Proposed Syllabus

and

Scheme of Examination for

(OPEN ELECTIVE SUBJECTS)

Under

Choice Based Credit System
### Study and Evaluation Scheme

#### MANAGEMENT

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#### LAW

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## CCSIT

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### Fine Arts

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### Nursing

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**Skill/Knowledge Enhancement Course**  
**Business Ethics and Values**  

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<th>Objectives:</th>
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<td>The objective of this paper is to help students to acquire conceptual knowledge of the Business values and Ethics and to impart skills for various kinds of business transactions.</td>
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<th>Learning Outcomes:</th>
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<td><strong>At the end of this course students should be able to:</strong></td>
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| 1. Learn about different types of values and Indian value system.  
2. Explain the values possessed by Indian managers.  
3. Learn about the teachings from Indian scriptures and its application in Management.  
4. Define Ethics and ethical theories.  
5. Learn about Ethical and unethical practices in India.  
7. Define and learn about corporate social responsibilities.  
8. Learn about corporate governance. |

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<td><strong>Unit-1:</strong></td>
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| **Indian value system, values of Indian manager, Teaching from Indian scriptures like Mahabharata, bhagwadgita, Ramayana, Quran and its applications in management,**  
8 Hours |

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<th>Business Ethics:</th>
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<td><strong>Unit-2:</strong></td>
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| **Definition of Ethics, nature of ethics, types of ethics, Ethics and morality, Need and significance of business Ethics, code of conduct and Ethics for manager,**  
8 Hours |

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<td><strong>Unit-3:</strong></td>
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| **Ethical Dilemmas- sources and their resolutions. Ethical decision making, Work ethics,**  
**Ethical and unethical practices in India,**  
8 Hours |

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<th>Impact of Ethics:</th>
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<td><strong>Unit-4:</strong></td>
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| **Ethical issues related with marketing, Human resource management, Finance, Intellectual property rights. Environmental ethics,**  
8 Hours |

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<th>Corporate social Responsibilities and corporate governance:</th>
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<td><strong>Unit-5:</strong></td>
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</table>
| **Corporate social responsibility- Definition, scope, steps to attain CSR, Advantages, relations of CSR and consumer proTMUtion. Examples of CSR. Corporate governance- Introduction, Issues, Benefits, principles, corporate governance code- need, importance,**  
8 Hours |

<table>
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<tr>
<th>Text Books:</th>
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</table>
R. K Sharma, puneetagoel, Corporate governance, values and ethics, kalyani publication, New Delhi, 2016. |

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<th>Reference Books:</th>
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Govindarajan M., professional ethics and Human values, PHI learning pvt ltd, New Delhi, 2  
## Skill/Knowledge Enhancement Course

### Personality Development & Communications Skills

| Course Code: TMU002 | L-4  
|                   | T-0  
|                   | P-0  
|                   | C-4  |

### Objectives:

The objective of the course is to bring about personality development with regard to the different behavioural dimensions that have far-reaching significance in the direction of Organizational effectiveness. The course is aimed at the promotion of the strategies for the Personality development of the participants. The rationale behind this endeavour is the recognition of the multifaceted influence of the personality of the employees upon Organizational effectiveness.

### Learning Outcomes:

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

1. To develop an orientation towards business etiquettes and the proper etiquette practices for different business scenarios
2. To learn the etiquette requirements for meetings, entertaining, telephone, and Internet business interaction scenarios.
3. To minimize nervousness while in social situations.

### Personality:

Physical Appearance; Body Language; Voice; Communication Style; Content of Communication; Enriched Communication Through Sensory Specific Language.

### Business Style and Professional Image:

Dress Codes, Guidelines for Appropriate Business Attire - Differentiate among the dressy casual, semiformal, formal and black tie dress code, Grooming for Success, Multi-cultural Dressing.

### Impression Management:


### Assertiveness Training:


### Interpersonal Relations:

Introduction to Interpersonal Relations, Analysis Relations of different ego states, Analysis of Transactions, Analysis of Strokes, Analysis of Life Position.

### Business Etiquette:


### Meeting and Board Room Protocol:

Guidelines for Planning a Meeting, Before the Meeting, On the Day of the Meeting.
| Unit-5:          | Guidelines for Attending a Meeting - For the Chairperson, For Attendees, For Presenters  
| Multi-cultural Etiquette: | Examples of Cultural Insensitivity, Cultural Differences and their Effects on Business Etiquette. |
| Stress Management: | Introduction to Stress, Causes of Stress, Impact Management Stress, Managing Stress.  
| Conflict Management: | Introduction to Conflict, Causes of Conflict, Management Managing Conflict.  
| Time Management: | Time as a Resource, Identify Important Time Management Wasters, Individual Time Management Styles, Techniques for better Time Management. |
| Basic Managerial Skills for All by E. H. McGrath, S. J., PHI, New Delhi, 2016.  
<p>| Develop your Assertiveness by Sue Bishop, Kogan Page, New Delhi, 2016. |</p>
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<thead>
<tr>
<th><strong>Course Code:</strong></th>
<th><strong>Skill/Knowledge Enhancement Course</strong></th>
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<tbody>
<tr>
<td>TMU003</td>
<td><strong>Personal selling and Salesmanship</strong></td>
</tr>
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</table>

### Objectives:
State the meaning of personal selling, explains the essential elements of personal selling, describe the importance of personal selling, and identify the qualities of a successful Salesman.

### Learning Outcomes:
At the end of this course students should be able to:
1. To outline the areas in which sales executives make decisions
2. To emphasize the role of sales executives as planners of sales operations and a Key figure in implementing marketing strategies.
3. To give hands on inputs on the selling process.
4. Understand the meaning of the term ‘Personal Selling’,
5. Evaluate critically the component personal selling,
6. Comprehend the need for personal selling in a customers’ driven society,
7. Describe the relationship between sales management, personal selling and salesmanship,
8. Identify different types of selling jobs,
9. Appreciate different functions of salesmen.

### Introduction to Personal Selling & Salesmanship:
Defining Personal selling and Salesmanship, Selling as a profession, Objectives and importance of personal selling, Essentials of Personal Selling, Traditional & Modern Selling Approach, Ethics in Selling, Role of Selling in Marketing, Types of selling, Qualities of Winning Sales Professionals-Physical, Mental, Social and Character Traits.

### Introduction to Theories of Selling:
AIDA, Right set of circumstances theory of selling, Buying Formula theory of selling, Behavioural Equation theory.

### Personal Selling Process-I:
Prospecting- objectives, sources and methods, Lead Generation, Getting appointment, Sales Responsibilities and Preparation; Pre approach-step toward sales planning-elements of sales call planning; Customer need discovery & Analysis; Approach- sales presentation/ demonstration- selection of appropriate presentation method, essentials of presentation, sales presentation mix- persuasive communication, visual presentation and dramatization, Use of questions- Direct questions, nondirective questions, rephrasing, redirect questions.

### Personal Selling Process–II:
Handling objection- hidden, stalling, no need, money objection, etc., objection handling TMUhnikes, Closing the sale- reading buying signals, closing TMUhnikes- the alternative choice, assumptive, the compliment, the summary, the continuous, the minor point, the tea account, the standing room and the probability; Follow up after sales- Discuss service requirements, handling complaints, Key Account Management.

### Personal Selling Skills:
Negotiation, Communication, Listening Skills, Presentation and Demonstration, Body Language- Space, Moments, Eye Contacts & Postures, Follow up Calls, Writing Effective Sales Letters and emails, Positive Mental Attitude, Goal Setting, Effective Dressing, Managing Yourself and Time, Cold Call Mechanism.
### Unit-5:

**Personal Selling: Applications and Situations:**
- Selling of services - financial, IT and telecommunication, advertising, education (Coaching and institutions);
- Selling of industrial products - raw material, capital goods, supplies;
- Selling of consumer goods - convenience, shopping and specialty goods;
- International selling;
- Selling in rural markets;
- Selling high and low involvement products;
- Selling to new and existing customers; Selling to end users, intermediaries, government departments and agencies;
- Selling individual and groups.

