.
4. Students should understand potential applications of mushroom technology in industry and research settings.

SEC-63T-219- Documentation of Museum Exhibits

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-219	Documentation of Museum Exhibits		6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Lectures
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – This course aims to provide students with a comprehensive understanding of international business, focusing on the various types of international operations and the external environments that influence global business decisions. The course will explore key international institutions such as the WTO, IMF, and World Bank, along with their significance to Indian businesses. Students will also gain insight into exchange rate mechanisms, the implications of currency convertibility, and the impact of foreign investments. Additionally, the course will address globalization's role in human resource development and social responsibility within the context of regional economic organizations like SAARC and ASEAN.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-219- Documentation of Museum Exhibits	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **SEC-63T-219-Documentation of Museum Exhibits** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-219- Documentation of Museum Exhibits	1 Hrs	50 Marks	20 Marks

The question paper for **SEC-63T-219-Documentation of Museum Exhibits** will be so set that it has 50 multiple-choice questions

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(Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

SEC-63T-219- Documentation of Museum Exhibits

Unit-I

Museum Documentation – Definition and Objectives

Types of Documentation: Administrative Documentation, Object Documentation, Conservation Documentation, Dissemination (Museum Publications)

(7 Lectures)

Unit-II

Various stages of Documentation – Entry, accessioning, cataloguing, movement, inventory

Standard Methods of Field Documentation: Equipments, Procedures

Information Categories in Field Documentation

Preparing Field Documentation Tags

(8 Lectures)

Unit-III

Museum Exhibits: Numbering Method, Marking Method, Cataloguing, Indexing
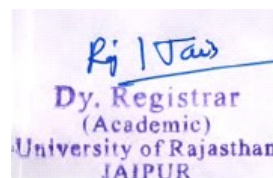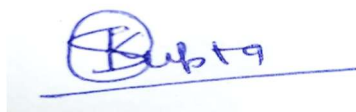
Exit Documentation and De-Accessioning

Features of computerized Documentation

Collection Management Softwares

(7 Lectures)

Unit-IV

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Activity-based learning on any one of the documentation methods. The students shall learn to prepare

1. Catalogue of ten objects
2. Detailed Report of a Museum gallery
3. Accession Register Entries of Ten Objects
4. Numbering of Ten Objects of a Gallery Collection

(8 Lectures)

Suggested Books and References –
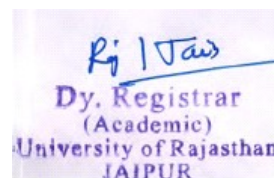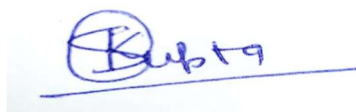
1. McLean, Kathleen. 2001. Planning for People in Museum Exhibitions. Washington, DC: Association of Science and Technology Centers.
2. Shilpi Roy. 2019. Museum Documentation: A Potent Tool for Collection Management. Delhi: Agam Kala Prakashan
3. Ambrose T. , Paine C. 1993. Museum Basics. London: Routledge
4. Dudley, DH; Bezold, I. 1958. Museum Registration Methods. Baltimore: The Lord Baltimore Press, INC
5. Fahy, A. (ed.). Collection Management. London: Routledge

Suggested e-resources:

- https://www.nps.gov/museum/publications/MHIII/mh3ch1.pdf
- https://cidoc.mini.icom.museum/working-groups/exhibition-and-performance-documentation/
- https://www.obs-traffic.museum/sites/default/files/ressources/files/EPA_Documentation_Museum_Collections.pdf
- https://unesdoc.unesco.org/ark:/48223/pf0000141067

Course Learning Outcomes:

This course shall introduce the students to documentation techniques and areas – accession registers, numbering, catalogues, etc. They shall gain the foundational skill to create comprehensive exhibit documentation by accurately describing objects, detailing provenance, and preparing condition reports. They shall be prepared to utilize digital tools and software effectively to catalogue and manage museum exhibit data, integrating current technologies into documentation practices. They shall be able to produce detailed and engaging interpretive materials such as labels and informational panels that cater to diverse audience needs and enhance visitor understanding.

SEC-63T-220- Use of Chemicals in Daily Life

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
III/IV	SEC-63T-220	Use of Chemicals in Daily Life		6	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Lectures
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – This course aims to provide students with a comprehensive understanding of the chemical aspects of food safety, environmental pollution, and material science. It covers the study of food additives, adulterants, and contaminants, and their impact on health, as well as the principles of air and soil pollution, including the effects of toxic chemicals. Additionally, the course explores the significance of vitamins, oils, fats, and the chemical principles underlying soaps, detergents, corrosion, and energy systems. The course also delves into the classification, properties, and environmental impact of polymers, with a focus on sustainable development.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-63T-220- Use of Chemicals in Daily Life	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **SEC-63T-220- Use of Chemicals in Daily Life** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-63T-220- Use of Chemicals in Daily Life	1 Hrs	50 Marks	20 Marks

The question paper for **SEC-63T-220-Use of Chemicals in Daily Life** will be so set that it has 50 multiple-choice questions (Bilingual) of

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one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-63T-220- Use of Chemicals in Daily Life

Unit-I

Food additives, adulterants and contaminants- Food preservatives like benzoates, propionates, sorbates, disulphites.

