General Time Schedule

Periods Format

Semester – V

Sl No	Course Code	Course Name	Teaching Scheme					Examination Scheme						
			instruction periods per week			Total Periods per	Credits	Continuous internal evaluation			Semester end examination			
			L	T	P			mid sem1	mid sem2	internal evaluation	Max Marks Min Marks		total marks	Min marks for Passing including internal
1	18PT-501C	Industrial Management and Entrepreneurship	3	1	0	60	3	20	20	20	40	14	100	35
2	18PT-502C	Web Offset	3	1	0	60	3	20	20	20	40	14	100	35
3	**18PT 503C**	**APT&APM**	**3**	**1**	**0**	**60**	**3**	**20**	**20**	**20**	**40**	**14**	**100**	**35**
4	**18PT-504E**	**Elective-1**	**3**	**1**	**0**	**60**	**3**	**20**	**20**	**20**	**40**	**14**	**100**	**35**
5	**18PT-505E**	**Elective-2**	**3**	**1**	**0**	**60**	**3**	**20**	**20**	**20**	**40**	**14**	**100**	**35**
6	18PT-506P	Web Offset Lab practice	1	0	2	45	1.5	20	20	20	40	20	100	50
7	**18PT-507P**	**Paper testing Lab Practice**	**1**	**0**	**2**	**45**	**1.5**	**20**	**20**	**20**	**40**	**20**	**100**	**50**
8	**18PT-508P**	**Web developing Lab practice.**	**1**	**0**	**2**	**45**	**1.5**	**20**	**20**	**20**	**40**	**20**	**100**	**50**
9	**18PT-509P**	**Programming in 'C' lab Practice**	**1**	**0**	**2**	**45**	**1.5**	**20**	**20**	**20**	**40**	**20**	**100**	**50**
10	**18PT-510P**	**Project**	**-**	**-**	**-**	**45**	**1.5**						**100**	**50**
		Academic activities	0	0	7	105	2.5	0	0	Rubrics			--	Grade A/B/C/D
			19	5	15	630	25	180	180	180	360	150	1000	425
	Activities: student performance is to be assessed through Rubrics													

All the above marks are in percentage weightage

Electives	Type	Subject Code
Printer's Accounting and Estimating	**Core**	**18PT-504EA**
Electrical Technology	**Open**	**18PT-504EB**
Packaging Technology	**Core**	**18PT-505EA**
Basic Mechanical Engineering	**Core**	**18PT-505EB**

INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP

Course Title: Industrial Management and Entrepreneurship	**Course Code: 18PT-501C**
Semester: V	**Course Group: Core**
Teaching Scheme in Periods (L:T:P): 45:15:0	**Credits: 3**
Methodology: Lecture +Tutorials	**Total contact periods: 60**
CIE: 60 Marks	**SEE: 40 Marks**

This course is common for DME & DCHE

Prerequisites: *Knowledge of Basic Sciences*

COURSE OUTCOMES

	At the end of the course the students will have the ability to:
1	Explain the principles and functions of management and Outline Organization structure& organizational behavior
2	Describe the Functions of Production Management
3	Analyse the functions of Materials Management.
4	Estimate Marketing, sales & Feasibility study.
5	Make use of ISO 9000 & T.Q.M
6	Outline Industrial legislation & safety and role of entrepreneur and entrepreneurial development