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<tbody>
<tr>
<td></td>
<td>A B C’s of Selling by Charles M. Futrell, AITBS, New Delhi, 2016.</td>
</tr>
<tr>
<td></td>
<td>World Class Selling by Roy Chitwood, JAICO Publishing House, New Delhi, 2016.</td>
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</tbody>
</table>


8 Hours
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<thead>
<tr>
<th>Course Code: TMU004</th>
<th>Skill/Knowledge Enhancement Course</th>
<th>Finance for Non – Finance Professional</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Objectives:</strong></td>
<td>This programme aims to meet the requirements of operating managers who would like to be well versed with the introductory nuances of finance in different functional areas.</td>
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<td><strong>Learning Outcomes:</strong></td>
<td>Deciphering financial jargon and developing the ability to see the business implications of numbers is a key outcome of this programme, which aims to:</td>
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<td></td>
<td>1. Enhance participants role as decision-makers and understand the implications of finance on corporate activities</td>
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<td>2. Help them understand and analyse financial statements</td>
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<td>3. Put them in a better position to discuss the relevant financial issues with finance managers in their organisation</td>
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<td>4. Help them understand the impact of various decisions on the company’s performance</td>
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<tr>
<td></td>
<td><strong>Unit-1:</strong> Basics of financial accounting and understanding financial statements:</td>
<td>Accounting Process, Double Entry System, Debit Credit Rule, Journal, Ledger, Trial Balance, P&amp; L Accounts, Balance Sheet (Vertical and Horizontal), Depreciation; Meaning, Methods (Straight Line and Written Down Value).</td>
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<td></td>
<td><strong>Unit-2:</strong> Ratio Analysis: Meaning, Importance and Types (Liquidity Ratio, Solvency and Turnover Ratio) Understanding Cash - Flow Statements (As per AS-3), Net Profit v/s Net Cash Flow.</td>
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<td></td>
<td><strong>Unit-3:</strong> Working capital management</td>
<td>Kinds of working capital, Operating cycle and components of working capital, Working capital management and decision making.</td>
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<td></td>
<td><strong>Unit-4:</strong> Cost information for decision making and budgeting</td>
<td>Cost concepts including discussion on marginal costing, Some important definitions, Make or buy, Shut down or continue, Sell or process further, Domestic versus export sales Budgets; Need and type of budgets, Alternative approaches for budgeting, Commonly used budgets, Budgetary control process, Limitations of budgets Case study and illustrations</td>
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<td></td>
<td><strong>Unit-5:</strong> Evaluation of investment projects</td>
<td>Capital budgeting meaning, Approach to capital budgeting, Techniques of capital budgeting, Practical application of Net present value and Internal rate of return, Features of capital budgeting decisions, Case study and illustrations</td>
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</table>

**Text Books:**

**Reference Books:**
**Course Code:** TMU005

**Skill/Knowledge Enhancement Course**

**MBA**

**Entrepreneurship**

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<th>P-0</th>
<th>C-4</th>
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**Objectives:**
To develop knowledge and appreciation of Entrepreneurship and Small Business Management through the study of new ventures, and management of small firms.

**Learning Outcomes:**

**At the end of this course students should be able to:**

1. Ability to recognize a business opportunity that fits the individual student
2. Demonstrate the ability to provide a self-analysis in the context of an entrepreneurial career
3. Demonstrate the ability to find an attractive market that can be reached economically
4. Demonstrate the understanding of how to launch the individual’s entrepreneurial career
5. A knowledge framework which encompasses diverse perspectives and disciplines within management to understand the complexity of managing an organization in a changing business environment.
6. Describe the various approaches to management, their contributions, as well as their limitations.
7. Understand the nature and importance of ethics in managing and ways to institutionalize ethics and raise ethical standards.
8. Understand the differences between decisions made under conditions of Uncertainty and certainty, and risk.
9. Identify the basic patterns of traditional departmentation and their advantages and disadvantages.
10. Recognize the importance of obtaining balance in the centralization and decentralization of authority.
11. Distinguish between manager development, managerial training and organization development.

**Unit-1:**

**Concepts of Entrepreneurship Development:**
Evolution of the concept of Entrepreneur, Entrepreneur Vs. Intrapreneur, Entrepreneur Vs. Entrepreneurship, Entrepreneur Vs. Manager, Attributes and Characteristics of a successful Entrepreneur, Role of Entrepreneur in Indian economy and developing economies with reference to Self-Employment Development, Entrepreneurial Culture

8 Hours

**Unit-2:**

**Creating Entrepreneurial Venture:**

8 Hours

**Unit-3:**

**Project Management:**
TMUchnical, Financial, Marketing, Personnel and Management Feasibility, Estimating and Financing funds requirement - Schemes offered by various commercial banks and financial institutions like IDBI, ICICI, SIDBI, SFCs, Venture Capital Funding

8 Hours
<table>
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<tr>
<th>Unit-4:</th>
<th>Entrepreneur Development Programmes (EDP’S): Types, 7S Model, History of entrepreneurship development in India, Current Status of Entrepreneurship development in India. Role of Woman entrepreneur</th>
<th>8 Hours</th>
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<tbody>
<tr>
<td>Unit-5:</td>
<td>Entrepreneurship Development and Government 1. Role of Central Government and State Government in promoting Entrepreneurship - Introduction to various incentives, subsidies and grants - Export Oriented Units - Fiscal and Tax concessions available 2. Role of following agencies in the Entrepreneurship Development - District Industries Centers (DIC), Small Industries Service Institute (SISI), Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship &amp; Small Business Development (NIESBUD), National Entrepreneurship Development Board (NEDB)</td>
<td>8 Hours</td>
</tr>
</tbody>
</table>
| Reference Books: | Thought Leaders - Shrinivas Pandit Entrepreneurship, 3rd Ed. - Steven Brandt Business Gurus Speak - S.N. Chary The Entrepreneurial Connection - Gurmit Narula | * Latest editions of all the suggested books are recommended.
### Course Code:

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<th>TMU006</th>
<th>L-6</th>
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<td>C-6</td>
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</table>

### Skill/Knowledge Enhancement Course

**Negotiation & Conflict Management**

#### Objectives:

The objective of this subject to make students aware about the dynamics of collective bargaining & emerging issues of negotiation &counseling to impart required skills in negotiating with unions & other associations to resolve conflicts.

#### At the end of this course students should be able:

1. To understand the main concept of negotiation & why it important to maintain the peaceful environment at work place.
2. To get familiar with the concept of bargaining & its types through which managers can solve their industrial disputes.
3. To have greater insight of how negotiation takes place & what the preparations are required for successful negotiation process.
4. To understand the importance of communication, ethics at the time of bargaining or negotiating with the opposite party.
5. To the importance of CBA & MOU & how these agreements are prepared & why they are important to prepare.
6. To get proper understanding about how to close negotiation or bargaining process with proper declaration of settlement along with the effective use of third party intervene in negotiation process.
7. To understand the concept of BATNA, how it is applicable for reaching the settlement as a result of effective negotiation proceedings with practical case study examples.
8. To understand the concept of conflict & how they takes place within the organization.
9. To know about what are the consequences of conflict & what are the major reasons behind the conflict.
10. To get the clear idea about the strategies or tactics or different ways that can be used for solving the conflicts at individual level & at industrial level for smooth functioning of organization.
11. To understand the concept of counseling as one of the approach for solving conflicts & issues.

