

# **SCHEME OF EXAMINATION**

**And**

# **SYLLABI**

**For**

## **BACHELOR OF VOCATION**

**In**

**(PRINTING TECHNOLOGY)**

**3<sup>rd</sup> SEMESTER & 4<sup>th</sup> SEMESTER**

**Offered by**

**University School of Engineering and Technology**



**Guru Gobind Singh Indraprastha University  
Dwarka, Delhi – 110078 [INDIA]**

**[www.ipu.ac.in](http://www.ipu.ac.in)**

**NOMENCLATURE OF CODES GIVEN IN THE SCHEME OF B.VOC**

1. **ET** stands for Engineering and Technology.
2. **V** stands for Vocation.
3. **MC** stands for Mobile Communication.
4. **SD** stands for Software Development.
5. **AE** stands for Automobile.
6. **CE** stands for Consumer Electronics.
7. **PT** stands for Printing Technology.
8. **CT** stands for Construction Technology.
9. **RA** stands for Refrigeration & Air-Conditioning.
10. **PD** stands for Power Distribution Management.
11. **ID** stands for Interior Design.
12. **AA** stands for Applied Arts.
13. **CS** stands for Computer Science.
14. **MS** stands for Management Studies.
15. **EN** stands for Environmental Engineering
16. **AS** stands for Applied Science.
17. **HS** stands for Humanities and Social Sciences.
18. **SS** stands for Social Services.
19. **L/T** stands for Lecture and Tutorial
20. **P** stands for Practicals.
21. **S/D** stands for Drawing/Studio
22. **P/D** stands for Practical/Drawing



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**BACHELOR OF VOCATION  
(PRINTING TECHNOLOGY)  
THIRD SEMESTER EXAMINATION  
(LEVEL-VI)**

Paper Code	Paper ID	Paper	L	T/P	Credits
<b>THEORY PAPERS</b>					
ETVPT-601		Digital Pre-press Technology	3	0	3
ETVPT-603		Gravure Printing Technology	3	0	3
ETVPT-605		Basic Mechanical Engineering	3	0	3
ETVPT-607		Packaging Tech-II	3	0	3
<b>OPEN ELECTIVE-III (Select any one)</b>					
ETVMS-611		Financial Accounting	3	0	3
ETVMS-613		Organizational Behaviour	3	0	3
ETVMS-615		Operations Research	3	0	3
ETVMS-617		Industrial Management	3	0	3
ETVMS-619		Managerial Economics	3	0	3
<b>PRACTICAL/VIVA VOCE</b>					
ETVPT-651		Digital Pre-press Technology Lab	0	3	3
ETVPT-653		Gravure Printing Technology Workshop	0	3	3
ETVPT-655		Basic Mechanical Engineering Workshop	0	3	3
ETVPT-657		Packaging Tech-II Lab	0	3	3
ETVPT-659		Industrial Training-II	0	2	4
<b>TOTAL</b>			<b>15</b>	<b>14</b>	<b>31</b>

**NOTE:**

There are five industrial trainings to be carried out by the student(s) in B.Voc course. Industrial Trainings I, III and V will be with weightage of two credits each. These trainings are to be carried out during winter vacations for the duration of two weeks. Industrial Trainings II and IV will be with weightage of four credits each. These trainings are to be carried out during summer vacations for the duration of four to six weeks. These training may be done from industry/Skill Knowledge Providers (SKPs) /Sector Skill Councils (SSCs) / Training Centers/Institutes. Student should submit training report during evaluation. Industrial Training done at the end of the semester will be evaluated in the subsequent semesters.

**BACHELOR OF VOCATION  
(PRINTING TECHNOLOGY)  
FOURTH SEMESTER EXAMINATION  
(LEVEL-VI)**

Paper Code	Paper ID	Paper	L	T/P	Credits
<b>THEORY PAPERS</b>					
ETVPT-602		Database Management System	3	0	3
ETVPT-604		Flexography and Screen Printing Technology	3	0	3
ETVPT-606		Digital Printing Technology	3	0	3
<b>CORE ELECTIVE-I (Select any one)</b>					
ETVPT-608		Packaging Technology-III	3	0	3
ETVPT-610		Book Publishing	3	0	3
ETVPT-612		E-Publishing	3	0	3
<b>OPEN ELECTIVE-IV (Select any one)</b>					
ETVCT-614		Global Warming & Climate Change	3	0	3
ETVMS-616		Entrepreneurship Development and Planning	3	0	3
ETVMS-618		Business Informatics	3	0	3
<b>PRACTICAL/VIVA VOCE (Select any one based on the theory)</b>					
ETVPT-658		Packaging Technology-III Lab	0	3	3
ETVPT-660		Book Publishing Lab	0	3	3
ETVPT-662		E-Publishing Lab	0	3	3
<b>PRACTICAL/VIVA VOCE</b>					
ETVPT-652		Database Management System Lab	0	3	3
ETVPT-654		Flexography and Screen Printing Technology Workshop	0	3	3
ETVPT-656		Digital Printing Technology Lab	0	3	3
ETVPT-664		Industrial Training-III/Field Work	0	0	2
ETVPT-666		Project-II	0	6	3
<b>TOTAL</b>			<b>15</b>	<b>18</b>	<b>32</b>

**NOTE:**

There are five industrial trainings to be carried out by the student(s) in B.Voc course. Industrial Trainings I, III and V will be with weightage of two credits each. These trainings are to be carried out during winter vacations for the duration of two weeks. Industrial Trainings II and IV will be with weightage of four credits each. These trainings are to be carried out during summer vacations for the duration of four to six weeks. These training may be done from industry/Skill Knowledge Providers (SKPs) /Sector Skill Councils (SSCs) / Training Centers/Institutes. Student should submit training report during evaluation. Industrial Training done at the end of the semester will be evaluated in the subsequent semesters.

**NOTE FOR PROJECT:**

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports.

**DIGITAL PRE-PRESS TECHNOLOGY**

**Paper Code: ETVPT-601**  
**Paper: Digital Pre-Press Technology**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** Every printed product is consisting of graphics and text. The composition of text and graphics are created, processed, designing work are done mostly in electronic digital environment now a days. This subject will cover the input systems, software involved, digital work flow, outputting and equipments used for the process.

**Learning outcome:** After completing this subject student will be able to know the process of text and graphics creation in a electronic digital environment, the system required for the process. Students shall be able to know specific application of various pre-press software, output the final pages, various intermediate conversion required for the process and its output through different equipments.

**UNIT-I**

**Colour systems** Desktop Computer System- **Processor**, Basic component.

**Display System**-Raster scan and random scan display, colour display, TFT, LED. bit depth and colour production,

**Storage system**-types of storage system-Magnetic, Optical. HD, CD/DVD, USB Flash drive, external HDD. Principle of read/write, deleting data.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II****Scanning and graphics input**

**Flat bed Scanner**-principle, optical resolution, image enlargement and reduction, gray scale and true colour scanning,

**Digital camera**- Principle, types, application.

**Internet-system**, component, application in printing. Colour correction,

**Colour separation**, basic steps of separation, Colour Look-up table

Desktop Publishing Softwares - Word processing, page make -up, graphic software-pixel based and vector based, other softwares, elements of vector image, features and applications of softwares. Digital font- PS, True type. Text and graphics integration.

**File format** of digital images- TIFF, PDF, JPEG, EPS. Image compression, Zip.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III****Digital Workflow and Post Script Language**

**Files**- component, consolidated, colour management, PostScript file creation, PDF file, Raster image processor, PS printer description file PS Levels, PS model (User space, device space), colour space - device dependent, device independent, PS colour processing, PS output devices. Difference between PS and PDF.

Networking, Network Infrastructure, OPI server, colour management system, Trapping, Outputting PS, EPS file.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-IV****File Output**

Items to check for output, link file and problems, fonts, EPS file editing, avoiding output problem, PS interpreter and raster image processing (RIP) and its function.

Basic concept of colour management.

Image proofing, Colour printer, Post script printer, Image setter, Plate setter.