Artificial sweeteners: Aspartame, saccharin, dulcin, sucralose and sodium cyclamate.

Flavours: Vanillin, alkyl esters (fruit flavours) and monosodium glutamate.
Artificial food colorants: Coal tar dyes and non-permitted colours and metallic salts. Analysis of pesticide residues in food.

8 Lectures

Unit-II

Air Pollution: Air pollutants, prevention and contraok, Greenhouse gases and acid raid. Ozone hole and CFCs. Photochemical smog and PAN. Bhopal gas tragedy.
Toxic chemicals in the environment. Detergents- pollution aspects, eutrophication. Pesticides and insecticides-pollution aspects. Heavy metal pollution. Solid pollutants- treatment and disposal. Treatment of industrial liquid wastes. Sewage and industrial effluent treatment.
Composition of soil – inorganic and organic components in soil-micro and macronutrients.
Fertilisers: Classification of Fertilizers- Straight Fertilizers, Compound/Complex Fertilizers, Fertilizer Mixtures. Manufacture and general prosperities of Fertilizer products- Urea and DAP.

8 Lectures
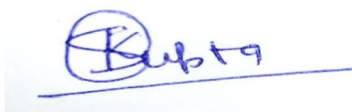
Unit-III

Vitamins: Sources, deficiency diseases and importance of Vitamin A, Vitamin B, Vitamin C, Vitamin D, Vitamin E & Vitamin K.
Oils and fats: Composition of edible oils, detection of purity, rancidity of fats and oil. Tests for adulterants like argemone oil and mineral oils.
Soaps & Detergents: Structures and methods of use of soaps and detergents.

7 Lectures

Unit-IV

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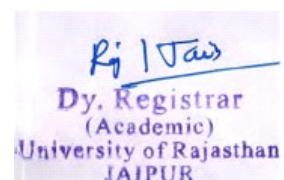
Corrosion: Types and prevention, corrosion failure and analysis

Chemical energy system and limitations, principles and applications of primary & secondary batteries and fuel cell. Basics of solar energy, future energy storer.

Polymers: Types and classification of polymers. Source and general characteristics of natural and synthetic polymers. Problems of plastic waste management. Strategies for the development of environment-friendly polymers.

7 Lectures

Suggested Books and References –

1. B. K. Sharma: introduction to Industrial Chemistry, Goel Publishing, Meerut (1998)
2. Medicinal Chemistry by Ashtoush Kar.
3. Drugs and Pharmaceutical Sciences Series, Marcel Dekker, Vol. II, INC, New York.
4. Analysis of Foods – H.E. Cox: 13. Chemical Analysis of Foods – H.E. Cox and Pearson.
5. Foods: Facts and Principles. N. Shakuntala Many and S. Swamy, 4th ed. New Age International (1998)
6. Physical Chemistry – P l Atkins and J. de Paula – 7th Ed. 2002, Oxford University Press.
7. Handbook on Fertilizer Technology by Swaminathan and Goswamy, 6th ed. 2001, FAI.
8. Organic Chemistry by I. L. Finar, Vol. 1 & 2.
9. Polymer Science and Technology, J. R. Fired (Prentice Hall).

Course Learning Outcomes:

By the end of this course, students will be able to critically analyze the role of various food additives and contaminants in food safety, understand the environmental and health implications of air and soil pollutants, and evaluate the chemical principles behind the functionality of vitamins, oils, fats, and detergents. They will also gain insights into corrosion mechanisms and prevention, the operation and limitations of chemical energy systems like batteries and fuel cells, and the challenges and strategies associated with polymer waste management. Students will be prepared to apply this knowledge in addressing real-world issues related to food safety, environmental protection, and sustainable materials.

SEC-75T-301 – Climate Change

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
V/VI	SEC-75T-301	Climate Change	7	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. To make students aware of the fundamental concepts of climate change and global warming. 2. To make students aware of the impacts of climate change on agriculture, urbanization and food security. 3. To enable students to understand the policy initiatives. 4. To develop a response mechanism in case of emergencies at international and national level.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-75T-301 – Climate Change	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **Climate Change** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-75T-301 – Climate Change	1 Hrs	50 Marks	20 Marks

The question paper for **Climate Change** will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-75T-301- Climate Change

Unit I

Introduction to Climate Change and Global Warming

Definition of weather and climate. Overview of weather systems: Extreme weather events and Western disturbance, Greenhouse gases: sources, enhanced greenhouse gas effect. Global warming: causes and effects, sea level rising, ice melting temperature rising, floods and droughts.

6 Hours Lecture

Unit II

Observed climate variability and change

Evidence of warming and change in atmosphere/ ocean circulations. Climate extremes, Cyclones, thunderstorms, Tornadoes, Heat waves. Energy balance of the earth, Human-induced climate variations.

8 Hours Lecture

Unit III

International response to climate change

History of IPCC and UNFCCC. The climate change convention. National and local government responses. Adaptive response and mitigation activity. Role of Indian industry in the production of CFC products. Greenhouse gases policy issue.

8 Hours Lecture

Unit IV

Human ecology of climate change

Anthropogenic activities responsible for climate change: Source activities (Burning of fossil fuel, Industrial activity, Urbanization, Agriculture, transportation, waste generation). Removals of Sinks and LULUCF. Climate change and food security: Food systems (Agriculture, Animal husbandry, Fisheries), impacts of Climate Change on Food systems.