COURSE CONTENT AND BLUE PRINT OF MARKS FOR SEE

<table>
<tr><th rowspan="2">Unit No</th><th rowspan="2">Unit Name</th><th rowspan="2">Periods</th><th colspan="4">Questions to be set for SEE (Q No)</th><th rowspan="2">Remarks</th></tr>
<tr><th colspan="2">R</th><th>U</th><th>A</th></tr>
<tr><td>1</td><td>Principles and functions of management and organisation structure and behaviour</td><td>10</td><td rowspan="6">4</td><td colspan="2" rowspan="2">1</td><td rowspan="2">9(a)</td><td rowspan="2">13(a)</td><td></td></tr>
<tr><td>2</td><td>Production management</td><td>10</td><td></td></tr>
<tr><td>3</td><td>Materials management</td><td>10</td><td colspan="2" rowspan="2">2</td><td rowspan="2">10 (a)</td><td rowspan="2">14 (a)</td><td></td></tr>
<tr><td>4</td><td>Marketing, sales & feasibility study</td><td>10</td><td></td></tr>
<tr><td>5</td><td>Introduction to ISO 9000 & T.Q.M</td><td>10</td><td rowspan="2">3</td><td>5 ,6</td><td>9(b), 11(a), 11(b)</td><td>13(b), 15(a), 15(b)</td><td></td></tr>
<tr><td>6</td><td>Industrial legislation & safety and Entrepreneurial development</td><td>10</td><td>7 ,8</td><td>10(b), 12(a), 12(b)</td><td>14(b), 16(a), 16(b)</td><td></td></tr>
</table>

Legend: R; Remembering, U: Understanding A: Applying

COURSE CONTENT

Industrial Management and entrepreneurship

Unit – 1 **Duration: Periods 10 (L: 7.5 – T: 2.5)**

Principles and functions of management and organisation structure and behaviour

Definitions of Industry, Commerce and Business. Evolution of management theories. Principles of Scientific Management, functions of management. Differences of administration and management. Role of industry, Types of ownership – Sole proprietorship, Partnership, Private limited, public limited company. Industrial Cooperatives, Philosophy, types of Organizations, Line and Staff and functional organisations. Advantages and limitations, departments in a large-scale industry. Effective organization. Motivation, different theories of motivation, leadership, styles.

Unit – 2 **Duration: Periods 10 (L: 7.5 – T: 2.5)**

Production management

Production, planning and control, relation with other departments, need for planning and its advantages, Routing, scheduling, dispatching, PERT and CPM, simple problems.

Unit – 3 **Duration: Periods 10 (L: 7.5 – T: 2.5)**

Materials management

Materials in industry, inventory control model, ABC Analysis, Safety stock, re-order level, Economic ordering quantity, Stores layout, stores equipment, Stores records, purchasing procedures, purchase records, Bin card, Cardex.

Unit – 4 **Duration: Periods 10 (L: 7.5 – T: 2.5)**

Marketing, sales & feasibility study

Sellers and Buyers markets, Marketing, Sales, Market conditions, monopoly, oligopoly, perfect competition. Cost -Elements of Cost, Contribution, Break even analysis, Market Survey, Product and production Analysis, Materials input, Manpower, Location, Economic and Technical Evaluation, preparation of Feasibility study reports.

Unit – 5 **Duration: Periods 10 (L: 7.5 – T: 2.5)**

Introduction to ISO 9000 & T.Q.M

Concept of quality, Definitions of the terms quality policy, quality management, quality systems, quality control and quality assurance. Elements of quality systems: Management responsibility, Quality system, contract review, design control, document control, purchasing, purchaser– supplied product, product identification and traceability, process control, Inspection and testing. Definition and Principles of quality assurance. Know the necessity of International standards –ISO- Evolution, Meaning, importance. Various standards under ISO. ISO 9000 series of standards- Features, series, Constituents, Advantages, Draw backs and beneficiaries (Whom does ISO 9000 help). **5-S** principles-concept of zero defects. TQM-Meaning, Characteristics.

Unit – 6 **Duration: Periods 10 (L: 7.5 – T: 2.5)**

Industrial legislation & safety and Entrepreneurial development

Employer – Employee relations, Trade, Union Settlement of disputes, collective bargaining, Welfare activities. Total Welfare concept, rights and responsibilities and Employers and employees. Salient features of Indian Factories Act, Importance of Safety at work places, Hazards, causes of accidents. Entrepreneur and entrepreneurship -Concept, definition, role, expectation. Entrepreneurship Vs Management, promotion of S.S.I. Self –employment schemes. Product selection, site selection, Institutional support needed, financial assistance programmes.