#### Learning Outcomes:

- **Case Study:** Maruti Manesar Plant Case Study.
- **Unit-1:** Negotiation sub processes & persuasion: Negotiation process, levels of negotiation, preparations for negotiations, ethics in negotiation, essential communication TMUhntiques in negotiations, role of negotiator, Negotiation as persuasion, negotiation challenges in future.
- **Unit-2:** Negotiation skills & Practices: Fundamental Structure of Negotiation, BATNA. Negotiation skills, presentation of demand & tactics used, closing of negotiation & drafting the agreement (MOU), break down of negotiation: causes & consequences. Third party Intervention, mutual trust & understanding in negotiation, impact of cross cultural differences.
- **Unit-3:**
<table>
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<tr>
<th>Case Study: Role of Negotiation at Bokaro steel Plant</th>
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<tr>
<th>Unit-5: Counseling: Meaning &amp; emergence of counseling, counseling process, role of counselor, model of counseling, approaches of counseling, modern trend in counseling.</th>
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8 Hours
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<tr>
<th>Course Code: TMU007</th>
<th>Media and Law</th>
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<tbody>
<tr>
<td><strong>Objectives:</strong></td>
<td>This paper deals with the interaction between law and mass media. This paper examines the major laws, regulations and court decisions affecting the media. It aims to familiarise the theoretical debates on media, law and ethics in the Indian context. It also attempts to evolve an understanding of the complexities of ethical and legal media practice.</td>
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<tr>
<td><strong>Learning Outcomes:</strong></td>
<td><strong>At the end of this course students should be able to:</strong></td>
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<td>1. Understand the importance of fourth pillar of democracy</td>
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<td>2. Understand the constitutional and other statutory regulation related to this freedom</td>
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<td>3. Know the provisions of IT Act 2000 regulating social media</td>
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<td>4. Know various agencies regulating this freedom</td>
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<td>5. Understand the value of this freedom</td>
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<td><strong>Unit-1:</strong></td>
<td><strong>Introduction</strong></td>
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<td><strong>8 Hours</strong></td>
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<td><strong>Unit-2:</strong></td>
<td><strong>Freedom of Speech and Expression</strong></td>
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<td><strong>Unit-3:</strong></td>
<td><strong>Social media</strong></td>
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<td>Evolution, impact on society, clashes &amp; conflicts through social media, use &amp; misuse of this freedom &amp; regulation of social media through IT regulation.</td>
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<td><strong>8 Hours</strong></td>
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<td><strong>Unit-4:</strong></td>
<td><strong>Law of defamation and obscenity</strong></td>
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<td>Defamation: (i) Libel (ii) Slander, Obscenity &amp; Sedition</td>
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<td><strong>8 Hours</strong></td>
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<td><strong>Unit-5:</strong></td>
<td><strong>Development of laws relating to Mass Media vis a vis International regime</strong></td>
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<td>Censorship of films, Censorship under Constitution, Censorship under the Cinematograph Act. &amp; Pre-censorship of films Select Bibliography</td>
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<td><strong>8 Hours</strong></td>
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<tr>
<td><strong>Leading Cases for Detailed Study:</strong></td>
<td>Indian News Papers Case</td>
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<td>Case of HamdardDawakhan&amp; TATA press Ltd</td>
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<td>K A Abbas vs UOI</td>
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<tr>
<td><strong>Reference Books:</strong></td>
<td>1. H.M. Seervai, Constitutional Law of India 2002 Vol. 1 Universal 21</td>
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*Latest editions of all the suggested books are recommended.*
<table>
<thead>
<tr>
<th>Course Code:</th>
<th>TMU008</th>
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<tbody>
<tr>
<td><strong>Minority Laws</strong></td>
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<td>C-4</td>
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| Objectives: | To make the students aware of the importance of rights of minorities, to familiarize them with the constitutional provisions related to minorities |
| Learning Outcomes: | At the end of this course students should be able to: |
| | To acquaint them with the rights of minority educational institutions. |
| | To make exposition of the subject matter in detail with the help of legislative, judicial and other materials. |
| | This will be imparted through theoretical and philosophical debates advanced by various scholars and the institutional mechanism that need to be accelerated to achieve the objectives of minority justice. |

| Unit-1: | Minorities In Indian Society: |
| | Concept of Minorities, Linguistic Minorities, Religious Minorities & Secularism |
| | 8 Hours |

| Unit-2: | International Norms For Promotion Of Minorities: |
| | Human Rights of Minorities, Minority Rights under the International Covenant on Civil and Political Rights, Non-discrimination provisions of the United Nations Charter 1945 & Declaration on Rights of Minorities |
| | 8 Hours |

| Unit-3: | Minority Rights: |
| | Right to religion, Linguistic rights, Right to culture and traditions, National Commission for Minority |
| | 8 Hours |

| Unit-4: | Rights of Minority Educational Institutions: |
| | Educational rights of Minorities, Right to administer Minority educational institution, Aided and Unaided Minority Educational Institutions and Governmental Controls, National Commission for Minority Educational Institutions |
| | 8 Hours |

| Unit-5: | International Law and the Rights of the Minorities: |
| | UDHR, ICCPR, ICESR & Other Relevant Provision Of Public International Law Regarding Rights Of The Minorities |
| | 8 Hours |


| Reference Books: | 1. Brolmann, C. and others, eds., Peoples and Minorities in International Law |
| | 2. Phillips, A. and A. Rosas, eds., The UN Minority Rights Declaration |
| | 3. Reddy, Jagmohan, Minorities and the Constitution |
| | 5. Thornberry, Patrick, International Law and the Rights of the Minorities |

* Latest editions of all the suggested books are recommended.
### Course Code: TMU009

**Law and Justice in a Globalized World**

<table>
<thead>
<tr>
<th>Course Code: TMU009</th>
<th>Law and Justice in a Globalized World</th>
<th>L-4&lt;br&gt;T-0&lt;br&gt;P-0&lt;br&gt;C-4</th>
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</thead>
</table>

### Objectives:
The main objective of the course is to enable students to understand and seek solutions to pressing problems in the domain of global justice.

### Learning Outcomes:
**At the end of this course students should be able to:**

1. To expected to have become familiar with the multiple dimensions of the theoretical literature
2. Be able to critically evaluate the liberal, republican, and discursive democratic attempts to make sense of, and to ameliorate, prevailing instances of injustice in the world.
3. This will be imparted through theoretical and philosophical debates advanced by various scholars and the institutional mechanism that need to be accelerated to achieve the objectives of global justice.

### Unit-1:
**Introduction:**
Meaning and significance of Globalization, concept of Global Justice, Global Justice and Right to Development

### Unit-2:
**Theoretical Prepositions of Global Justice**
Realism, Particularism, Nationalism, Cosmopolitanism

### Unit-3:
**Historical and Central Challenges to Global Justice:**
Global Poverty- Role of International Mechanism, Armed Conflict, Nationalist practices, Crimes against Humanity, Environment and Health, Oppressive Policies- Threat of Terrorism, Global Politics

### Unit-4:
**Role and Reformation of Global Institutions:**

### Unit-5:
**Models to Achieve Global Justice:**
Social Contract and Social Justice, Sarvodaya Model of Justice, Multi Culturalism and Cosmopolitanism, Significance of Human Rights Education, Global Justice and Global Rule of Law

### Text Books:
1. Amartya Sen The Idea of Justice 2009
2. R Pierik : Cosmopolitanism Global Justice and International Law Cambridge 2005

### Reference Books:

* Latest editions of all the suggested books are recommended.
<table>
<thead>
<tr>
<th>Course Code:</th>
<th>TMU010 Law and Medicine</th>
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<tbody>
<tr>
<td><strong>Objectives:</strong></td>
<td>General background, Inter-relationship between law and medicine, issues involved need for legal control, constitutional perspectives, right of life, fundamental right, right to health, right to emergency medical care, directive principles-health of workers, public assistance in sickness and disability, Raising the level of nutrition and public health, power to make Law.</td>
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<tr>
<td><strong>Learning Outcomes:</strong></td>
<td>At the end of this course students should be able to:</td>
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<tr>
<td></td>
<td>1. To acquaint them with the rights of minority educational institutions.</td>
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<td>2. To make exposition of the subject matter in detail with the help of legislative, judicial and other materials.</td>
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<tr>
<td></td>
<td>3. This will be imparted through theoretical and philosophical debates advanced by various scholars and the institutional mechanism that need to be accelerated to achieve the objectives of minority justice.</td>
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<tr>
<td><strong>Unit-1:</strong></td>
<td>Regulation of medical and paramedical profession: Regulatory authorities, disciplinary control, Doctors and Paramedical professionals, controls on institutions. Hospitals: Testing Laboratories, Institutions for research and experiments. Regulation on manufacture, storage and sale of medicine-Production, transport and storage, sale advertisement.</td>
<td>8 Hours</td>
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<td><strong>Unit-2:</strong></td>
<td>Liability for professional negligence: Tort, standard of care, problems of evidence, contractual liability, criminal liability, Liability of doctors and hospitals under Consumer Protection Act.</td>
<td>8 Hours</td>
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<tr>
<td><strong>Unit-3:</strong></td>
<td>International Norms: Council of Europe Convention on Human Rights and Bio-medicine-1999. Health care, Professional Standard, consent, Privacy and right to information, non-discrimination Genetic Tests, Organ Transplantation, Scientific Research.</td>
<td>8 Hours</td>
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<tr>
<td><strong>Unit-4:</strong></td>
<td>Science and Technology: Transplantation or Organ: Test-Tube Babies, Artificial insemination, Genetic engineering, Population control laws, Poverty and society: Family planning, Legality of coercive method &amp; surrogacy Sterilization of unfit-Social reforms, Medical Wastes-Control on handling and disposal of Biomedical waste.</td>
<td>8 Hours</td>
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<td><strong>Unit-5:</strong></td>
<td>Experiments on Human being: The Concept: Kinds, subject of experimentation; control, The unborn-Has the unborn Constitutional or other legal rights? Causing miscarriage and injustice to the unborn-liability. Amniocentesis: Medical termination of pregnancy.</td>
<td>8 Hours</td>
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<td></td>
<td>4. Anoop K Kaushal, Medical Negligence &amp; Legal Remedies with Special Reference to CPA, Universal, 2013</td>
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</table>
## Reference Books:


*Latest editions of all the suggested books are recommended.*
### Course Code:
TMU011 Energy Laws

| Objectives: | The main objective of the course is to enable students to understand various issues related to energy laws not only in India but at International Level. |

| Learning Outcomes: | At the end of this course students should be able to:  
1. Have become familiar with the multiple dimensions of the laws related to Energy  
2. Understand working of PSUs engaged in production and distribution of Energy and powers  
3. Understand various issues related to atomic energy  
4. Know the key features of electricity act 2003 |

| Unit-1: | **Introduction:**  
Energy law: India & International regime, International agreements related to supply and investment in energy (Indian reference), major international disputes related to energy and their settlement mechanism at International Level |

| Unit-2: | **Energy Policies in India:**  
Five years plan, Action plan on climate change, Role and responsibilities of various ministries (Coal, Petroleum & Natural Gas, Power, environment & forest & department of Atomic energy) |

| Unit-3: | **Electricity Law in India:**  
Electricity Act 2003: Licensing, Transmission and Distribution of electricity  
Electricity Authority and Appellate authority (Composition, Powers and functions)  
Offences and penalties |

| Unit-4: | **Coal, Oil & Gas Energy:**  
Licensing, distribution and control, an overview of Indian Mines Act 1952 and Energy conservation Act 2001 |

| Unit-5: | **Atomic Energy Regulation:**  

2. Understanding Energy Challenges in India of OECD/IEA 2012  
3. Universal Bare Acts, New Delhi. |


* Latest editions of all the suggested books are recommended.*
Concepts of IoT (Internet of Things)

Course Code: TMU012  
L-3, T-2, P-0, C-4

Objective
The course aims to introduce students to the concepts underlying the Internet of Things (IoT) through a series of lectures on the various topics that are important to understand the state-of-the-art as well as the trends for IoT. In order to pass the course, the students should be able to:

Content

**Unit 1:** Introduction to Internet in general and Internet of Things: Introduction to Internet: layers, protocols, packets, services; Local Area Networks, MAC level, link protocols such as: point-to-point protocols, Ethernet, WiFi 802.11, cellular Internet access, and Machine-to-Machine (M2M).

**Unit 2:** IoT Technology Fundamentals: IoT definitions: overview, applications, potential & challenges, and Architecture; Devices and gateways, Local and wide area networking; Data management, Business processes in IoT, Everything as a Service(XaaS), IoT Analytics, Knowledge Management.

**Unit 3:** IoT-An Architectural Overview— Building an Architecture, Main design principles and needed capabilities, An IoT Architecture outline, standards considerations. IoT examples: Case studies, e.g. sensor body-area-network and control of a smart home.


**Unit 5:** Real-World Design Constraints- Introduction, Technical Design constraints, Data representation and visualization, Interaction and remote control. Uses of IoT in Industrial Automation, Commercial Building Automation, Wireless communication, etc.

**Textbook:**

**Reference Books:**

Concepts of Green Technology

Course Code: TMU013
Course Objective:
The course aims to introduce the students to Technology that is considered environmentally friendly based on its production process or supply chain.

Unit-I

Unit-II

Unit-III
Introduction to Hydroelectric & Fuel Cell Technologies, Understand the science of Hydroelectric & Fuel Cell Technologies, produce electrical energy through a hydroelectric system and through a fuel cell system. Explore control mechanisms of hydroelectricity and fuel cells; Build a hydrogen powered Car-Fuel cell X7. (Lecture 10)

Unit-IV
Introduction to Solar Technology, Understand the Science of Solar Technology, Understand basic electronics, understand how solar energy is collected and stored. (Lecture 10)

Unit-V
Introduction to Biomass Technology, Understand the science of Biomass and Biofuel Technologies, Understand how Biomass is produced. (Lecture 10)

Textbook:

Reference Books:
INFORMATION SECURITY AND CYBER LAWS

Course Code: TMU014

Objective: The objective of this subject is to make the individual aware of cybercrimes and acquire a critical understanding of cyber laws in order to prevent their information systems from cybercrimes and to give the learners in-depth knowledge of Information security Act and frame work for data security. It helps to develop the understanding of relationship between commerce and cyberspace.

Course Contents

Unit-I
History of Information Systems and its Importance, basics, Changing Nature of Information Systems, Need of Distributed Information Systems, Role of Internet and Web Services, Information System Threats and attacks, Classification of Threats and Assessing Damages


(Lecture 08)

Unit-II

(Lecture 08)

Unit-III

(Lecture 08)

Unit-IV

(Lecture 08)

Unit-V

(Lecture 08)

Text Books:

Reference Books:
5. IT Act 2000

*Latest editions of all the suggested books are recommended.
Social Implications of Information Technology

Course Code: TMU015  L-3, T-2, P-0, C-4
Course Contents

The aim of this course will help students to learn about the social implications of Information Technology. The paper identifies trends in information Technology that have had a significant social impact and identifies their social impact.

Unit-1
Importance of social dimensions of science and Technology, global perspectives of Technology on society, legal implications of advances in IT. (Lecture 08)

Unit-II
How do social and Technical choices reshape access to people, services and Technologies. Influencing factors such as geography of access, the Architecture of networks, the power of receivers and senders and control over the content. (Lecture 08)

Unit-III
Social and economic role of eminent social scientists and IT professionals, Information Technology and the reach of boundaries of business and management, Redesigning of work place. (Lecture 08)

Unit-IV
The intelligence household, IT in learning and education using digital devices, social and ethical implication, Privacy and surveillance in everyday life, impact of IT on culture. (Lecture 08)

Unit-IV
Government challenges of Technological, cybercrime laws (Lecture 08)

Text Books:

Reference Books:
Ethical Hacking

Course Code: TMU016

Objective:
The main purpose of this course is to make students aware about hacking. The general meaning of hacking is in negative sense. But ethical hacking will let students know how we can prevent ourselves from ill aspects of hacking after the study of this course.

UNIT -1

UNIT -1I
Introduction to Computer Systems and Networks, information systems and networks (including wireless networks) and their role in industry business and society, System and Network Vulnerability and Threats to Security, various types of attack and the various types of attackers in the context of the vulnerabilities associated with computer and information systems and networks Physical Security, Steganography, Cryptography, Wireless Hacking, Firewall & Honeypots, IDS & IPS, Vulnerability, Penetration Testing, Session Hijacking, Hacking Web Servers, SQL Injection, Cross Site Scripting, Exploit Writing, Buffer Overflow, Reverse Engineering, Email Hacking, Incident Handling & Response, Bluetooth Hacking, Mobile Phones Hacking

UNIT -1II
An introduction to basic ethical hacking tools and usage of these tools in a professional environment in a form of project

UNIT -1IV
An introduction to the particular legal, professional and ethical issues likely to face the domain of ethical hacking. ethical responsibilities, professional integrity and making appropriate use of the tools and TMUhniques associated with ethical hacking.