8 Hours Lecture

Suggested Books and References –

1. Oliver J. & Hidore J. (2001). Climatology-An Atmospheric Science (second edition).
2. Maslin M. (2004). Global Warming- A very short introduction, Oxford publication.
3. Joseph F.C. DiMento & Doughman P. (2014). Climate Change: What it means for us, our children and our grandchildren (second edition). MIT press.
4. IPCC Third Assessment Report (2001)

5. Harvey L.D.D. (2018). Climate and Global Environmental Change by, Prentice Hall publication
6. Das, S.K. Climate Change- An Indian Perspective by, Foundation books
7. Maslin M. (2008). Global Warming- A very short introduction. Oxford publication
8. Oliver J.E. & Hidore J. J. (2001). Climatology-An Atmospheric Science (second edition). Indian edition.
9. Houghton J.T. (2009). Global Warming: the complete briefing. Cambridge University Press.

Course Learning Outcomes:

At the end of the course, students will –
- Explain the fundamentals of climate change.
- Understand the impacts of international climate change legal and policy framework.
- Describe the expected consequences of climate change and the role of adaptation. Provide a rationale for climate change mitigation and propose actions in key sectors.
- Analyse principal challenges and opportunities for climate change.

SEC-75P-302 – Kidvid Mastery: Crafting Interactive Digital Content for Young Minds

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
V/VI	SEC-75P-302	Kidvid Mastery: Crafting Interactive Digital Content for Young Minds		7	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	60 Hours Practical
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • This course focuses on the fundamental skills required for creating age-appropriate digital content for children. • Students will learn the art of digital play activity through video creation, including voice-over techniques and video editing. • Students will learn the skills of creating interactive and entertaining videos for children.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-75P-302 – Kidvid Mastery: Crafting Interactive Digital Content For Young Minds	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

- Prepare any one type of digital content for young minds = 20 marks
- Make any one of the following = 20 marks
  a) Powerpoint presentation on any relevant topic.
  b) Video on any one relevant topic.

Detailed Syllabus

SEC-75P-302- Kidvid Mastery: Crafting Interactive Digital Content for Young Minds

1) Developing an understanding of different Types of digital contents (for example Blog posts, Videos, Podcasts, Photos, images, and GIFs Social media posts, eNewsletters).

(12 Hours)

2) Organise and attend workshops on Digital content creation and copyright issues.

(**8 Hours**)

3) Prepare a PowerPoint presentation on different types of digital content.

(8 Hours)

4) Making and editing Videos for different age groups (Infancy to adolescence) and Adding Voice to the videos. (topics - value and life skills).

(**20 Hours**)

5) Conducting activities for different age groups using the created videos.

(16 Hours)

Suggested Books and References –

- https://uk.indeed.com/career-advice/career-development/digital-content
- https://egyankosh.ac.in/bitstream/123456789/8370/1/Unit-1.pdf
- https://egyankosh.ac.in/bitstream/123456789/57026/3/Unit-10.pdf
- https://egyankosh.ac.in/bitstream/123456789/78641/1/Unit-2.pdf
- https://www.researchgate.net/publication/347444440_IMPACT_OF_DIGITAL_MEDIA_ON_SOCIETY_Introduction

Course Learning Outcomes:

- To make students understand and learn the skills required for content digital creation for news websites, blogs and mobile communication. It will help students gather basic knowledge of video production. It will empower students with the skills and knowledge to develop and execute effective digital teaching strategies if they want to take up teaching as a profession.

SEC-75P-303 – Kidvid Mastery: Crafting Interactive Digital Content for Young Minds

Semester	Code of the Course	Title of the Course/Paper			NHEQF Level	Credits
V/VI	SEC-75P-303	Food Preservation			7	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course	
		Theory	Practical			
Introductory	Skill Enhancement	-	2	No	60 Hours Practical	
Prerequisites	XII Pass					
Objectives of the Course:	Objectives of the Course – • To create awareness about the need and importance of food preservation. • To create an understanding of the importance of food preservation in food security. • To develop skills in various techniques of food preservation among students.					

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-75P-303 – Food Preservation	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical Examination scheme for **Food Preservation** should be as follows –

• Preparation of any one item prepared in the class = 20 marks
• Calculation of cost and profit of any one dish prepared in the class = 20 marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-75P-303- Food Preservation

1. Food preservation principles and techniques (PowerPoint presentation)   2
2. Visit to food preservation unit   2
3. Calculation of cost and profit. Getting funds for a start-up   2
4. Preparation of the following
    - Amla candy and Amla preserve   2
    - Jam and marmalade– Orange marmalade, Apple and mixed fruit jam   2
    - Tomato Sauce, tomato puree, tomato chutney   5
    - Pickles - mix vegetables, lemon & green chillies.   5
    - Squashes - Lemon, orange, amla, synthetic syrups, natural syrups such as Chandan sherbet, and rose sherbet.   7
    - Dehydrated vegetables   3

Suggested Books and References –

1. Prakash Triveni: Food Preservation, Aadi Publication, Delhi.
2. Shafiur Rahman M: Hand Book of Food Preservation, Marcel Dekker Inc, New York.
3. McWilims and Paine: Modern Food Preservation, Surjeet Publication.
4. Fellows, P. and Eills H. 1990 Food Processing Technology: Principles and Practicals, New York.
5. NPCS Board, Modern Technology on Food Preservation.
6. SivasankarB.: Food Processing and Preservation.