[T1, T2, T3][No. of Hrs: 12]

**Text/Reference Book(s):**

[T1] Professional Pre-press, Printing & Publishing by Romano. Prentice Hall

[T2] Digital Colour Printing by B Chakravarty. Asian Books P Ltd

**GRAVURE PRINTING TECHNOLOGY**

**Paper Code: ETVPT-603**  
**Paper: Gravure Printing Technology**

L	T/P	C
3	0	3

**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** For faster printing works and jobs of huge quantities such as news-papers, magazines, package printing etc. , web fed machines are required. These machines are also suitable for multi-colour works. This subject deals with the operational features of presses of gravure printing. An understanding of application of these machines/processes is very essential for a vocational student.

Workings in printing industry are required to deal with different printing process and Gravure printing process is one of the important processes. Students are required to have a good knowledge and skills of operating these machines, and image carrier preparation. The subject deals with the different gravure printing machines, their operational units. Knowledge of recess printing process, its principle, consumables are pre-requisite for the subject.

**Learning outcome:** students after attaining the above subject knowledge will be able to know the gravure surface preparation, printing process with the skill to print on sheet fed and web fed machine.

**UNIT-I**

History of gravure printing, Gravure products and markets, publication gravure and product gravure. Gravure cylinder preparation; various methods like diffusion etch, direct transfer and electromechanical, Laser cutting, Chrome plating and its advantages, Defects in Gravure cylinder preparation and remedy, cell configuration, cylinder correction, well formation and variables.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II**

Balancing and re-use of cylinders.  
 Doctor blades; types, mounting, distance, angle etc.  
 Gravure impression roller; function, covering and pressure.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III**

**Gravure press:** Principle, kinds, sizes, classification, sheet fed and web fed.  
 Operational features of gravure machine, colour printing, registration control devices, folders, inking unit, doctor blade, drying system.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-IV**

Mounting of cylinder, minor corrections, pre-proofing, gravure package printing, changing and storage of gravure cylinders.  
 Trouble shooting printing defects with their causes and remedies like Drag out, haze, skipping, picking, screening, snow flaking, volcanoes. Gravure substrates; paper, non paper or filmic, foils.

[T1, T2, T3][No. of Hrs: 12]

**Text/ Reference Books:**

- [T1] Printing Technology by Adam, Faux, Reiber  
 [T2] Hand Book of Print Media, Published by Heidelberg

**BASIC MECHANICAL ENGINEERING**

**Paper Code: ETVPT-605**  
**Paper: Basic Mechanical Engineering**

L	T/P	C
3	0	3

**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** The purpose of introducing this subject in this course is to expose the student with the fundamental knowledge about some engineering materials, transmission of power by belts and gears, machine components like Cams, Gears, Coupling and Bearing used in the Printing machines and equipments like offset printing machine, gravure and flexo machine. Students shall be able to know various mechanism employed in mechanical systems. Basic workshop process like brazing soldering welding, fitted and machine operations like turning shaping grinding and drilling and working of wood working machines will further enrich the knowledge of student for practical application in the world of work. Basic knowledge physical science like force, power, motion, torque, Work done, machine elements etc. are required as pre-requisite.

**Learning outcome:** Students shall learn about engineering materials and its properties, mechanism of machines, power transmission system, basic workshop operation etc.

**UNIT-I**

Introduction to Engineering Materials, classification of materials, properties of material, Cast Iron, Steel, Alloy steel Iron-carbon diagram, purpose of Heat treatment, Heat treatment methods-Annealing, Normalizing, tempering, hardening methods, TTT diagram. Hook's Law, Stress –Strain diagram.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II****Mechanism**

Links, Kinetic Pair, Mechanism and Structure, Types of Kinetic Chain, Four bar linkages. Single slider Crank chain, Inversion of single slider crank, rocker arm mechanism, Slider crank, Inversion of single slider crank, swinging block; oscillating arm quick return mechanism; Pawl & Ratchet. Cams and followers-terminology and classification, Cam profile.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III**

Permanent and detachable fastening- bolts, nuts, screw, keys. Thread and its type. Studs and Rids Shaft couplings, Types of coupling, Flange and Flexible coupling, bearings, types of bearing, journal, Ball, roller and thrust bearing. Selection of bearing. Welding and its type, Brazing and Soldering.

**Machine operation-** Turning, shaping, grinding, drilling.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-IV****Transmission of Power**

Transmission of power through belt, Flat and U belts, rope and chain drive. Pulleys, Gears-gear terminology, spur gears, helical and bevel gears, rack and pinions, worm gears; Simple and epicyclic gear train, compound gear drive, velocity of ratio.

[T1, T2, T3][No. of Hrs: 12]

**Text/ Reference Book(s):**

- [T1] Material Science by O P Kanna
- [T2] Theory of Machine by R S Khurmi
- [T3] Elements of Mechanical Engineering by S B Mathur and S Domkundwar.
- [T4] Workshop Practice by Swam Singh

**PACKAGING TECH-II**

**Paper Code: ETVPT-607**  
**Paper: Packaging Tech-II**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** Packaging is an important aspect of modern printing and packaging business. A bulk Printing is done for packaging in the Printing Industry. Printing for packaging has emerged as an area of specialization. Hence this course has been included in the curriculum to impart basic knowledge of packaging technology to enable the student to apply the same in his professional career. Knowledge packaging concept, various hazards involved, package elements, materials required are pre-requisite for the subject.

**Learning outcome:** : students after attaining the above subject knowledge, will be able to know package design process, its testing, development, various packaging materials and its formation, packaging management concept.

**UNIT-I****Package Design and Testing:**

**Elements of Package Design:** Factors influencing design of a package, Packaging cycle, product package relationship, product life curve, Hazards on package, Tests on package - mechanical, climatic.

**Corrosion:** Types, cause, corrosion prevention methods.

Desiccants types, properties and applications,

**Cushioning materials:** Functions, properties. Classifications, cushion Design - Design procedure, cushion curve. Aerosols typical aerosol system, aerosol valve operation,

**Introduction to Plastic Moulding:** Conversion methods- Principles & Applications

Sheet Extrusion, Blown Film Extrusion & Co-extrusion, Blow Moulding, Injection Moulding, Injection Stretch Blow Moulding, Combined Forming, Thermoforming, Compression Moulding, Transfer Moulding, Vacuum Forming, Pressure Forming.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II****Packaging Materials**

Properties tensile strength & elongation, tear strength, impact strength, heat seal strength, coefficient of friction, haze and gloss, environmental stress crack resistance (ESCR), chemical properties, Melt Flow Index, Oxygen Transmission Rate, Gas Transmission Rate, Water Vapor Transmission Rate, Moulding processes.

**Adhesives and adhesive tapes** - types, properties and applications. Flexible packaging laminates: Purpose, properties of laminates structural, performance, barrier, aesthetics and other properties. Laminating processes wet bonding, dry bonding, hot-melt bonding. Specifying laminates, advantages of laminates.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III****Packaging Development**

Packaging in modern society, Packaging and marketing,

**Package Designers** role. packaging specifications,

**Quality Control** and quality assurance, Paper, Paper boards,

**Structural design** - Types of paper and paper board, Working with paper and boards, Folding cartons,

**Types and applications**, Corrugated containers, Designing and manufacturing,

testing corrugated containers, stacking strength, Rigid packaging: glass containers, aerosols, metal tubes, plastic tubes, and the aerosol can, Environmental: implications of packaging and Solid waste disposal, Packaging regulations, laws and regulations, recycling of packaging materials,

**Latest trends in packaging**- Advancements in package designing tools, Smart packaging technologies, Aseptic packaging, Advancements in packaging machineries.

[T1, T2, T3][No. of Hrs: 11]



**UNIT-IV****Packaging Management**

Packaging production planning and control:

Production planning, scheduling and control, material purchasing, inventory and quality control. Work allocation, scheduling dynamics. Packaging management solution and workflow JDF, PDF and CIP3/CIP4.