Text Books

Reference Books
1. The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy (Syngress Basics Series) [Paperback]
2. Hands-On Ethical Hacking and Network Defense [Print Replica] [Kindle Edition]
FUNDAMENTAL OF COMPUTER’S AND MS-OFFICE

Course Code: TMU017       L-4, T-2, P-0, C-5

Objective: To give the basic knowledge of Computer hardware and application software to the students. Students able to learn how computers work and how they can be used to make your work more efficient. Also, learning the basic utilization of the MS Office software package.

Course Contents

Unit-I
Computer Basics: Introduction and definition of computer, Computer Generations, Characteristics of Computer, Advantages and Limitations of computer, Classification of computers, Functional components of a computer system (Input, CPU, Storage and Output Unit), Types of memory (Primary and Secondary), Computer Hardware: Input Devices- Mouse, Bar Code Reader, Keyboard, Scanner, Joystick, Output Devices- VDU, Printer, Plotters, Types of Computer Software. (Lecture 08)

Unit-II

Number system: Binary number system, Octal & Hexa-decimal number system. (Lecture 08)

Unit-III
Algorithm, flowcharts: flowcharts symbols, sample flowcharts.


MS-WORD: Starting MS WORD, Creating and formatting a document, Changing fonts and point size, Table Creation and operations, Autocorrect, Auto text, spell Check, Word Art, Creating Shapes and Charts, Inserting objects, Page setup and margins, Page Preview, Printing a document, Macros, Mail Merge. (Lecture 08)

Unit-IV


MS-ACCESS: Maintaining Database by creating Tables, Queries, Reports and Forms. (Lecture 08)

Unit-V

MS-POWERPOINT: Starting MS–Power Point, Creating a presentation using auto content Wizard, Blank Presentation, creating, saving and printing a presentation, Adding a slide to presentation, Navigating through a presentation, slide sorter, slide show, editing slides, Using Clipart, Word art gallery, Adding Transition and Animation effects, setting timings for slide show, preparing note pages, preparing audience handouts, printing presentation documents

Introduction of Internet: History of internet, Web Browsers, Searching and Surfing, Creating an E-Mail account, sending and receiving E-Mails. (Lecture 08)
Text Books:
2. O’Leary Timothy, O’Leary Linda, Microsoft Office, TMH Publication

Reference Books:
2. Norton Peter, Introductions to Computers, TMH Publication.

*Latest editions of all the suggested books are recommended.*
INFORMATION SECURITY FUNDAMENTAL

Course Code: TMU018

Objective: Upon successful completion of the course, students will have the ability to accomplish the following competencies accurately and efficiently:
- Describe legal and public relations implications of security and privacy issues
- Define and implement an information security strategy and Architecture
- Plan and respond to intruders in an information system
- Identify and prioritize information assets

Course Contents

Unit - I

Unit - II
The Need for IT Security: Business Needs-ProTMDUting the functionality, Enabling the safe operations, ProTMDUting the data, safe guarding the Technology assets; Threats-compromises to Intellectual property, deliberate software attacks, Espionage and trespass, sabotage and vandalism; Attacks-Malicious Codes, Back Doors, Denial of Service and Distributed Denial of Service, Spoofing, sniffing, Spam, Social Engineering. (Lecture 08)

Unit - III
Risk Management: Definition of risk management, risk identification, and risk control, Identifying and Accessing Risk, Assessing risk based on probability of occurrence and likely impact, the fundamental aspects of documenting risk via the process of risk assessment, the various risk mitigation strategy options, the categories that can be used to classify controls. (Lecture 08)

Unit - IV
Network Infrastructure Security and Connectivity: Understanding Infrastructure Security- Device Based Security, Media-Based Security, Monitoring and Diagnosing; Monitoring Network- Firewall, Intrusion DeTMDUtion System, Intrusion Prevention system; OS and Network Hardening, Application Hardening; Physical and Network Security- Policies, Standards and Guidelines. (Lecture 08)

Unit - V
Web and E-mail Security: Web Servers and Browsers, HTTP, Cookies, Caching, Plug-in, ActiveX, Java, JavaScript, Secure Socket Layer (SSL), Secure Electronic Transaction (SET), E-mail Risks, Spam, E-mail Protocols, Simple Mail Transfer Protocol (SMTP), Post office Protocol (POP), Internet Access Message protocol (ICMP). Secured Mail: Pretty Good Privacy (PGP), S/MIME (Secure/Multipurpose Internet Mail Extensions). (Lecture 08)
Text Books

References

*Latest editions of all the suggested books are recommended.*
IT GOVERNANCE, RISK & INFORMATION SECURITY MANAGEMENT

Course Code: TMU019       L-4, T-2, P-0, C-5

Objective:
- To study governance through IT Technology.
- To study different facilities provided by government through electronic media.
- To study increase internal efficiency and service levels to constituents.

Course Contents

Unit – I

Unit - II
ICT Infrastructure & Service: National level, State level, District level.
National e-governance projects: Advertisement Automation System for DAVP, e-Courts Project, Electronic Post (ePost), e-Panchayat Mission Mode Project. (Lecture 08)

Unit – III
Information Systems Strategy: Role of Strategic Planning for IT, Role of Steering committee, Policies and Procedures. (Lecture 08)

Unit - IV

Unit - V
Information Security Management: Introduction, Performance Optimization, IT Security roles & responsibilities, Segregation of Duties, Description of COBIT and other Frameworks. (Lecture 08)

Text Books:

Reference Books:

*Latest editions of all the suggested books are recommended.
SCIENTIFIC COMPUTING

Course Code: TMU020       L-4, T-2, P-0, C-5

Objective: Course Objective is to have investigation of the flexibility and power of project-oriented computational analysis. This course is a survey of numerical solution techniques for ordinary and partial differential equations. This course is a graduate breadth course to give students exposure to the algorithms and implementations often used in scientific computing.

Course Contents

Unit - I
Number System: Binary, Octal, Hexadecimal and Decimal, Floating Point Numbers. Binary Arithmetic: Basic Rules of Binary Addition, Subtraction, multiplication and division. Floating point format, Finite precision, round-off, machine epsilon, Error propagation and catastrophic cancellation (Lecture 08)

Unit-II

Unit - III
Root finding: Bisection, Regula-Falsi, Newton-Raphson and extension to multi-dimension Optimization: Search by section, Newton’s method, steepest descent, Conjugate gradient, Simulated annealing (Lecture 08)

Unit - IV
Numerical differentiation: Finite difference, Spectral differentiation Initial value Ordinary Differential Equations: Forward and backward Euler, Predictor corrector and Runge-Kutta schemes, Stiff ODE’s (Lecture 08)

Unit - V
Boundary value problems: Shooting method, Finite-difference method Partial differential equations: Hyperbolic and parabolic equations, Elliptic equations (Lecture 08)

Text Books:
3. J. Stoer and R. Bulirsch. Introduction to Numerical Analysis. Springer Verlag,

Reference Books:
5. D. J. Hingham and P. J. Hingham. MATLAB guide. Society of Industrial and Applied Mathematics

*Latest editions of all the suggested books are recommended.
ETHICAL HACKING FUNDAMENTAL

Course Code: TMU021       L-4, T-2, P-0, C-5

Objective:

- To understand how intruders escalate privileges.
- To understand Intrusion Detection, Policy Creation, Social Engineering, Buffer Overflows and different types of Attacks and their prevention mechanisms.
- To learn about ethical laws and tests.