Course Learning Outcomes:

To make students understand the mechanism of spoilage and deterioration in foods, the basic food preservation principles, and methods to preserve foods. The course will help the participants to learn about various food preservation techniques and enhance their existing skills. The outcome of course is to enable the participants to convert food preservation into income-generating skills. They can also work towards teaching the acquired skills to women self-help groups and communities. The acquired skills can be used for production of safe food for the family.

SEC-75P-304 – Dyeing and Printing

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
V/VI	**SEC-75P-304**	**Dyeing and Printing**		7	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	**Skill Enhancement**	-	2	**No**	**60 Hours Practical**
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • To foster the development of designs suitable for screen printing, block printing, tie and dye, and batik techniques across utility and apparel items. • To educate students on-screen and block printing methods, covering screen preparation, design transfer, and printing onto dress materials and sarees. • To instruct students in the application of tie and dye and batik techniques for dyeing household linens, encouraging creativity and skill in textile dyeing. • To encourage students to experiment with combining dyeing and printing techniques to enhance the aesthetic appeal of dress materials and household articles. • To equip students with the ability to calculate the production cost of prepared articles, considering profit margins, and fostering business acumen in textile production and sales.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	**SEC-75P-304 – Dyeing and Printing**	**1 Hrs-CA** **1 Hrs-EoSE**	**10 Marks-CA** **40 Marks-EoSE**	**4 Marks-CA** **16 Marks-EoSE**

The Practical Examination scheme for **Dyeing and Printing** should be as follows –

- Develop design for dress material/ home linens/ any other product appropriate for any method like screen, block, tie and dye and batik = 25 marks
- Use the developed design for the product = 15 marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-75P-304- Dyeing and Printing

1. Developing designs for utility/household articles and apparel with their suitability to screen printing, block printing, tie and dye and batik.

2. Screen Printing and Block Printing
   - Preparation of screens with enamel coating/photo: chemical method for developed designs.
   - Printing dress materials and saree using screens and blocks.

3. Dyeing of household linens using tie and dye and batik techniques.

4. Styling dress material/household article using combination of dyeing and printing techniques.

5. Working out the cost of the prepared articles with profit margin.

6. Exhibition cum sale of the prepared articles.

7. Visit to a dyeing and printing unit.

Suggested Books and References –

1. Birkner, H. 1968. Screen Printing, New York, Sterling Publishing Co. Inc.
2. Clarke, W. 1974. An Introduction to Textile Printing, London, Newness Butter Worth.
3. Keller, lla. 1966. Batik : The Craft, Japan, Charles E. Tuttle Company.
4. Muehling, E. 1967. The book of Batik. London, Mills and Boon Limited.
5. Anderson, F. 1974. Tie-Dyeing and Batik. London, Octopus Editorial Production by Berkeley Publishers Ltd., London.

Course Learning Outcomes:
- Students will demonstrate proficiency in designing for various textile printing and dyeing techniques, tailored for both household articles and apparel.
- They will exhibit mastery in screen and block printing, including screen preparation and accurate printing on diverse fabrics like dress materials and sarees.
- Students will showcase expertise in applying tie and dye and batik methods specifically to household linens, showcasing diverse dyeing techniques.
- They will adeptly blend dyeing and printing techniques to creatively style both dress materials and household articles, displaying innovative combinations.
- Students will showcase business acumen by calculating production costs, incorporating profit margins, and successfully exhibiting and selling their prepared articles in an exhibition.

SEC-305 – Off-Loom Weaving

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
V/VI	**SEC-75P-305**	**Off-Loom Weaving**		7	2
Level of Course	**Type of the Course**	**Credit Distribution**		**Offered to NC Student**	**Delivery Type of the Course**
		Theory	**Practical**		
Introductory	**Skill Enhancement**	-	2	**No**	**60 Hours Practical**
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – • To enable students to proficiently prepare yarn through hand spinning methods, encompassing single, 2-ply, and cord varieties. • To instruct students in card weaving, encompassing design, draft planning, card preparation, threading, and weaving techniques for comprehensive understanding and skill acquisition. • To familiarize students with various knotting techniques in macramé, facilitating the creation of samples and articles demonstrating mastery of knots. • To guide students through nail weaving, enabling them to create intricate designs and articles using this unique weaving method. • To teach rug-making techniques, allowing students to create diverse samples and articles, fostering skill development and creativity in rug crafting.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-75P-305 – Off-Loom Weaving	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical Examination scheme for **Off-Loom Weaving** should be as follows –

- Prepare any article using macramé/ nail weaving/ card weaving = 20 marks
- Show a few steps of rug making/ lace making = 20 marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-75P-305- Off-Loom Weaving

1) Preparation of yarn: Single, 2 ply and cord using hand spinning wheel.
2) Card weaving: Design, draft plan, preparation of cards, threading and weaving
3) Macrame Types of knots, preparation of samples and preparation of macramé article.
4) Nail Weaving: Preparation of design and nail weaving article.
5) Rug-making Techniques, preparation of samples and articles.
6) Lace Making: Preparation of lace using crochet.