Equipment planning, investing and management. Packaging supply chain management: Introduction, objectives, decision phases, performance drivers and management strategy. Demand forecasting, Judgment techniques, Inventory control types, reasons, inventory models and control.ERP. Packaging

Quality Management: Introduction to quality and quality control, Scientific quality management tools, Value stream mapping, Packaging costing and work measurement: Quality and cost, Costs associated with packaging design, production and transportation,

Solid Waste Management

[T1, T2, T3][No. of Hrs: 12]

**Text/ Reference Book(s):****Packaging Design**

[T1] Sudhir Gupta: Hand Book of Packaging Tech, Engineers India Research Institute, New Delhi

[T2] Brody Aaron L, The Wiley Encyclopaedia of packaging Tech, John Wiley & Sons

**Packaging Material**

[T1] Natarajan S, Fundamentals of Packaging Tech, PHI, New Delhi

**Management**

[T1] Martand T Telsang: Production Management, S Chand & Co.

**Packaging Design and Development**

[T1] Hanlon Joseph F: hand Book of Package Engineering

[T2] Prakash Shetty: Science and Technology of Printing Materials, MJP Publisher



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**FINANCIAL ACCOUNTING**  
**(Open Elective-III)**

**Paper Code: ETVMS-611**  
**Paper: Financial Accounting**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objectives & prerequisites:** *The primary objective of the course is to familiarize the students with the basic accounting principles and techniques of preparing and presenting the accounts for user of accounting information.*

**UNIT-I**

**Meaning and Scope of Accounting:** Objectives and Nature of Accounting, Definition and Functions of Accounting, Book Keeping and Accounting, Interrelationship of Accounting with other Disciplines, Branches of Accounting, Limitation of Accounting, Accounting Equation.

**Accounting Principles and Standards:** Accounting Principles, Accounting Concepts and Conventions, Accounting cycle system of accounting Introduction to Accounting Standards Issued by ICAI.

**Journalizing Transactions:** Journal, Rules of Debit and Credit,

**Sub Division of Journal:** Cash Journal, Petty Cash Book, Purchase Journal, Purchase Return, Sales Journal, Sales Return Journal, Voucher System.

[T1][No. of Hrs. 11]

**UNIT-II**

**Ledger Posting and Trial Balance:** Ledger, Posting, Rules Regarding Posting, Trial Balance. Capital and Revenue: Classification of Income, Classification of Expenditure, Classification of Receipts, Difference between Capital Expenditure & Capitalized, Expenditure.

**Inventory Valuation:** Meaning of Inventory, Objectives of Inventory Valuation, Inventory Systems, Methods of Valuation of Inventories,

**Depreciation Provisions and Reserves:** Concept of Depreciation, Causes of Depreciation, Basic Features of Depreciation, Meaning of Depreciation Accounting, Objectives of Providing Depreciation, Fixation of Depreciation Amount, Method of Recording Depreciation, Methods of Providing Depreciation, Depreciation Policy, AS-6 (Revised) Provisions and Reserves, Change of Method of Depreciation (by both Current and Retrospective Effect).

[T2][No. of Hrs. 11]

**UNIT-III**

**Shares and Share Capital:** Introduction to Joint Stock Company, Shares, Share Capital, Accounting Entries, Under Subscription, Oversubscription, Calls in Advance, Calls in Arrears, Issue of Share at Premium, Issue of Share at Discount, Forfeiture of Shares, Surrender of Shares, Issue of Two Classes of Shares, Right Shares, Re-issue of Shares.

**Debentures:** Classification of Debentures, Issue of Debentures, Different Terms of Issue of Debentures, Writing off Loss on Issue of Debentures, Accounting Entries, Redemption of Debentures.

[T1][No. of Hrs. 11]

**UNIT-IV**

**Company Final Accounts:** Preparation of Final Accounts, Manufacturing Account; Trading Account, Profit and Loss Account; Balance Sheet (with adjustments), Contents of Corporate Annual Reports with Annexures.

[T2][No. of Hrs. 12]

**Text Book(s):**

[T1] Tulsian, P.C., (2015), *Financial Accountancy*, Pearson Education.

[T2] Maheshwari, S.N. and Maheshwari, S. K., (2015), *An Introduction to Accountancy*, Vikas Publishing House.

**Reference Book(s):**

[R1] Bhattacharyya, Ashish K., (2015), *Essentials of Financial Accounting*, Prentice Hall of India.

[R2] Rajasekran, (2015), *Financial Accounting*, Pearson Education.

[R3] Bhattacharyya, S.K. and Dearden, J., (2015), *Accounting for Manager – Text and Cases*, Vikas Publishing House.

[R4] Glautier, M.W.E. and Underdown, B., (2015), *Accounting Theory and Practice*, Pearson Education.

**ORGANIZATIONAL BEHAVIOR**  
**(Open Elective-III)**

**Paper Code: ETVMS-613**  
**Paper: Organizational Behavior**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

*Objective: The aim of this paper is to provide managerial skills in the students.*

**UNIT-I**

Introduction: Concept and nature of Organizational Behaviour; Contributing disciplines to the field of O.B.; O.B. Models; Need to understand human behaviour; Challenges and Opportunities, Management functions, Tasks and responsibilities of a professional manager; Managerial skills.

**[T1, T2][No. of Hrs. 11]**

**UNIT-II**

Individual & Interpersonal Behaviour: Biographical Characteristics; Ability; Values; Attitudes-Formation, Theories, Organization related attitude, Relationship between attitude and behaviour; Personality – determinants and traits; Emotions; Learning-Theories and reinforcement schedules, Perception –Process and errors.

**[T1, T2][No. of Hrs. 11]**

**UNIT-III**

Organization Structure and Process: Organizational climate and culture, Organizational Structure and Design, Managerial Communication, Motivation, Stress and its management, Decision Making: Organizational Context of Decisions, Decision Making Models; Problem Solving.

**[T1, T2][No. of Hrs. 11]**

**UNIT-IV**

Interactive Aspects of Organizational Behaviour: Interpersonal Behaviour: Johari Window; Transactional Analysis – ego states, types of transactions, life positions, applications of T.A, Group Dynamics; Management of Organizational Conflicts; Leadership Styles.

**[T1, T2][No. of Hrs. 12]**

**Text Book(s):**

- [T1] Luthans Fred., “Organizational Behaviour”, McGraw Hill, 2010, 12th ed.  
[T2] Robbins & Judge (15th ed.), “Essentials of Organizational Behaviour”, Pearson 2012.

**References Book(s):**

- [R1] Stoner, R. James A.F., Edward Freeman Daniel R Gilbert Jr., Management 6TH Ed, PHI  
[R2] George, J. M. & Jones, G.R. (2009). Understanding and Managing Organizational Behaviour, 5th Edition, Pearson Education.  
[R3] Green Berg, J. and Baron, R.A. (2008), Behaviour in Organization. Prentice Hall of India.  
[R4] Mcshane, S.L., Von Glinow, M.A., Sharma, R.R. (2006) Organizational Behaviour. Tata McGrawHill

**OPERATIONS RESEARCH**  
**(Open Elective-III)**

**Paper Code: ETVMS-615**  
**Paper: Operations Research**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

*Objective: The objective of the paper is to acquaint the student with mathematical techniques being adopted in industry which help managers in decision taking.*

**UNIT-I**

**Linear Programming:** Formulation of LP Problem. Graphical method, Simplex method for maximization and minimization LP Problems. Duality in Simplex Problems,

**Queuing Theory:** Introduction to probability concept for queuing problems. Basic structure, Terminology, Classification, Birth and Death Process. Queuing Models.

[T1][No. of Hrs. 11]

**UNIT-II**

**Transportation Models:** MODI method for optimality check, North West Corner Method, Least-cost Method and Vogel's Approximation Method (VAM) for solving balanced and unbalanced transportation problems. Problems of degeneracy and maximization.

**Assignment Models:** Assignment model for maximization & minimization problems. Travelling Salesman Problems, Industrial Problems.