REFERENCE BOOKS

1. Industrial engineering and management by O.P Khanna
2. Production management by Buffa
3. Engineering Economics and management science by Banga & Sharma
4. Personnel management by Flippo
5. Entrepreneurship by NITTTR Chennai

SUGGESTED LEARNING OUTCOMES

INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP

Principles and functions of management and organisation structure and behaviour

- Define industry, commerce (Trade) and business.
- Know the need for management.
- Understand the evolution of management
- Explain the principles of scientific management.
- Understand functions of Management.
- Differentiate between management and administration.
- Understand types of ownerships
- Differentiate types of ownerships.
- Understand salient features of joint stock companies.
- Understand the philosophy and need of organization structure of an industry.
- Understand the line, staff and Functional organisations.
- List the advantages and limitations of line, staff and functional organizations.
- List different departments in a largescale industry.
- Explain the factors of effective organization.
- Understand organizational behaviour.
- Conduct for analysis.
- State motivation theories.

- State Maslow ‘s Hierarchy of needs.
- List out different leadership models.
- Explain the trait theory and behaviour theory of leadership.

Production management

- Differentiate and integrate production, planning and control.
- Relate the production department with other departments.
- State the need for planning and its advantages.
- Explain the stages of Production, planning and control.
- Explain routing methods.
- Explain scheduling methods.
- Explain dispatching.
- Draw PERT/CPM networks.
- Identify the critical path

Materials management

- Explain the role of the materials in Industry.
- Derive expression for inventory control.
- Explain ABC analysis.
- Define safety stock.
- Define reorder level.
- Derive an expression for economic ordering quantity.
- Explain stock layout.
- List out stores records.
- Explain the Bin card.
- Describe Cardex method.
- Explain purchasing procedures.
- List out purchase records.
- Describe the stores equipment

Marketing, sales & feasibility study

- Explain marketing functions.
- Explain Sales function.
- List out market conditions.
- Differentiate Sellers and Buyers ‘market.
- Differentiate monopoly, oligarchy, and perfect competition.
- Conduct market and demand surveys.
- Differentiate product and production analysis.
- Identify the input materials, i.e. Bill of materials
- Explain the concept of cost.
- List out the elements of cost.
- Explain break-even analysis.
- Decide the location.
- Evaluate Economic and Technical factors.
- Preparation of feasibility study.
- List out different products currently in demand with market or industry.

Introduction to ISO 9000 & T.Q.M

- Understand the concept of quality.
- Know the quality systems and elements of quality systems.
- Know the principles of quality Assurance.
- Know the evolution of ISO standards.
- Discuss ISO standards and ISO 9000 series of quality systems.
- State the constituents of ISO 9000 series of standards for quality systems.
- State the outstanding features and drawbacks of ISO 9000 series of standards.
- List the beneficiaries of ISO 9000.
- Understand 5-S principles and ZERO DEFECT
- Know TQM concept and characteristics.

Industrial legislation & safety and Entrepreneurial development

- Describe employer and employee relations.
- Describe the mechanics of Trade Unions.
- Describe mechanics of settlement of in outs.
- Explain the significance of collective bargain.
- List out Welfare activities.
- Explain the total welfare concept.
- List out the rights and responsibilities of employees and employers.
- List out the salient features of Indian Factories Act.
- Explain the importance of safety at Work place.
- List out the important provisions related to safety.
- Explain hazard and accident.
- Explain the causes of accidents.
- Outline the concepts of Entrepreneurship.
- Define the word entrepreneur.
- Determine the role of Entrepreneurship.
- Describe the profile of an entrepreneur.
- Explain the requirements of an entrepreneur.
- Outline the expectations of Entrepreneurship.
- Determine the role of entrepreneurs in promoting Small Scale Industries.
- Describe the details of self-employment schemes.
- Explain the method of product selection.
- Explain the method of site selection.
- List the financial assistance programmes.
- List out the organisations that help an entrepreneur.