Suggested Books and References –

1. Meilach, D.Z. 1956. Macrame, New York, Sterling Publishing Company Inc.
2. Rhodes, M. 1974. Needle Point: The Art of Canvas Embroidery. London, Octopus Books.
3. Specht, S. and Rawling, S. 1973. Creating with Card Weaving. New York, Crowin Publisher Inc.
4. Znamierowski, N. 1972. Rug Making. London, Pan Books Ltd.
5. Cavendish, M. 1975. Pictures with Pins. 3rd Ed. London, Marshall Cavendish Publication Ltd.

Course Learning Outcomes:
- To impart knowledge regarding fabric formation through off-loom weave techniques.
- Students will proficiently prepare various yarn types including single, 2-ply, and cord using hand spinning techniques, showcasing mastery in yarn production.
- They will demonstrate expertise in card weaving, encompassing design, card preparation, threading, and weaving, reflecting a comprehensive understanding of this weaving method.
- Students will showcase proficiency in macramé by mastering different knot types, creating samples, and producing a well-executed macramé article.
- They will exhibit skill in nail weaving, displaying intricate designs and producing high-quality articles using this distinctive weaving technique.
- Students will demonstrate mastery in rug-making techniques, displaying diverse samples and articles that highlight creativity and technical proficiency in rug crafting.

SEC-75T-306 – E-Commerce Technologies

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
V/VI	SEC-75T-306	E-Commerce Technologies	7	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – 1. Understand the fundamentals of e-commerce and its impact on business. 2. Analyze and evaluate different e-commerce models and technologies. 3. Design and develop e-commerce websites and applications. 4. Apply security and privacy measures in e-commerce systems. 5. Understand the legal and ethical considerations in e-commerce.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-75T-306 – E-Commerce Technologies	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **E-Commerce Technologies** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-75T-306 – E-Commerce Technologies	1 Hrs	50 Marks	20 Marks

The question paper for **E-Commerce Technologies** will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-75T-306- E-Commerce Technologies

Unit-I

Business Environment: Organizational Structure and Design, Dependence on Technology, Integrating Technology with Business Environment, IT and Corporate Strategy, Application of IT in Management Functions.

E-Commerce: Definition, Objectives, Components, Advantages and disadvantages, Scope, E-Commerce Opportunities for Industries, Growth of E-Commerce, e-Commerce Applications- E-Marketing, E-Customer Relationship Management, E-Supply Chain Management, E-Governance, E-Buying, E-Selling, E-Banking, E-Retailing.

Unit-II

E-Commerce Models: Business to Consumer, Business to Business, Consumer to Consumer, Government to Citizen, Features and Benefits, Portal V/s Website.

Other Models: Brokerage Model, Aggregator Model, Info-Mediary Model, Community Model and Value Chain Model.

Unit-III

E-Payments: Introductions, Special features, Types of E-Payment Systems (EFT, E-Cash, E-Cheque, Credit/Debit Card, Smart Card, Digital Tokens and Electronic Purses/ Wallets).

Security issues in E-Commerce: Security risk of E-Commerce, Types of threats, Security Tools, Cyber Laws, Business Ethics, EDI Architecture and Standards.

Unit-IV

ERP: Introduction, Needs and Evolution of ERP Systems, ERP Domain, ERP Benefits, ERP and Related Technologies, Relevance to Data Warehousing and Data Mining, ERP Drivers, Evaluation Criterion for ERP product, ERP Life Cycle: Adoption decision, Acquisition, Implementation, Use & Maintenance,.

Suggested Books and References –

1. Ravi Kalakota, "Electronic Commerce: A Manager's Guide", Addison-Wesley Professional, Edition 2012.
2. Ian Daniel, "E-Commerce get it Right", Neuro Digital Publication, 2011.

3. Dr. K Abirami Devi & Dr. M Alagammai, "E-Commerce Essentials", Margham Publication, 2012.
4. Kenneth C. Laudon, Karol Traver, "E-Commerce 2014", Prentice Hall Publication, 2013.
5. Lexis Leon; Enterprise Resource Planning; TMH
6. Brady, Manu, Wegner; Enterprise Resource Planning; TMH
7. N. K. Venkitakrishnan, Vinod Kumar Garg; Enterprise Resource Planning: Concepts and Practice; PHI Learning.
8. Dimpi Srivastava, Arti batra; ERP Systems; I K International Publishing House

Course Learning Outcomes:

Upon completion of the course students should be able to:
1. Analyze the impact of E-commerce on business models and strategy.
2. Describe the major types of E-commerce.
3. Explain the process that should be followed in building an E-commerce presence.
4. Identify the key security threats in the E-commerce environment.
5. Describe how procurement and supply chains relate to B2B E-commerce.

SEC-75T-307 – Cyber Security and Ethics

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
V/VI	SEC-75T-307	Cyber Security and Ethics	7	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Hours Theory

Prerequisites	XII Pass
Objectives of the Course:	Objectives of the Course – 1. The primary objective of this course is to provide knowledge of cyber law, cyber security, privacy protection, intellectual property protection, and ethics for IT professionals and IT organizations. 2. Cyber-security objectives also include ensuring compliance with relevant laws, regulations, and industry standards. Organizations need to adhere to privacy regulations, data protection laws, and security standards specific to their industry to avoid legal consequences and reputational damage 3. The course aims to describe frameworks and methodologies for discussion and resolution of ethical problems about cyberspace. Specific legal and ethical cases will be discussed to highlight issues with high impact on human societies arising from the use of computer and cyber technology.