[T2][No. of Hrs. 11]

**UNIT-III**

**Sequencing Theory:** Processing of n-jobs through m-machines with each job having same processing order. Processing of two jobs through m-machines with each job having different processing order.

**Decision Theory:** Decision making under uncertainty and under risk, Multistage decision making, Multi criteria decision making.

[T1][No. of Hrs. 11]

**UNIT-IV**

**Network Models:** Introduction to PERT and CPM. Fundamental concept of Network models and construction of network diagrams. Activity time estimates. Critical path and project time duration. Probability of completing the project on or before specified time. Concept of Float and slack.

**Game Theory:** Two person zero-sum games. Minimax and Maximin principle. Arithmetic, Algebraic, Matrix Algebra method. Solution by Dominance, Subgame, Graphical method, Linear programming method.

[T2][No. of Hrs. 12]

**Text Book(s):**

- [T1] Hira and Gupta, "Operation Research" S. Chand Publications  
[T2] H.A. Taha, "Operations Research", Prentice-Hall India, 6th Edition, 2004.

**Reference Book(s):**

- [R1] S.Kalavathy, "Operations Research", Vikas Publication, 4th Edition, 2013.  
[R2] N.D. Vohra, "Operations Research", Tata McGraw Hill, 2004.  
[R3] Richard Bronson, Govindasami Naadimuthu, "Operations Research", Tata McGraw Hill, 2004  
[R4] A.P. Verma, "Operations Research", S.K. Kataria & Sons, 2004.  
[R5] J.K. Sharma, "Operation Research", Macmillan India Ltd. 2005.

**INDUSTRIAL MANAGEMENT**  
**(Open Elective-III)**

**Paper Code: ETVMS-617**  
**Paper: Industrial Management**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

*Objective: The course provides a broad introduction to some aspects of business management and running of business organization.*

**UNIT-I**

**Industrial relations-** Definition and main aspects. Industrial disputes and strikes. Collective bargaining.

**Labour Legislation-** Labour management cooperation/worker's participation in management. Factory legislation. International Labour Organization.

[T1, T2][No. of Hrs. 11]

**UNIT-II**

**Trade Unionism-** Definition, Origin, Objectives of Trade Unions. Methods of Trade unions. Size and finance of Indian Trade unions-size, frequency distribution, factors responsible for the small size. Finance-sources of income, ways of improving finance.

[T1, T2][No. of Hrs. 11]

**UNIT-III**

**Work Study-**Method study and time study. Foundations of work study. Main components of method study. Time study standards. Involvement of worker's unions. Work Sampling. Application of work study to office work.

[T1, T2][No. of Hrs. 11]

**UNIT-IV**

**Quality Management-** What is Quality? Control Charts. Quality is everybody's job. Taguchi Philosophy. Service Quality. What is Total Quality Management (TQM)? Roadmap for TQM. Criticism of TQM. Six Sigma.

[T1, T2][No. of Hrs. 12]

**Text Book(s):**

- [T1] Sinha, P.R.N., Sinha I.B. and Shekhar S.M.(2013), Industrial Relations, Trade Unions and Labour Legislation. Pearson Education
- [T2] Chary, S.N. (2012), Production and Operations Management. Tata McGraw Hill Education.

**Reference Books:**

- [R1] Srivastava, S.C. (2012), Industrial Relations and Labour Laws, Vikas Publishing
- [R2] Shankar R (2012), Industrial Engineering and Management. Galgotia Publications
- [R3] Telsang, M. (2006), Industrial Engineering and Production Management. S.Chand
- [R4] Thukaram, Rao (2004), M.E. Industrial Management. Himalaya Publishing House.

**MANAGERIAL ECONOMICS**  
**(Open Elective-III)**

**Paper Code: ETVMS-619**  
**Paper: Managerial Economics**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objectives:** The objective of this subject is to give understanding of the basic concepts and issues in economics and their application in business decisions.

**UNIT-I**

**Introduction:** Nature, Scope and Significance of Managerial Economics, its Relationship with other Disciplines, Role of Managerial Economics in Decision Making; Opportunity cost Principle, Production Possibility Curve, Incremental Concept, Cardinal and Ordinal Approaches to Consumer Behaviour: Equi-marginal principle, Law of Diminishing Marginal Utility, Indifference curve Analysis.

[T1][No. of Hrs. 11]

**UNIT-II**

**Demand Analysis and Theory of Production:** Demand Function, Determinants of Demand, Elasticity of Demand, Demand Estimation and Forecasting, Applications of Demand Analysis in Managerial Decision Making; Theory of Production: Production Function, Short Run and Long Run Production Analysis.

[T2][No. of Hrs. 11]

**UNIT-III**

**Theory of Cost and Market Structures:** Traditional and Modern Theory of Cost in Short and Long Runs, Economies of Scale and Economies of Scope; Market Structures: Price-Output decisions under Perfect Competition, Monopoly, Monopolistic Competition.

[T1][No. of Hrs. 11]

**UNIT-IV**

**Introduction to Macro Economics:** Nature and Importance; Economic Growth and Development, Methods of Measurement of National Income; Inflation: meaning, Theories, and Control measures.

[T2][No. of Hrs. 12]

**Text Book(s):**

- [T1] Samuelson, Paul and Nordhaus, William, (2016), *Economics*, McGraw Hill Education.  
[T2] Dwivedi, D.N., (2015), *Managerial Economics*, Vikas Publishing House.

**Reference Book(s):**

- [R1] Salvatore, Dominick, (2015), *Managerial Economics in a Global Economy*, Oxford University Press.  
[R2] Kreps, David, (2015), *MicroEconomics for Managers*, Viva Books Pvt. Ltd.  
[R3] Peterson, Lewis and Jain, (2016), *Managerial Economics*, Pearson Education.  
[R4] Colander, David, C., (2015), *Economics*, McGraw Hill Education.

**DIGITAL PRE-PRESS TECHNOLOGY LAB****Paper Code: ETVPT-651****Paper: Digital Pre-Press Technology Lab**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>0</b>	<b>3</b>	<b>3</b>

**Note:-** The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.

**List of Experiments:**

1. Production of text, table and tabular matter in Page make-up software- Page maker, Quark Xpress.
2. Text wrap, automatic page make-up, graphics integration
3. Creating colour pages
4. Scanning of photograph and colour correction in Photoshop, Proofing
5. Designing of Logos, Pages including cover pages in Coral Draw/other design software
6. Design of Book, Magazine cover, Advertisement etc. in Design software.
7. Page make-up
8. File compression and transporting
9. Film output of pages
10. Digital printing output
11. Plate setter output
12. Handling and Care of Printers and others systems.



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**GRAVURE PRINTING TECHNOLOGY WORKSHOP****Paper Code: ETVPT-653****L T/P C****Paper: Gravure Printing Technology Workshop****0 3 3**

**Note:-** *The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.*

***List of Experiments:***

1. Safety precautions to be observed in lab.
2. Study of various gravure printing machines
3. Study of various components
4. Cylinder transport system and mounting of cylinder
5. Pre-make ready of Gravure machine
6. Make ready of feeding system
7. Make- ready of gravure machine
8. Surface preparation for gravure machine with Electromechanical process
9. Surface preparation for gravure machine with laser cutting process
10. Taking proof in proof press
11. Cylinder correction.
12. Printing on different substrate.
13. Make- ready of gravure machine
14. Study of different running on problems and trouble shooting



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**



**BASIC MECHANICAL ENGINEERING WORKSHOP****Paper Code: ETVPT-655****L T/P C****Paper: Basic Mechanical Engineering Workshop****0 3 3**

**Note:-** The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.

***List of Experiments:***

1. Study of Heat treatment process
2. Study of metallurgical microscope
3. Study of four bar chain mechanism and its inversion
4. Study of different types of Cams/followers (Spatial cam, eccentric cam, Plate cam, Cylinder)
5. Construction of Cam Profile on drawing sheet
6. Study of gears- spur, helical, bevel gear and differential gear tooth meshing.
7. Study of various drives for transmission of powers. Model of belts, pulleys, chains.
8. Study of Mechanical Joints- permanent and temporary and its elements.
9. Study of mechanical system for rotating shaft/cylinder.