Course Contents

Unit - I

Unit - II

Unit - III

Unit - IV
Report writing & Mitigation: Introduction to Report Writing & Mitigation, requirements for low level reporting & high level reporting of Penetration testing results, Demonstration of vulnerabilities and Mitigation of issues identified including tracking. (Lecture 08)

Unit - V
Ethical Hacking Laws and Tests: An introduction to the particular legal, professional and ethical issues likely to face the domain of ethical hacking, ethical responsibilities, professional integrity and making appropriate use of the tools and Techniques associated with ethical hacking – Social Engineering, Host Reconnaissance. (Lecture 08)

Text Books:

Reference Books:

*Latest editions of all the suggested books are recommended.
MOBILE DEVICE AND NETWORK ARCHITECTURE

Course Code: TMU022             L-4, T-2, P-0, C-5

Objective:
- To introduce the principles of Network Design
- To understand the process of Network Deployments
- To gain basic insight of Network Operations and Maintenance

Course Contents

Unit - I

(Lecture 08)

Unit - II

(Lecture 08)

Unit - III

(Lecture 08)

Unit - IV

(Lecture 08)

Unit - V

(Lecture 08)
Text Books:
1. Wireless and Mobile Network Architectures by Yi-Bang Lin and Imrich Chlamtac, Wiley-India
2. Mobile Networks Architecture by Andre Perez, Wiley

Reference Books:

* Latest editions of all the suggested books are recommended.
COMPUTER FORENSIC AND INVESTIGATION

Course Code: TMU023        L-3, T-2, P-0, C-4

Objective: Forensic science is the application of science to the examination of physical evidence obtained in the investigation of a crime. This course emphasizes the role of forensic science within the criminal justice system. Some of the topics to be covered include the crime scene, collection of physical evidence, fingerprints, firearms, and serology.

Course Content

Unit - I

Unit - II
Storage Devices & Data Recover Methods: Storage Devices- Magnetic Medium, Non-magnetic medium and Optical Medium. Working of Storage devices-Platter, Head assembly, spindle motor. Data Acquisition, Data deletion and data recovery method and TMUhniques. (Lecture 10)

Unit - III
Forensics TMUhniques: Windows forensic, Linux Forensics, Mobile Forensics, Steganography, Application Password cracking-Brute force, Dictionary attack, Rainbow attack. Email Tacking – Header option of SMTP, POP3, IMAP. (Lecture 10)

Unit - IV
Cyber Law: Corporate espionage, Evidence handling procedure, Chain of custody, Main features of Indian IT Act 2008 (Amendment) (Lecture 10)

Text Books:

References Books:

*Latest editions of all the suggested books are recommended.
Objective: The objective of this subject is to make the individual aware of cybercrimes and acquire a critical understanding of cyber laws in order to prevent their information systems from cybercrimes and to give the learners in depth knowledge of Information security.

Course Contents

Unit-I

(Lecture 08)

Unit-II

(Lecture 08)

Unit-III

(Lecture 08)

Unit-IV

(Lecture 08)

Unit-V

(Lecture 08)

Text Books:

Reference Books:
Fundamentals of Animation and Design

Course Code: TMU025

Objective- To introduce the students with Animation and its concepts. To develop an approach for design and message conveying through Animation and other visual medium.

Unit I
What is animation, History of animation, concept of animation and persistence of vision, Introduction to Experimental animation, Orientation into visual art form, Orientation into performing art form, Relevance of message and medium and their relationship.

(Lecture 08)

Unit II
The Basics of traditional 2D animation, Introduction to the skill required for the animators, Learning to draw lines, circles, ovals, scribbles, jig jag (random) patterns etc, use of simple shapes. To draw drawings with the help of basic shapes

(Lecture 08)

Unit III
An introduction on how the drawings is important for animation, Shapes and forms, About 2D and 3D shapes, Life drawing, Caricaturing-fundamentals, Exaggeration, Silhouette.

(Lecture 08)

Unit IV

(Lecture 08)

Unit V
Designing for different needs-
Designing for industry, designing for visual art (Graphic, web and Animation),
Designing for a process, designing for manufacturing and designing for product and service.

(Lecture 08)

Text Books:
1-Experimental animation: an illustrated anthology Robert russett and Cecile Starr.Concept
2-Design: Works from Seven Los Angeles Entertainment Designers.byHarold Belker,Steve Burg,
3-Survival kit for animators   -Sir William Richards
4-Creative Illustrations- Andrew Loomis

*Latest editions of all the suggested books are recommended.
NON-CONVENTIONAL ENERGY RESOURCES

Course Code: TMU026

L-3, T-2, P-0, C-4

UNIT I: INTRODUCTION
Various non-conventional energy resources- Introduction, availability, classification, relative merits and demerits.

UNIT II: SOLAR CELLS
Theory of solar cells. Solar cell materials, solar cell power plant, limitations.

SOLAR THERMAL ENERGY
Solar radiation flat plate collectors and their materials, applications and performance, focusing of collectors and their materials, applications and performance; solar thermal power plants, thermal energy storage for solar heating and cooling, limitations.

UNIT III: GEOENERGY
Resources of geothermal energy, thermodynamics of geo-thermal energy conversion-electrical conversion, non-electrical conversion, environmental considerations.

MAGNETOHYDRODYNAMICS (MHD)
Principle of working of MHD Power plant, performance and limitations.

UNIT IV: FUEL CELLS
Principle of working of various types of fuel cells and their working, performance and limitations.

THERMO-ELECTRICAL AND THERMIonic CONVERSIONS
Principle of working, performance and limitations.

WIND ENERGY
Wind power and its sources, site selection, criterion, momentum theory, classification of rotors, concentrations and augments, wind characteristics. Performance and limitations of energy conversion systems.

UNIT V: BIO-MASS
Availability of bio-mass and its conversion theory.

OCEAN THERMAL ENERGY CONVERSION (OTMU)
Availability, theory and working principle, performance and limitations.

WAVE AND TIDAL WAVE
Principle of working, performance and limitations. Waste Recycling Plants

Books Recommended:
1. AndraGabdel, "A Handbook for Engineers and Economists".
2. A. Mani, "Handbook of Solar radiation Data for India".
4. F.R. the MITTRE, "Wind Machines" by Energy Resources and Environmental Series.
5. Frank Kreith, "Solar Energy Hand Book".
7. N.G. Calvert, "Wind Power Principles".
8. W. Palz., P. Chartier and D.O. Hall, "Energy from Biomass".
ENVIRONMENT AND ECOLOGY
Course Code: TMU027
L-3, T-2, P-0, C-4

Unit I: Environment
Environment and its components, pollution of environment by human activity, kinds of pollution.

Unit II: Water Quality
Measure of water quality, water quality standards, water treatment; waste water transport and treatment, sludge treatment and disposal.
Air Quality
Sources and effects of air pollution, major air pollutants, air quality control, treatment of emissions, dispersion of air pollutants.

Unit III: Solid waste
Collection of refuse, removal and transport, disposal of refuse.
Noise Pollution
Effect of noise on human health and its control.

Unit IV: Ecology
Ecology and Ecosystems, concept of ecological imbalances, physical and climate factors, biotic components, energy and material flows in ecosystems, human influence on ecosystems.

Unit V: Conservation of Natural Resources
Water resources, mineral resources, agricultural and forestry resources, agriculture soil and need of nutrients, fertilizers and pesticides. Brief introduction about environmental legislation and environmental audit.

Books Recommended:

ENTREPRENEURSHIP DEVELOPMENT PROGRAMME

Course Code: TMU028

Unit I: Entrepreneur
Definition. Growth of small scale industries in developing countries and their positions vis-a-vis large Industries; role of small scale industries in the national economy; characteristics and types of small scale Industries; demand based and resources based ancillaries and sub-control type. Government policy for small scale industry; stages in starting a small scale industry.

Unit II: Project identification
Assessment of viability, formulation, Evaluation, financing, field-study and collection of information, preparation of project report, demand analysis, material balance and output methods, benefit cost analysis, discounted cash flow, and internal rate of return and net present value methods.

Unit III: Accountancy
Preparation of balance sheets and assessment of economic viability, decision making, expected costs, planning and production control. Quality control, marketing, industrial relations, sales and purchases, advertisement, wages and incentive, inventory control, preparation of financial reports, accounts and stores studies.

Unit IV: Project Planning and control
The financial functions, cost of capital approach in project planning and control. Economic evaluation, risk analysis, capital expenditures, policies and practices in public enterprises. Profit planning and programming, planning cash flow, capital expenditure and operations, control of financial flows, control and communication.

Unit V: Laws concerning entrepreneur
Partnership laws, business ownership, sales and income taxes and workman compensation act. Role of various national and state agencies which render assistance to small scale industries.

Books Recommended:
HUMAN VALUES

Course Code: TMU029

Unit I: Introduction
1. Nature of value crisis in the contemporary Indian society and the larger human community.
2. Meaning and nature of values; holistic view of life and its value.