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-75T-307 – Cyber Security and Ethics	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **Cyber Security and Ethics** will be so set that it has 40 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-75T-307 – Cyber Security and Ethics	1 Hrs	50 Marks	20 Marks

The question paper for **Cyber Security and Ethics** will be so set that it has 50 multiple choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The

examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-75T-307- Cyber Security and Ethics

Unit I

Fundamentals of Cyber Security and Threat Landscape: Importance and challenges in Cyber Security, Cyberspace, and Cyber threats, Cyber warfare, CIA Triad, Cyber Terrorism, Cyber Security of Critical Infrastructure.

Cyber Attacks and Intrusion Techniques: Types of Hackers - Hackers and Crackers, Cyber-Attacks and Vulnerabilities, Malware threats, Sniffing, Gaining Access - Escalating Privileges, Executing Applications, Hiding Files, Covering Tracks. Worms, Trojans, Viruses, Backdoors

(7 Hours Lecture)

Unit II

Ethical Hacking and Information Security Practices: Ethical Hacking Concepts and Scopes, Threats and Attack Vectors, Enterprise Information Security Architecture, Vulnerability Assessment and Penetration Testing.

Legal Framework and Countermeasures in Cyber Security: The Indian IT Act 2000 and amendments, Hackers-Attacker-Countermeasures, Web Application Security, Counter Cyber Security Initiatives in India, Cyber Security Incident Handling, Cyber Security Assurance.

(8 Hours Lecture)

Unit III

Social Ethics: Ethics in the Business World; Corporate Social Responsibility; Fostering Corporate Social Responsibility and Good Professional Ethics; Improving Business Ethics; Ethics in Information Technology; Managing IT Worker, Encouraging Professionalism of IT Workers.

Social Engineering and Insider Threats: Types of Social Engineering - Insider Attack - Preventing Insider Threats - Social Engineering Targets and Defence Strategies.

(8 Hours Lecture)

Unit IV

Cyber Ethics: The Importance of Cyber Law, Significance of Cyber-Ethics, Need for Cyber Regulations and Ethics. Ethics in Information society, Introduction to Artificial Intelligence Ethics: Ethical Issues in AI and core Principles, Introduction to Blockchain Ethics.

(7 Hours Lecture)

Suggested Books and References –

1. Cyber Security and Cyber Laws Nilakshi Jain Wiley
2. MikeShema, Anti-Hacker Tool Kit (Indian Edition), Publication McGraw Hill.
3. NinaGodbole and SunitBelpure, Cyber Security: Understanding Cyber Crimes, Computer Forensics and Legal Perspectives, Publication Wiley.
4. MarjieT.Britz, Computer Forensics and Cyber Crime: An Introduction, Pearson Education
5. DebiragE.Bouchoux, Intellectual Property, Cengage Learning.

Course Learning Outcomes:

1. Remember the broad set of technical, social & political aspects of Cyber Security.
2. Understand the importance of ethical hacking, its tool and ethical hacking process.
3. Analyse security principles to system design.
4. Understand the methods for authentication, access control, intrusion detection and prevention in Cyber Security
5. Develop an understanding of ethical and socio-technical challenges faced by an ICT professional, including human factors, accessibility and usability.
6. Evaluate the role of standards, codes of conduct and legislative/regulatory obligations on the level of professionalism of the ICT industry.

SEC-75P-308 – Android Apps Development Using Google's Android Studio

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
V/VI	SEC-75P-308	Android Apps Development Using Google's Android Studio	7	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	-	2	No	Practical
Prerequisites	The prerequisites for the course include a basic computer and a creative mindset.				
Objectives of the Course:	Objectives of the Course – The primary objective of this course is to provide students with foundational knowledge and practical skills necessary for developing Android applications using Google's Android Studio. The course aims to familiarize Students with Android Studio and enable students to set up, configure, and navigate Android Studio effectively for Android app development.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-75P-308- Android Apps Development Using Google's Android Studio	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Android Apps Development Using Google's Android Studio** should be as follows –
- One Practical Exercise of 20 Marks
- Viva-Voce – 10 Marks
- Record – 10 Marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-75P-308- Android Apps Development Using Google's Android Studio

1. Overview of Android Development: Introduction to the Android platform and architecture, Understanding Android application components, Setting Up the Development Environment: Installing and configuring Android Studio, Exploring Android Studio features and layout.

2. Creating and configuring a new Android project, Basic App Structure, Understanding the project structure and key files, Introduction to XML for layout design and Java/Kotlin for app logic, working with common UI elements (TextView, Button, ImageView, EditText), Using layout managers (LinearLayout, RelativeLayout, ConstraintLayout).

3. Designing responsive layouts for different screen sizes, implementing styles and themes for consistent app appearance, Interactive UI Elements, Handling user input and events (clicks, text changes), Using Recycler View for displaying lists of data Understanding the lifecycle of Activities and Fragments, Managing state and data persistence during configuration changes,

4. Making HTTP requests and handling responses, Parsing JSON data and integrating APIs, debugging techniques using Android Studio, Writing and running unit tests and UI tests, Using Logcat for logging and troubleshooting, Identifying and fixing performance issues, Preparing the app for release (APK generation, signing), Publishing the app to Google Play Store, Managing app updates and user feedback.