**Workshop Practice**

1. Introduction to Lathe, Job Mounting, and Tool holding devices
2. Turning practice-Straight and Step turning
3. Study and practice on Carbon arc welding
4. Study and practice on gas welding
5. Practice on shaping machine



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**PACKAGING TECH-II LAB**

**Paper Code: ETVPT-657**  
**Paper: Packaging Tech-II Lab**

L	T/P	C
0	3	3

**Note:-** The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.

**List of Experiments:**

1. Cushion Factor determination
2. Fragility factor determination
3. Drop test
4. Vibration test
5. Rolling test
6. Inclined impact test
7. Rain test
8. Tensile and percentage elongation
9. Tear propagation
10. Izod impact test
11. Heat seal strength
12. Coefficient of friction
13. Environmental stress crack resistance
14. Haze and Transparency
15. Gloss



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**DATABASE MANAGEMENT SYSTEM****Paper Code: ETVPT-602****Paper: Database Management System**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and Pre-requisite:** The objective of the paper is to facilitate the student with applied working knowledge of data management in computer environment. Electronic and digital Pre-press technology use a number of software for page composition, designing, graphics editing, final page making and printing. Digital printing and on demand printing require the direct access of files for printing from computer to suitable substrate through printer. The subject shall deal with data management and controlling.

**Outcome:** Basic knowledge of computer, software, operating system which students have already got the knowledge at first year. This subject shall deal with method of organizing huge volume of data in terms of storage and retrieval. Duplication of information, data security to prevent data loss by means of power failure, unwanted external interruption, and unauthorized access on the data base. Handling of multiple request as a back end tool and open data base.

**UNIT-I****Introduction to Databases and Transactions:**

What is database system, purpose of database system, view of data, relational databases, database architecture, transaction management.

**Data Models:**

The importance of data models, Basic building blocks, Business rules, the evolution of data models, Degrees of data abstraction.

**[T1, T2][No. of Hrs. 11]****UNIT-II****Database Design, ER Diagram and Unified Modelling Language:**

Database design and ER Model overview, ER Model, Constraints, ER-Diagrams, ERD Issues, weak entity sets, Codd's rules, Relational Schemas, Introduction to UML

**Relational Database Model:** Logical view of data, keys, integrity rules.

**Relational Database Design:** Features of good relational database design, atomic domain and Normalization (1NF, 2NF, 3NF, BCNF).

**[T1, T2][No. of Hrs. 11]****UNIT-III****MS- Access:**

Database Basics, Working with Database Objects, Tour of a Table, Adding, Editing and Deleting Records, Tour of a Form, Tour of a Query, Tour of a Report, Previewing and Printing a Database Object, Selecting Data Cutting, Copying and pasting Data Using Undo and Redo, Checking Your Spelling, Using the Zoom Box.

**[T1, T2][No. of Hrs. 11]****UNIT-IV****Finding, Filtering and Formatting Data:**

Finding and Replacing Data, Sorting Records, Using Common Filters, Filtering by Selection, Filtering by Form, Creating an Advanced Filter, Adjusting and Rearranging Rows and Columns, Changing Gridline and Cell Effects, Changing the Datasheet Font, Freezing a Column.

**[T1, T2][No. of Hrs. 12]****Text/ Reference Book(s):**

[T1] Database System concepts by Abraham Silver Schatz

[T2] Fundamentals of Database Systems by Elmasri and S Navathe.

**FLEXOGRAPHY AND SCREEN PRINTING TECHNOLOGY****Paper Code: ETVPT-604****L T/P C****Paper: Flexography and Screen Printing Technology****3 0 3****INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** For faster printing works and jobs such as package printing, labels, stationery etc. Flexography printing is used widely. These machines are also suitable for multi-colour works. Screen printing is also used for printing on small size substrate and three dimensional surfaces can be printed by this process. This subject deals with the operational features of presses of Flexographic machine and Screen printing machine. An understanding of application of these machines/processes is very essential for a vocational student.

Working in printing industry is required to deal with different printing process and Flexography printing process is one of the important processes. Screen printing is also used for wide range of substrate and efficient for printing of small quantity. Students are required to have a good knowledge and skills of operating these machines, and image carrier preparation for these printing processes. The subject deals with the flexographic printing machines, their operational units. Knowledge of relief printing process, its principle, consumables are pre-requisite for the subject.

**Learning outcome:** students after attaining the above subject knowledge will be able to know the Flexographic surface preparation, printing process with the skill to print on Flexographic machine. In addition they will be able to know preparation of image carrier for screen printing and its equipments and machineries.

**UNIT-I****Introduction to Flexography:** Definition, history, market**Flexography Plate Making:** Both rubber flexographic plates and polymer plate making. Kinds and methods of preparation, care and handling, Defects in flexography plate making and remedy. Mounting of flexography plates. Latest trends in flexo surface preparation.**[T1, T2, T3][No. of Hrs: 11]****UNIT-II****Screen Printing Surface Preparation:** Basic concept, classification of stencils, screen fabrics, frame preparation, fabric treatment, type of stencils, brief outlines of preparing hand cut stencils, touché and glue method and photographic stencils.**[T1, T2, T3][No. of Hrs: 11]****UNIT-III****Flexography Printing;** Principle, kinds, configuration-stack, common impression, in-line, tension control, sizes of flexo machines.

Basic parts of flexo machine, fountain, anilox inking, reverse angle doctor blade, plate cylinder, impression cylinder, registration control and drying system.

Safety devices and quality control

Trouble shooting printing defects with their causes and remedies like pin holing, halo, etc.

**[T1, T2, T3][No. of Hrs: 11]****UNIT-IV****Screen Printing;** Introduction to manual printing, make ready and printing on semi automatic machines, Automatic machine, Cylindrical screen, 3D surface printing.

Troubleshooting clogged screens, care and storage of screens, screen inks, its kinds, and ink drying methods.

**[T1, T2, T3][No. of Hrs: 12]****Text/ Reference Book(s):**

[T1] Printing Technology by Adam, Faux, Reiber

[T2] Hand Book of Print Media, Published by Heidelberg

**DIGITAL PRINTING TECHNOLOGY**

**Paper Code: ETVPT-606**  
**Paper: Digital Printing Technology**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** The latest technology use the direct printing on paper or other substrate from a output device. The digital printing technology is different from a conventional process of printing. Once the page is finalized the computer is capable to print on required substrate in multiple copies with the use of toner. This subject will cover various process of digital printing, consumables required for the process.

**Learning outcome:** After completing this subject students will be able to know the various digital printing process, digital printing machineries and use of consumables for the process, its merits and demerits. Also they will learn the scope and application of digital printing.

**UNIT-I**

**Digital Colour Management:** Colour reproduction, source and destination profile, obtaining profile, adjusting profile, device calibration, process of calibration of devices, device dependent profile, device independent colour space, colour lookup tables, PS colour processing, CIE based colour space

**Digital Proofing:** technologies used for digital proofing, hard proofing, soft proofing, halftones simulation (dot proofing), remote proofing, preflight.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II**

Digital printing technologies overview of digital printing Defining digital printing processes- electrostatic printing, ink-jet (thermal, piezoelectric, continuous), phase change, computer-to-press (direct imaging DI) etc.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III**

Ink jet ink Dry toner/ liquid toner  
 Printing substrate

**Digital Printing Machines:** The Xeikon digital press and Indigo E-print 1000

Problems of digital machines

Limits of toner based technology.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-IV**

**Variety of Applications:** customization and direct marketing, Print-on-Demand (POD), variable data printing (VDP), wide-format printing, specialty applications (particularly of inkjet) like 3D printing

**Trends in Digital Printing:** evolution of technologies, promising developments (e.g. Xerox iGen3, HP Z-series inkjet printers with in-built spectrophotometer etc), future trends, eco-friendliness.