Material and Societal value
1. Role of material values in promoting human well-being.
2. Role of Science and Technology; problems of material development.
3. Socio-political ideologies for promoting material wellbeing
4. Conceptualizing ‘good’ society and ‘social goods’
5. Justice as a societal value.
6. Democracy and rule of law.
8. Gandhian concepts of good society; gram swaraj, sarvodaya, antyodaya

Unit II: Psychological and Aesthetic Values
1. Humanistic psychology; meaning of ‘personhood’
2. Maslow’s hierarchy of human need; characteristics of ‘self-actualizing’ persons.
3. Mental health
4. Psycho-spiritual Indian concepts.
5. Areas and nature of aesthetic experiences.

Unit III: Ethical and Spiritual Values
1. Bases for moral judgments: customary morality, religious morality, reflective morality.
2. Some principles of ethics; ethical canons and their significance in modern life.
3. Virtue ethics; personal virtues for the modern times.
4. Ethics of duty and ethics of responsibility.
5. Factors to be considered in making ethical judgments: motives, means and consequences.
6. Spirituality and spiritual values: spiritual wisdom of the Upanishads; Buddha’s view.
7. Science, materialism and spirituality.
8. Spirituality in the modern times.

Unit IV: Human Values
1. Different meaning of human values: foundational human values – freedom, creativity, love and wisdom.
2. Nature of Human freedom; individual freedom, intellectual freedom, freedom of will, spiritual freedom.
3. Creativity: its meaning and nature; different kinds of creativity.
5. Creative personality, creative environment.
6. Love as a foundational human value; different kinds of love.
7. Human wisdom; characteristics of a wise person.

Unit V: Work Ethics and Professional Ethics
1. Different attitudes to work.
2. Demands of work-ethics, ethics at work place.
3. ‘Good’ organization and its values.
4. What is a profession?
5. Professional ethos and code of professional ethics.
7. Problems in practicing the code.
8. Case studies.

**Books Recommended:**

1. Human Values By: Prof. A.N. Tripathi New Age International.
2. 7 Habits of Highly By: Dr. Stephen R. Covey Effective People Harper Publications.
SOLAR ENERGY
Course Code: TMU030
L-3, T-2, P-0, C-4

Unit I:

Unit II:
Liquid flat-Plate Collectors: General performance analysis, Transmissivity, absorptivity, product and overall loss coefficient and heat transfer correlations, Collector efficiency factor, Numerical, Analysis of collectors similar to the conventional collector. Testing procedures, Alternatives to the conventional collector, Numerical.

Unit III:
Solar Air Heaters: Performance analysis of a conventional air heater, other types of air heaters. Concentrating Collectors: Flat plate collectors with plane reflectors, cylindrical parabolic collector, Compound parabolic dish collector, Central receiver collector, Numerical.

Unit IV:

Unit V:

Recommended Books
HUMAN RESOURCE MANAGEMENT

Course Code: TMU031                                                                                               L-3, T-2, P-0, C-4

Unit I
Scope and Importance of Human Resource management, Historical background of Evolution of HRM and
HRD in 20th century, outlining the contemporary role for HRM in organization. Goals of HRM. (Why
behavioural approach?)

Unit II
Manpower as a resource in job related behaviour and individual motivation in a work setting. Various
theories of human motivation, Maslow’s hierarchy of needs. Needs for achievement, power and affiliation,
other theories, group motivation and conflicts.

Unit III
Manpower planning and recruitment, Testing procedures and their limitations. Reservations in jobs, pre -
induction training.

Unit IV
Wage and salary administration-pay roll and compensation. Job analysis and job specification, other pay
plans, employment contracts, special compensation plans for example personnel, effect of Financial rewards
on individual’s performance. Goal setting and performance evaluation, promotion policy, employee
satisfaction, turnover.

Unit V
Assessment of training needs, forces promoting investment in HRD, Human resource development through
individual and group efforts. Training analyses and training methods guidelines for individual development,
job enlargement and job enrichment, job rotation, special assignment, Sponsored courses cost benefit
exercise. Importance of unions, industrial petitions and conflict analysis and resolution. Relevant labour
laws.
Course Code: TMU025

Unit I
Research process overview:
- Statement of the problem and research objectives
- Concepts and constructs
- Variables assumptions
- Hypotheses formulation and types
- Delimitation

Unit II
Review of related literature
- Need, purpose and sources
- Library, On-line search
- Retrieval of databases

Unit III
Research approaches and Designs
- Historical approaches
- Survey and experimental approaches,
- Qualitative research approaches, ethnography and phenomenology.
- Longitudinal, cross sectional and cohort studies-advantages and disadvantages.
- Experimental designs- Purposes, characteristics, types of design, pre-experimental and quasi and true implemented design, steps of experimental research
- Sampling Methods- size, criteria of Population, TMUhnhiques of sampling criteria, determination of sample size
- Data collection- Tools and TMUhnhiques, types, purposes, characteristics and uses.
- Scale/Construction of tools-Selection/Construction of tools, Testing validity and reliability.
- TMUhnhiques of data collection: TMUhnie, tools used for qualitative research, observation, Focus group discussion, measurement and record analysis and field trips.

Unit IV
Data Analysis
- Descriptive, inferential and advance statistics
- Parametric and Non parametric methods
- Multivariate analysis

Unit V
Communicating research findings
- Research critic
- Project proposal for funding
- Research utilization
TEERTHANKER MAHAVEER COLLEGE OF NURSING
ELECTIVE COURSES

Course: Infection Control and Bio Medical Waste Management

Course Code: TMU070                                   L-3, T-0, P-0, C-3

Objectives:
1. To make the students to understand some basic concepts, Facilities, equipment, and procedures necessary to implement standard and additional (transmission-based) precautions for control of infections.
2. Cleaning, disinfecting and reprocessing of reusable equipment.
3. Waste management.
4. Protection of health care workers from transmissible infections.
5. Infection control practices in special situations

Unit I                                                   Hours 5
• Concept, Definition, Aims, objectives of infection control
• Risk of Infection
• Health care associated infections
• Prevalence
• Infection sites
• Factors influencing Health care associated infections
• Route of Health care associated infections
• Chain of infection

Unit II                                                   Hours 10
Infection control
• Basics of infection control
• Infection control program
• Infection control team
• Infection control Committee
• Nosocomial infection surveillance
• Types of surveillance

Unit III                                                   Hours 10
Infection control Measures in health care settings
• Standard precautions
  ➢ Hand hygiene and types of hand hygiene
  ➢ Personal Protection equipment and types of PPE
  ➢ Prevention of needle sticks/ sharps injuries
  ➢ Cleaning and disinfection of environment and equipment

• Transmission based precautions
  ➢ Droplet precautions
  ➢ Contact precautions
  ➢ Air borne
• Handling of contaminated material
• Environmental decontamination
Unit IV          Hours 5
Introduction:
• Bio medical waste
• Risk for bio medical waste if not managed properly.
• Environmental Hazards
• Occupational Hazards
• Public Health Hazards
• Advantages of proper management of bio medical waste

Unit V           Hours 5
Legal Provision:
• Salient features of bio medical waste (Management and handling) Rules, 1998
• Categories of bio medical waste
• Category wise treatment and disposal methodology
• Segregation, packing, storage and transportation

Unit VI          Hours 10
• Occupational safety and health of hath care worker:
• Occupational risk of chemicals- precautions and safety measures
• Disease transmission
• Health care workers safety
• Role of health care providers in bio medical waste management

Unit VII         Hours 15
• Bio medical waste Management:
• Bio medical waste Management in hospitals where Bio medical waste treatment facility is not available.
• Bio medical waste Management in hospitals where Bio medical waste treatment facility is available
• Bio medical waste Management in primary health centers and small scale hospitals in rural area
• Unit wise generation of Bio medical waste and its requirement
• Facilities required for managing the Bio medical waste Management
• Do’s and don’ts in Bio medical waste Management
NON-CONVENTIONAL ENERGY RESOURCES

Course Code: TMU074                                                                                               L-4, T-0, P-0, C-4

Unit I: Introduction
Various non-conventional energy resources- Introduction, availability, classification, relative merits and
demerits.