(60 Hours Practical)

Suggested Books and References –

1. Android Studio 3.0 Development Essentials — Android 8 Edition: By Neil Smyth
2. Android Studio 4.1 Development Essentials – Java Edition
3. Hello, Android: Introducing Google's Mobile Development Platform, Ed Burnette

Course Learning Outcomes:

By the end of this course, students will be proficient in developing Android applications from concept to deployment. They will gain a comprehensive understanding of the Android platform and its architecture, including setting up and navigating Android Studio. Students will learn to create and configure new Android projects, design intuitive and responsive user interfaces using XML and Java/Kotlin, and work with various layout managers and UI elements. They will master handling user interactions, managing the lifecycle of Activities and Fragments, and ensuring data persistence. Additionally, students will acquire skills in integrating APIs, debugging, testing, and optimizing app performance. Finally, they will be equipped to prepare, publish, and manage Android applications on the Google Play Store, ensuring they meet industry standards and user expectations.

SEC-75P-309 – Data Science using Python

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
V/VI	SEC-75P-309	**Data Science using Python**		**2**

Level of Course	Type of the Course	Credit Distribution			Delivery Type of the Course
		Theory	**Tutorial**	**Practical**	
Introductory	**Skill Enhancement**	-	-	**2**	**Practical**

Prerequisites	The prerequisites for the course include basic computer and a creative mindset.
Objectives of the Course:	Objectives of the Course – The primary objective of the Data Science Using Python course is to equip students with the foundational knowledge and practical skills necessary to effectively analyze and interpret complex data using Python. The course aims to build a strong foundation in data science using Python, empowering students to effectively analyze, visualize, and interpret data to drive business and research decisions.

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Practical	SEC-75P-309- Data Science using Python	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The Practical examination Scheme for **Data Science using Python** should be as follows –
- Two Practical Exercises of 15 Marks each
- Viva-Voce – 5 Marks
- Record – 5 Marks

The duration of the Practical Examination will be 1 Hour

Detailed Syllabus

SEC-75P-309 - Data Science using Python

Unit - I

1. **Introduction to Data Science:** Motivation, popularity, objectives, Difference between AI, Machine Learning and Data Science, the Basic introduction of Python, Google Colab and their features, Popular Dataset Repositories along with a discussion on some datasets.
2. **Statistical concepts:** Introduction to statistics, types of statistics, types of data and describing data Measures of centrality and variance, Sampling and hypothesis testing, Introduction to probability theory.
3. **Basic Python:** Data Types, Input/Output, Operators: Precedence and Associativity, Decision Making and Looping, Function and its syntax, Positional arguments, Keyword arguments etc. Exercises on Loops, decision making and functions
4. Data Preprocessing, Handling missing values, Class Imbalance and its remedies, Feature Scaling, Transformation, Discretization, Image and Text Preprocessing, Dimensionality Reduction, Feature Ranking, Feature Selection and Feature Extraction, Exercises on Data Preprocessing and Dimensionality Reduction

(60 Hours Practical)

Suggested Books and References –

1. Kroese, D. P., Botev, Z., Taimre, T., & Vaisman, R. (2019). Data science and machine learning: mathematical and statistical methods. CRC Press.
2. Grus, J. (2019). Data science from scratch: first principles with Python. O'Reilly Media.
3. Thareja, R. (2022) Data Science and Machine Learning using Python. McGraw Hill.

Course Learning Outcomes:

By the end of this course, students will have a strong foundation in Data Science, including an understanding of its objectives, significance, and how it differentiates from AI and Machine Learning. They will be proficient in Python programming, using tools like Google Colab, and working with various datasets. Students will gain essential statistical knowledge, including data types, measures of centrality, variance, and hypothesis testing, which are crucial for data analysis. They will also master data preprocessing techniques, including handling missing values, addressing class imbalances, feature scaling, and dimensionality reduction. Through hands-on exercises, students will develop the skills necessary to preprocess data effectively, making it suitable for machine learning models and further analysis.

SEC-75T-310– Principles of Event Management

Semester	Code of the Course	Title of the Course/Paper		NHEQF Level	Credits
V/VI	SEC-75T-310	Principles of Event Management		5/6/7	2
Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Lectures
Prerequisites	XII Pass				
Objectives of the Course:	Objectives of the Course – This course aims to provide students with a comprehensive understanding of the principles and practices of event management. It will cover the entire process of planning, organizing, and executing various types of events, including corporate and social gatherings. Students will learn about the roles and responsibilities of event managers, the technical aspects involved, the legal and ethical considerations, and the importance of meticulous planning, budgeting, and coordination to ensure successful event outcomes.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-75T-310-Principles of Event Management	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

The question paper for **SEC-75T-310-Principles of Event Management Management** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-75T-310-Principles of Event Management	1 Hrs	50 Marks	20 Marks

The question paper for **SEC-75T-310-Principles of Event Management** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-75T-310-Principles of Event Management

Unit - I

Introduction: Event Management-Meaning-Need-Analysis of Event, Scope of Event, Decision Makers- Event Manager, Technical Staff- Establishing of Policies and Procedures – Developing Record Keeping Systems.