[T1, T2, T3][No. of Hrs: 12]

**Text/ Reference Book(s):**

[T1] Professional Pre-press, Printing & Publishing by Romano. Prentice Hall

[T2] Digital Colour Printing by B Chakravarty. Asian Books P Ltd

**PACKAGING TECHNOLOGY-III**  
**(Core Elective-I)**

**Paper Code: ETVPT-608**  
**Paper: Packaging Technology-III**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

***Objective and pre-requisite:** Packaging is an important aspect of modern printing and packaging business. A bulk packaging is done for food packaging. Hence this subject has been included in the curriculum to impart basic knowledge of biological effect, preservation, food packaging technology, materials. Knowledge of packaging concept, various hazards involved, package elements, materials required are pre-requisite for the subject.*

***Learning outcome:** Students after attaining the above subject knowledge, will be able to know biological aspect of food packaging, its preservation, food packaging materials etc.*

**UNIT-I**

**Introduction:**

Packaging design and development, Packaging specifications and standards, **Package Design using computers**

**Food Bio deterioration and Methods of Preservation**

Introduction, Agents of food bio deterioration, Enzymes, Microorganisms, Non-enzymic bio-deterioration

Food preservation methods, High temperatures, Low temperatures, Drying and water activity control, Chemical preservation, Fermentation,

**Modified atmosphere Packaging (MAP), Controlled atmosphere packaging (CAP)**

Other techniques and development.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II**

**Packaged Product Quality and Shelf Life:**

Introduction, Factors affecting product quality and shelf life, Chemical/biochemical processes, Oxidation, Enzyme activity Microbiological processes, Examples where packaging is key to maintaining microbiological shelf life, Physical and physico-chemical processes, Physical damage, Insect damage, Moisture migration, Barrier to odour pick-up, Flavour scalping, Migration from packaging to foods, Migration from plastic packaging, Migration from other packaging materials, Factors affecting migration from food contact materials, Packaging selection to control migration and packaging taints, Methods for monitoring migration.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III**

**Metal Packaging:**

Overview of market for metal cans, Container performance requirements, Container designs, Raw materials for can-making, Steel, Aluminium, How steel and aluminium are used in metal packaging

Can-making processes, Three-piece welded cans, Two-piece single drawn and multiple drawn (DRD) cans, Two-piece drawn and wall ironed (DWI) cans, Two-piece impact extruded cans, Coatings, film laminates and inks, Processing of food and drinks in metal packages

**Plastics in Food Packaging**

Introduction, Use of plastics in food packaging, Types of plastics used in food packaging, Manufacture of plastics packaging Introduction to the manufacture of plastics packaging, Plastic film and sheet for packaging, Pack types based on use of plastic films, laminates, etc., Rigid plastic packaging.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-IV****Plastics in Food Packaging:****Types of plastic used in packaging,**

Polyethylene (PE), Polypropylene (PP), Polyethylene Terephthalate (PET or PETE), Polyethylene naphthalene dicarboxylate (PEN), Polycarbonate (PC), Ionomers, Ethylene vinyl acetate (EVA), Polyamide (PA), Polyvinyl chloride (PVC), Polyvinylidene chloride (PVdC), Polystyrene (PS), Styrene butadiene Rubber (SBR), Acrylonitrile butadiene styrene (ABS), Ethylene vinyl alcohol (EVOH), Polymethyl pentene (TPX), High nitrile polymers (HNP), Fluoropolymers, Cellulose-based materials, Polyvinyl acetate (PVA)

**Coating of plastic films:** Types and properties, Introduction to coating, Acrylic coatings, PVdC coatings, PVOH coatings, Low-temperature sealing coatings (LTSCs), Metallising with aluminium, SiO<sub>x</sub> coatings, DLC (Diamond-like coating), Extrusion coating with PE Secondary conversion techniques, Film lamination by adhesive, Extrusion lamination, Thermal lamination.

[T1, T2, T3][No. of Hrs: 12]

**Text/ Reference Book(s):**

[T1] Food and Beverage Packaging Tech, Second Edition, Wiley-Blackwell Publishing

[T2] Anne Emblem and Henry Emblem: Packaging Tech Fundamentals, Materials and Process, Woodland Publishing Ltd.



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**BOOK PUBLISHING**  
**(Core Elective-I)**

**Paper Code: ETVPT-610**  
**Paper: Book Publishing**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** A major application of printing is in the area of publication printing like books, magazine, periodicals etc. It is important to make understand about types of publications, activities and editorial process, publication norms, laws, production, pricing etc. Typography, layout design, size of publication, printing process etc. are pre-requisite for the subject.

**Learning outcome:** Students will be able to know types of publication, editorial process and activities, publication norms and related laws, production and pricing etc.

**UNIT-I**

**Publishing House:**

Definition and concept, parts of a book, basic steps in book publishing, areas of publishing - general publishing, educational publishing, professional publishing and reference publishing.

**Publishing House:** The role of commissioning editor, the desk editor, the designer, the production manager, the sale/marketing manager, the publicity manager, the warehouse or distribution department, the accounts department, the management.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II**

**Kinds of Publishing:**

Standard and non-standard format of a book, copy preparation, Typography, Publishing of different kinds of books, magazines, journals, newspapers etc., Press Organization

**Hierarchy:** Editorial organization, mechanical aspects of organization - composition, printing, basic operations business aspects of organization, flowcharts of staff in organization.

**Editorial Process:**

Role of editor in publishing, types of editors, editorial process, editorial functions, editorial techniques, basic requirements of editors, editor-author relationship. Magazines: Definition, Types. Developing the magazine, Editorial concepts, Article editing, Selection of write-ups, photographs and arts, Production planning, Wraps, Inserts and tip-ins, Different types of cover and their procedures, requirements and problems, author – publisher relationship.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III**

**Production of Books:**

Definition and formats of books Designing the text, Preparing illustrations, Preparing covers and jackets, Typesetting the text, , designing , lay-outing and preparation of graphics, illustrations, house style, originating and making up the illustrations, Arranging for final films and CRC, Proofing the cover or jacket, Choosing and using paper, selection of production process, selection of paper , styles of binding. Selection of printer, Printing the book (printing processes and print quality control), Inks, Binding styles, Finishing operations, coordination with editorial and sales.

**Pricing and Cost Estimation**

Pricing formula, preparation of preliminary cost estimates and final costing, gestation period and break-even-point calculation.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-IV**

**Promotion, Marketing and Distribution:**

Dispatch and distribution. Circulation and Advertisement departments, distribution channels.



Types of markets, promotion and marketing techniques, publicity campaigns, import and export of books, book review, role of wholesales bookshops, GOC (good offices committees) book sellers associations and book fairs, methods of distribution, their characteristics and economics.

**Subsidy Schemes:**

Importance and need of subsidy in publication of books, subsidy schemes, salient features of subsidy schemes and the process of getting subsidy.

**Publishing Laws:**

Imprint, ISBN, copyright, public domain and other laws relating to publishers, royalty and commission agreements between author/distributors and publishers.

[T1, T2, T3][No. of Hrs: 12]

**Text/ Reference Books:**

- [T1] An Introduction to Book Publishing by D. Raghavan
- [T2] The Book Publishing Manual by M.N. Rao.
- [T2] The Book Industry in India Edited by Sukumar Das



**E-PUBLISHING**  
**(Core Elective-I)**

**Paper Code: ETVPT-612**  
**Paper: E-Publishing**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** A major publications like books, magazine, news paper etc. now a days are made online. It is important to make understand about online publishing process, elements of online publishing, editorial process, publishing norms, laws etc. Typography, layout design, computer fundamentals etc. are pre-requisite for the subject.

**Learning outcome:** Students will be able to know online publishing process, creating elements of publishing, editorial process and activities, publication norms and related laws etc.

**UNIT-I**

**Fundamental of Publishing & Publication Media:** Publishing Process, Standards, Publishers' and Metadata. Offline, Online and hybrid publication

**Media Content and content formats:** Types, Text, Formats. E-publishing Models.

**E-Book:** E-book content, delivery formats, components, producing E-books, E-books and metadata, E-books and encryption, managing E-book content.