Unit II: Solar Cells
Theory of solar cells. Solar cell materials, solar cell power plant, limitations.

Solar Thermal Energy
Solar radiation flat plate collectors and their materials, applications and performance, focusing of collectors
and their materials, applications and performance; solar thermal power plants, thermal energy storage for
solar heating and cooling, limitations.

Unit III: Geothermal Energy
Resources of geothermal energy, thermodynamics of geo-thermal energy conversion-electrical conversion,
non-electrical conversion, environmental considerations.
Magneto-hydrodynamics (MHD)
Principle of working of MHD Power plant, performance and limitations.

Unit IV: Fuel Cells
Principle of working of various types of fuel cells and their working, performance and limitations.

Thermo-electrical and thermionic Conversions
Principle of working, performance and limitations.

Wind Energy
Wind power and its sources, site selection, criterion, momentum theory, classification of rotors, concentrations and augments, wind characteristics. Performance and limitations of energy conversion systems.

Unit V: Bio-mass
Availability of bio-mass and its conversion theory.

Ocean Thermal Energy Conversion (OTEC)
Availability, theory and working principle, performance and limitations.

Wave and Tidal Wave
Principle of working, performance and limitations. Waste Recycling Plants

Books Recommended:
1. AndraGabdel, "A Handbook for Engineers and Economists".
2. A. Mani, "Handbook of Solar radiation Data for India".
4. F.R. the MITTRE, "Wind Machines" by Energy Resources and Environmental Series.
5. Frank Kreith, "Solar Energy Hand Book".
7. N.G. Calvert, "Wind Power Principles".
ENVIRONMENT AND ECOLOGY

Course Code: TMU075    L-4, T-0, P-0, C-4

Unit I: Environment
Environment and its components, pollution of environment by human activity, kinds of pollution.

Unit II: Water Quality
Measure of water quality, water quality standards, water treatment; waste water transport and treatment, sludge treatment and disposal.

Air Quality
Sources and effects of air pollution, major air pollutants, air quality control, treatment of emissions, dispersion of air pollutants.

Unit III: Solid waste
Collection of refuse, removal and transport, disposal of refuse.

Noise Pollution
Effect of noise on human health and its control.

Unit IV: Ecology
Ecology and Ecosystems, concept of ecological imbalances, physical and climate factors, biotic components, energy and material flows in ecosystems, human influence on ecosystems.

Unit V: Conservation of Natural Resources
Water resources, mineral resources, agricultural and forestry resources, agriculture soil and need of nutrients, fertilizers and pesticides. Brief introduction about environmental legislation and environmental audit.

Books Recommended:

ENTREPRENEURSHIP DEVELOPMENT PROGRAMME

Course Code: TMU076

Unit I: Entrepreneur
Definition. Growth of small scale industries in developing countries and their positions vis-a-vis large Industries; role of small scale industries in the national economy; characteristics and types of small scale Industries; demand based and resources based ancillaries and sub-control type. Government policy for small scale industry; stages in starting a small scale industry.

Unit II: Project identification
Assessment of viability, formulation, Evaluation, financing, field-study and collection of information, preparation of project report, demand analysis, material balance and output methods, benefit cost analysis, discounted cash flow, and internal rate of return and net present value methods.

Unit III: Accountancy
Preparation of balance sheets and assessment of economic viability, decision making, expected costs, planning and production control. Quality control, marketing, industrial relations, sales and purchases, advertisement, wages and incentive, inventory control, preparation of financial reports, accounts and stores studies.

Unit IV: Project Planning and control
The financial functions, cost of capital approach in project planning and control. Economic evaluation, risk analysis, capital expenditures, policies and practices in public enterprises. Profit planning and programming, planning cash flow, capital expenditure and operations, control of financial flows, control and communication.

Unit V: Laws concerning entrepreneur
Partnership laws, business ownership, sales and income taxes and workman compensation act. Role of various national and state agencies which render assistance to small scale industries.

Books Recommended:
**Unit I: Introduction**
1. Nature of value crisis in the contemporary Indian society and the larger human community.
2. Meaning and nature of values; holistic view of life and its value.

**Material and Societal value**
1. Role of material values in promoting human well-being.
2. Role of Science and technology; problems of material development.
3. Socio-political ideologies for promoting material wellbeing
4. Conceptualizing ‘good’ society and ‘social goods’
5. Justice as a societal value.
6. Democracy and rule of law.
8. Gandhian concepts of good society; gram swaraj, sarvodaya, antyodaya

**Unit II: Psychological and Aesthetic Values**
1. Humanistic psychology; meaning of ‘personhood’
2. Maslow’s hierarchy of human need; characteristics of ‘self-actualizing’ persons.
3. Mental health
4. Psycho-spiritual Indian concepts.
5. Areas and nature of aesthetic experiences.

**Unit III: Ethical and Spiritual Values**
1. Bases for moral judgments: customary morality, religious morality, reflective morality.
2. Some principles of ethics; ethical canons and their significance in modern life.
3. Virtue ethics; personal virtues for the modern times.
4. Ethics of duty and ethics of responsibility.
5. Factors to be considered in making ethical judgments: motives, means and consequences.
6. Spirituality and spiritual values: spiritual wisdom of the Upanishads; Buddha’s view.
7. Science, materialism and spirituality.
8. Spirituality in the modern times.

**Unit IV: Human Values**
1. Different meaning of human values: foundational human values – freedom, creativity, love and wisdom.
2. Nature of Human freedom; individual freedom, intellectual freedom, freedom of will, spiritual freedom.
3. Creativity: its meaning and nature; different kinds of creativity.
5. Creative personality, creative environment.
6. Love as a foundational human value; different kinds of love.
7. Human wisdom; characteristics of a wise person.

**Unit V: Work Ethics and Professional Ethics**
1. Different attitudes to work.
2. Demands of work-ethics, ethics at work place.
3. ‘Good’ organization and its values.
4. What is a profession?
5. Professional ethos and code of professional ethics.
7. Problems in practicing the code.
8. Case studies.
Books Recommended:

1. Human Values By: Prof. A.N. Tripathi New Age International.
2. 7 Habits of Highly By: Dr. Stephen R. Covey Effective People Harper Publications.
SOLAR ENERGY

Course Code: TMU078

Unit I:
Introduction, Energy alternative, Devices for thermal collection and storage, Thermal applications.

Unit II:
Liquid flat-Plate Collectors: General performance analysis, Transmissivity, absorptivity, product and overall loss coefficient and heat transfer correlations, Collector efficiency factor, Numerical, Analysis of collectors similar to the conventional collector. Testing procedures, Alternatives to the conventional collector, Numerical.

Unit III:
Solar Air Heaters: Performance analysis of a conventional air heater, other types of air heaters.
Concentrating Collectors: Flat plate collectors with plane reflectors, cylindrical parabolic collector, Compound parabolic dish collector, Central receiver collector, Numerical.

Unit IV:

Unit V:

Recommended Books
HUMAN RESOURCE MANAGEMENT
Course Code: TMU079  L-4, T-0, P-0, C-4

Unit I
Scope and Importance of Human Resource management, Historical background of Evolution of HRM and HRD in 20th century, outlining the contemporary role for HRM in organization. Goals of HRM. (Why behavioural approach?)

Unit II
Manpower as a resource in job related behaviour and individual motivation in a work setting. Various theories of human motivation, Maslow’s hierarchy of needs. Needs for achievement, power and affiliation, other theories, group motivation and conflicts.

Unit III
Manpower planning and recruitment, Testing procedures and their limitations. Reservations in jobs, pre-induction training.

Unit IV
Wage and salary administration-pay roll and compensation. Job analysis and job specification, other pay plans, employment contracts, special compensation plans for example personnel, effect of financial rewards on individual’s performance. Goal setting and performance evaluation, promotion policy, employee satisfaction, turnover.

Unit V
Assessment of training needs, forces promoting investment in HRD, Human resource development through individual and group efforts. Training analyses and training methods guidelines for individual development, job enlargement and job enrichment, job rotation, special assignment, Sponsored courses cost benefit exercise. Importance of unions, industrial petitions and conflict analysis and resolution. Relevant labour laws.