(8 Lectures)

Unit - II

Event Management Procedure: Principles for Holding an Event, General Details, Permissions-Policies, Government and Local Authorities, Ethical Issues in Event Management.

(7 Lectures)

Unit - III

Phonographic Performance, License, Utilities – Fire Brigade, Ambulance, Catering, Electricity, Water, Taxes Applicable.

(7 Lectures)

Unit - IV

Conduct of an Event: Preparing a Planning Scheduling, Organizing Tables, Assigning Responsibilities, Communication and Budget of Event – Checklist, Computer Aided Event Management, Roles and Responsibilities of Event Management for different Events.

Corporate Events : Planning-Job Responsibility-Arrangements-Budgeting-Safety of Guests and Participants, Creation of Blueprint, Managing Social and Central Events.

(8 Lectures)

Suggested Books and References –

1. Event Entertainment and Production- Author: Mark Sonderm CSEP Publisher: Wiley& Sons, Inc.
2. GhouseBasha - Advertising & Media Mgt, VBH.
3. Anne Stephen-Event Management, HPH.
4. K. Venkataramana, Event Management, SHBP.
5. Special Event Production- Doug Matthews - ISBN 978-0-7506-8523-8
6. The Complete Guide to Successful Event Planning-Shannon Kilkenny
7. Human Resource Management for Events - Lynn Van der Wagen (Author)
8. Successful Team Management (Paperback) - Nick Hayed (Author)
9. Event Management & Public Relations by Savita Mohan-Enkay Publishing House
10. Event Management & Public Relations By Swarup K. Goyal-Adhyayan Publisher

Course Learning Outcomes:

By the end of this course, students will have the ability to effectively manage all aspects of an event, from initial planning and decision-making to the execution and post-event evaluation. They will understand the procedures for obtaining necessary licenses and permissions, coordinating with essential services like fire brigade and catering, and managing the logistics of events. Additionally, students will develop skills in budget management, creating event blueprints, and utilizing computer-aided tools for event management. They will be prepared to handle the complexities of both corporate and social events, ensuring the safety and satisfaction of guests and participants.

SEC-75T-311 – Exploring Business Opportunities & Market Survey

Semester	Code of the Course	Title of the Course/Paper	NHEQF Level	Credits
V/VI	SEC-75T-311	Exploring Business Opportunities & Market Survey	7	2

Level of Course	Type of the Course	Credit Distribution		Offered to NC Student	Delivery Type of the Course
		Theory	Practical		
Introductory	Skill Enhancement	2	-	Yes	30 Lectures
Prerequisites					
Objectives of the Course:	Objectives of the Course – This course aims to equip students with the skills to identify, evaluate, and select viable business opportunities through a structured approach. It will introduce them to the fundamental concepts of SWOT analysis, the process of exploring and selecting projects, and the critical steps involved in conducting a comprehensive market survey.				

Examination Scheme-

Regular Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (CA + EoSE)	Minimum Marks (CA + EoSE)
Theory	SEC-75T-311-Exploring Business Opportunities & Market Survey	1 Hrs-CA 1 Hrs-EoSE	10 Marks-CA 40 Marks-EoSE	4 Marks-CA 16 Marks-EoSE

       The question paper for **SEC-75T-311-Exploring Business Opportunities & Market Survey** will be so set that it has 40 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Non-Collegiate Students –

Type	Paper code and Nomenclature	Duration of Examination	Maximum Marks (EoSE)	Minimum Marks (EoSE)
Theory	SEC-75T-311-Exploring Business Opportunities & Market Survey	1 Hrs	50 Marks	20 Marks

The question paper for **SEC-75T-311-Exploring Business Opportunities & Market Survey** will be so set that it has 50 multiple-choice questions (Bilingual) of one mark each. The duration of the question paper will be 1 hour. The examinees will have to give their answers on an OMR sheet only to be provided by the University whose evaluation will be done based on OMR Scanning Technology.

Detailed Syllabus

SEC-75T-311-Exploring Business Opportunities & Market Survey

Unit I

Exploring Business Opportunities – Introduction, SWOT Analysis, Business Opportunities.

(8 Lectures)

Unit II

The process of selection, Exploring Opportunities.

(7 Lectures)

Unit III

Final selection of Project.

(7 Lectures)

Unit IV

Market Survey – Steps in Market Survey, Questionnaire for Market Survey and Key Components of Market Survey Report.

(8 Lectures)

Suggested Books and References –

1. Chandra, Prasanna, Projects: Preparation, Appraisal, Budgeting and Implementation, Tata McGraw Hill, New Delhi.
2. Desai, Vasant, The Dynamics of Entrepreneurial Development and Management, Himalaya Publishing House, New Delhi.
3. Gupta, C.B. and Srinivasan, M.P., Entrepreneurship Development in India. Sultan Chand & Sons, New Delhi.
4. Sharma, Dr. D.K. and Sharma, Dr. A.D., Entrepreneurship Development.

Course Learning Outcomes:

By the end of this course, students will be able to effectively analyze business opportunities using SWOT analysis, navigate the process of opportunity selection, and finalize a project based on thorough exploration. They will also gain practical experience in conducting market surveys, including designing questionnaires and compiling key components of a market survey report, preparing them to make informed decisions in entrepreneurial ventures.