**Digital Library:** Scope, Uses, Challenges, Features, Formats.

**Digital Asset Management:** Systems, Functionality, Infrastructure, Types, and Benefits.

**Document Management System:** Capture, Indexing & Retrieval, Annotations, Storage and Archival, Distribution and workflow.

**Digital Rights Management:** Aim, Need, Legal requirements, Approach, Challenges, Limitations, Applications, Process.

**Intellectual Property Rights and Copyrights:** Issues, Contracts, Challenges and applications. E-publishing formats: HTML, SGML, XML, PDF and Latex. Media Law and Ethics.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-II**

**Graphics and Web Designing:**

Multimedia and components, Overview of Multimedia Software Tools, Music Sequencing and Notation, Digital Audio Graphics and Image Editing, Video Editing, Animation, Multimedia Authoring Multimedia drawing algorithms, Filling algorithms, clipping algorithms, 3D graphics, 3D modelling, Transformations. Image and its representation, Colour Images, Colour System, Popular File Formats Basics of Digital Audio, Fundamental Concepts in video, Types of Video Signals, Chroma Sub-sampling Video standards Multimedia Data Compression, Basics of Information theory, basic lossless and lossy compression techniques, JPEG, Basic Video Compression Techniques, MPEG I, MPEG II, Multimedia Communication, Computer and Multimedia Networks, Basics of Computer and Multimedia Networks, Multimedia over IP. Multimedia Application Development, Software life cycle, Conceptualization, Content Collection and Processing, Story, Flow line, script, story board, Implementation, authoring metaphors, testing and feedback case study.

[T1, T2, T3][No. of Hrs: 11]

**UNIT-III**

**Newspaper Technology:**

**Editorial Workflow:** Introduction to newspaper organization. The policy of newspaper. Flow of stories into a newspaper office; the various sources for each page. Human Resource for Newspaper Organization. Facsimiles copy & photographs. Editorial content and news. The OP-ED page. Newspaper layout & design: The language of Layout & Design. Laying out pages. Working in modules. Elements of newspaper. Specialized applications incg design. Quality control of Newsprint: Structural, optical and mechanical characteristics and testing. Establishing quality control system. ISO 9000 and SNAP. Newsprint Management: Reel and Core Characteristics. Reel Handling, transport and Storage. Web handling: Reel stands, components, operation and web control devices. Press: Configurations and settings. Standardization and optimization. Digital presses. Press folders & Mailroom: Folders- Configuration and setting. Mailroom operations.

[T1, T2, T3][No. of Hrs: 11]

Scheme and Syllabi for B. Voc. (Printing Technology)(2<sup>nd</sup> year) w. e. f. batch 2016-17, approved in the BOS of USET/USICT held on 19<sup>th</sup> July, 2016 & AC Sub Committee Meeting of USET/USICT held on 27<sup>th</sup> July, 2016.

**UNIT-IV****Publishing Science:**

Publishing and its process, Types of Publishing,

**Media:** Writing for mass media, styles of reporting, editorials, features. Components of a story,

**Design & Editing:** Significance, techniques and functions. Editing tools and symbols for mass media. Advertising Key Principles for promotional writing, Specialized reporting for Science and technology.

**Publishing Laws:** Types of Publishers,

**Legal Issues:** Intellectual Property Rights, Copy Rights, Trademark, Privacy Policies, Licensing, Memorandum of Understanding. Plagiarism and other malpractices. Electronic media versus print media. Case study. Recent advances and future trends in publishing.

[T1, T2, T3][No. of Hrs: 12]

**Text/ References Book(s):**

- [T1] Carina Rogobete, Georg Peters and Jan Seruga, "Cross Media and E-Publishing", International Journal of u- and e- Service, Science and Technology Vol. 5, No. 2, 2012.
- [T2] "Electronic Publishing: Impact of ICT on Academic Libraries", ArchanaSaxena, ICAL, 2009.
- [T3] Document Management Overview, "Document Imaging in the new millennium", Compulink Management Center, Inc., 2007.
- [T4] "Intellectual Property Rights Issues of Digital Publishing - Presence and Perspectives", Hamburg University, Script-ed, Volume 2, Issue 2, 2005.
- [T5] Wayne Overbeck and Genelle Belmas, "Major Principles of Media Law", Wadsworth - Cengage Learning, USA, 2010



GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY

**GLOBAL WARMING & CLIMATE CHANGE**  
**(Open Elective-IV)**

**Paper Code: ETVCT-614**

**Paper: Global Warming & Climate Change**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 12.5 marks.

**Objectives & Pre-requisites:** To study concepts of global warming & climatic change. To study factors responsible for global warming, impact of climatic change, national and international policies. To study and understand Kyoto mechanism. Basic knowledge of environmental studies subject is a pre requisite.

**Learning outcomes:** Understanding of philosophy of global warming and climatic change. Able to realize the factors responsible for global warming and corresponding climatic change. Understanding the importance and nuances of Kyoto mechanism.

**UNIT-I**

**The Climate system:** Sun, Atmosphere, Ocean, Ice and energy balance of the earth, history of climate change, human-caused climate change, impacts of climate change on human well-being and the natural world.

[T1, T2][No. of Hrs. 11]

**UNIT-II**

Key concepts of global warming, climate change, greenhouse gas effect, Interrelationship between these three phenomenon, Green-House Effect as a Natural Phenomenon and increase in Greenhouse gas effect because of anthropogenic activities, Green House Gases (GHGs) and their Emission Sources, Global Warming Potential (GWP) of GHGs, Past Present and Future trends of global warming.

[T1, T2][No. of Hrs. 11]

**UNIT-III**

Impacts of climate change Extreme weather events, Temperature Rise, Sea Level rise, Coastal Erosion and landslides; future impacts of global warming, global warming and the hydrological cycle, climate change impact on ecosystems and agriculture.

[T1, T2, T3][No. of Hrs. 11]

**UNIT-IV**

**Possible remedies of global warming-** various mitigation and adaptation measures taken/ proposed to combat global warming; National and International policies to combat global warming and climate change-UNFCC-Kyoto Protocol, Paris agreement its role in Climate Change; IPCC- its role in global climate protection Role of countries and citizens in containing Global Warming.

[T1, T2, T3][No. of Hrs. 11]

**Text Books**

- [T1] Current trends in Global Environment by A.L. Bhatia (2005) Energy Sources  
 [T2] Global Warming – A Very Short Introduction, Mark Maslin, oxford.  
 [T3] UNFCC & IPCC reports ([www.unfccc.int](http://www.unfccc.int) & <http://www.ipcc.ch/>)

**Reference Books**

- [R1] Global Warming The Complete Briefing - John T Houghton Cambridge press  
 [R2] Climate Change: A Multidisciplinary Approach, by William James Burroughs, Cambridge press  
 [R3] Contemporary climatology-Robinson, Taylor and Francis group

**NOTE: Seminars/ discussions should be carried out on issues pertaining to global warming and climate change among the students.**

**ENTREPRENEURSHIP DEVELOPMENT AND PLANNING**  
**(Open Elective-IV)**

**Paper Code: ETVMS-616**

**Paper: Entrepreneurship Development and Planning**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

***Objectives:** The Course Aims at Instituting Entrepreneurship Skills in the Students by giving an overview of the process of entrepreneurship. The Course aims at inculcating entrepreneurial spirit among the students.*

**UNIT-I**

**Foundations of Entrepreneurship:** What is an Entrepreneur? The benefits of Entrepreneurship. The power of small business. Class exercise- case discussion on entrepreneurs like - Dhirubhai Ambani, Karsenbhai Patel, Ramesh Babu, Kailash Katkar, Patricia Narayan etc.

[T1, T2][No. of Hrs.11]

**UNIT-II**

**Launching Entrepreneurial Ventures:** Creativity and innovation. Methods to initiate ventures. Legal challenges in Entrepreneurship ventures. The search for Entrepreneurial capital. Class exercise- Survey your locality and come up with at least one entrepreneurial venture. Discuss in class about ways to enhance the business in most innovative manner.

[T1, T2][No. of Hrs.11]

**UNIT-III**

**Formulation of the Entrepreneurial Plan:** The assessment functions with opportunities. The marketing Aspects of new ventures. Business plan preparation for new ventures. Class Exercise- Building your own Business Plan.

[T1, T2][No. of Hrs.11]

**UNIT-IV**

**Institutions Supporting Small Business Enterprises:** Central level institutions. State level institutions. Other agencies. Industry Associations. Class exercise- discussions on current government schemes supporting entrepreneurship and finding out which scheme will most suit the business plan devised by the student.

[T1, T2][No. of Hrs.12]

**Text Books**

[T1] Kuratko, D.F. & Rao T.V. (2012). Entrepreneurship: A South Asian Perspective. Cengage

[T2] Charantimath, P. (2009). Entrepreneurship Development: Small Business Enterprises. Pearson

**References Books**

[R1] Nagendra S. and Manjunath V.S. (2009). Entrepreneurship and Management. Pearson

**BUSINESS INFORMATICS**  
**(Open Elective-IV)**

**Paper Code: ETVMS-618**  
**Paper: Business Informatics**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>3</b>	<b>0</b>	<b>3</b>

**INSTRUCTIONS TO PAPER SETTERS:**

**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

**Objective and pre-requisite:** The objective of this paper is to provide understanding of business processes and managing these processes through improved information management and better use of business intelligence systems

**Learning Outcomes:** After this course the student is expected to understand how the information in the organizations can be handled effectively using various information types of information systems

**UNIT-I**

**Foundations of Information Systems in Business:** Data, Information and Knowledge, Information system and its components, Uses of IS in Business, Types of Information systems, Using Information Systems for competitive advantage, Porter's competitive forces model

[T1, T2][No. of Hrs. 11]

**UNIT-II**

**Functional Business Systems:** Overview of system analysis and design; Role of Information systems in marketing, Human Resource Management, Accounting and Finance, manufacturing.

[T1, T2][No. of Hrs. 11]

**UNIT-III**

**Enterprise Business Systems:** Customer Relationship Management -Benefits and Challenges of CRM, Trends in CRM; Supply Chain Management-Benefits and Challenges of SCM, Trends in SCM; Enterprise Resource Planning-Benefits and Challenges of ERP, Causes of ERP failures, Trends in ERP; e-Commerce-Categories of e-commerce, Essential e-Commerce processes, Electronic payment processes

[T1, T2][No. of Hrs. 11]

**UNIT-IV**

**Decision Support in Business:** Management Information Systems, Decision Support Systems, Online Analytical Processing, Executive Information Systems, Knowledge Management Systems, Expert Systems

[T1, T2][No. of Hrs. 12]

**Text Book(s):**

- [T1] James A O'Brien, George M Marakas and Ramesh Behl (2013). Management Information Systems, Tenth Edition, Tata McGraw Hill Education, New Delhi.
- [T2] Ken Laudon and Jane Laudon (2014). Management Information Systems, Twelfth Edition, Pearson, New Delhi.

**Reference Book(s):**

- [R1] D.P.Goyal (2014). Management Information Systems-Managerial Perspectives, Fourth Edition, Vikas Publishing House, New Delhi.
- [R2] Waman S Jawadekar(2009). Management Information Systems. Fourth Edition, Tata McGraw Hill, New Delhi

**DATABASE MANAGEMENT SYSTEM LAB****Paper Code: ETVPT-652****Paper: Database Management System Lab**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>0</b>	<b>3</b>	<b>3</b>

**Note:-** The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.

**List of Experiments:**

1. Practice on creating a table using Design view and wizard
2. Practice on adding , modifying and deleting records
3. Practice on creating a simple query and running a query
4. Practice on sorting query results i.e ascending and descending
5. Practice on structured query language (SQL) - SELECT command to generate queries.
6. Practice on structured query language (SQL) - SELECT command with WHERE clause.
7. Practice on creating a form to add, update and delete records in a table.
8. Practice on preparing a report with headers, footers, page numbers, group the information, background colours and charts



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**FLEXOGRAPHY AND SCREEN PRINTING TECHNOLOGY LAB****Paper Code: ETVPT-654****L T/P C****Paper: Flexography and Screen Printing Technology Lab****0 3 3**

**Note:-** The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.

**List of Experiments:**

1. Safety precautions in lab.
2. Preparation of rubber plates
3. Preparation of liquid polymer plates
4. Study of different tools, materials and equipments used in screen printing
5. Preparation of screen stencil in direct photographic stencil process and reproduction through it
6. Preparation of screen stencil in indirect photographic stencil process and reproduction through it
7. Mounting and registering of flexo image carrier.
8. Make ready and printing on flexography machine.
9. Printing i. two color, ii. four color on flexography machine
10. Printing a various substrates i. LDPE, ii. HPDE, iii. Paper, iv. Aluminium foil.
11. Studying modern flexo machines with inline operations.
12. Make-ready and printing on screen printing machine.
13. Printing of multicolour job on screen printing machine.
14. Printing of 3D surface on Screen printing machine



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**



**DIGITAL PRINTING TECHNOLOGY LAB****Paper Code: ETVPT-656****Paper: Digital Printing Technology Lab**

L	T/P	C
0	3	3

**Note:-** The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.

**List of Experiments:**

1. Colour specification and colour management tools
2. Calibration of input system
3. Calibration of output system
4. Digital proofing
5. Digital printing- electrostatic
6. Inkjet printing-thermal
7. Inkjet printing-drop on demand
8. Inkjet printing-phase change
9. Inkjet printing- continuous jet
10. Problem and remedies of Digital printing machine
11. Booklet printing
12. Variable data printing



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**PACKAGING TECHNOLOGY-III LAB**  
**(Core Elective-I)**

**Paper Code: ETVPT-658**

**Paper: Packaging Technology-III Lab**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>0</b>	<b>3</b>	<b>3</b>

**Note:-** *The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.*

**List of Experiments:**

1. Shelf life studies
2. Exposure studies
3. Migration studies
4. Package design
5. Microbiological studies
6. Metal container testing
7. Food package testing
8. Identification of plastics
9. Odour pick up test
10. Leakage test



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**BOOK PUBLISHING LAB**  
**(Core Elective-I)**

**Paper Code: ETVPT-660**  
**Paper: Book Publishing Lab**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>0</b>	<b>3</b>	<b>3</b>

**Note:-** *The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.*

***List of Experiments:***

Students shall be assigned a Book production project. Through this project they will perform various practical aspects as mentioned below:

1. Preparation of layout
2. Estimation of pages/ copy fittings
3. House style
4. Typesetting
5. Proof reading
6. Illustration/ graphics preparation
7. Page Makeup
8. Colour scheme of forms
9. Design of Cover/Jacket
10. Production cost estimation
11. Printing and finishing operation.



**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**

**E-PUBLISHING LAB**  
**(Core Elective-I)**

**Paper Code: ETVPT-662**  
**Paper: E-Publishing Lab**

<b>L</b>	<b>T/P</b>	<b>C</b>
<b>0</b>	<b>3</b>	<b>3</b>

**Note:-** *The required list of Experiments is provided as under. The example cited here are purely indicative and not exhaustive. Attempt shall be made to perform all experiments. However, at least 8 experiments should be done in the semester. More experiments may be designed by the respective institutes as per their choice.*

***List of Experiments:***

1. Exercise on Preparing Postscripts Files for Printing on Presses.
2. Exercise on managing linked graphics, bitmap image and output resolution.
3. Exercise on creation using navigational structures and modification by adding page actions of pdf documents.
4. Exercise on designing web pages using HTML tags.
5. Exercise on linking of webpage using HTML from different ways.
6. Exercise on defining XML tags, import and export XML tags from another document.
7. Exercise using SGML to achieve the separation of the structure and the appearance of a document.
8. Practice exercise on creating different types of images using coral draw.
9. Practice exercise on creation and modification of images using adobe Photoshop.

**GURU GOBIND SINGH  
INDRAPRASTHA  
UNIVERSITY**