SUGGESTED E RESOURCES/STUDENT ACTIVITIES

1. www.learnengineering.com
2. www.nptel.ac.in
3. www.onlinestudies.com
4. www.classcentral.com
5. Prepare an organisational structure of institution
6. A Case study on principles of management.
7. Make a survey on marketing a product.
8. Prepare a list of ISO 9000 series as well as latest quality standards

9. Prepare sign boards representing safety measures.
10. Role play as an entrepreneur
11. Explore six sigma concepts.

CO-PO Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapping Pos
18M501C.1	-	-	-	2	-	3	3	3	2	-	4,6,7,8,9
18M501C.2	1	2	2	1	-	3	1	1	1	2	1,2,3,4,6,7,8,9,10
18M501C.3	1	2	2	1	-	3	1	1	1	2	1,2,3,4,6,7,8,9,10
18M501C.4	2	2	2	1		3	1	1	1	2	1,2,3,4,6,7,8,9,10
18M501C.5	-	-	-	2	1	3	2	2	3	2	4,5,6,7,8,9,10
18M501C.6	-	-	-	2	2	3	2	2	3	-	4,5,6,7,8,9

QUESTION PAPER BLUE PRINT FOR CIE (MID I)

Unit No	Unit Name	Questions to be set for CIE (Q No)			**Remarks**
		R	U	A	
1	Principles and functions of management and organisation structure and behaviour	1 2	5(a) 5(b)	7(a) 7(b)	
2	Production management	3 4	6(a) 6(b)	8(a) 8(b)	

QUESTION PAPER BLUE PRINT FOR CIE (MID II)

Unit	Unit Name	Questions to be set for CIE (Q No)	

No		R	U	A	**Remarks**
3	Materials Management	1 2	5(a) 5(b)	7(a) 7(b)	
4	Marketing, Sales & Feasibility study	3 4	6(a) 6(b)	8(a) 8(b)	

BOARD DIPLOMA EXANIMATIONS, (C18)

C18-Semester End Examination (SEE)

Model Paper- 18PT-501C

INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP

TIME : 2 Hours Max. Marks: 40

PART – A Marks: 8 X 1 M = 8M

*NOTE : 1)Answer **all** questions and each question carries **one** mark.*

*2) Answers should be brief and straight to the point and shall not exceeding **three** simple sentences*

1. What does CPM stand for?
2. Write the formula to calculate EOQ?
3. Define trade.
4. What is ISO?
5. Define quality
6. What are zero defects?
7. In which year, Indian factories act formed?
8. List any two safety measure to be followed in hospitals.

PART – B

*Answer **all** questions . Each question carries **three** marks*

4x 3 M = 12M

9(a) What is Commerce and business?

OR

9(b) Write any three limitations of ISO 9000 series?

10(a) List any three marketing conditions.

OR

10(b)What are the causes of accidents?

11(a) Give any three beneficiaries of ISO.

OR

11(b) What does quality assurance means.

12(a) What is Collective bargaining?

OR

12(b) Name any three Indian entrepreneurs in the field of steel manufacturing.

PART – C

*Answer **all** questions . Each question carries **five** marks*

4x 5 M = 20 M

13(a) Differentiate between Sole proprietorship and partnership.

OR

13 (b) Elaborate the components of quality system.

14 (a) Explain ABC analysis.

.

OR

14 (b) Compare and contrast Management and entrepreneurship.

15(a) State the constituents of ISO 9000 series.

OR

15(b) Explain 5S principles in detail.

16 (a) What are the qualities of an entrepreneur?

OR

16 (b) Explain Mechanical hazards in detail.

BOARD DIPLOMA EXANIMATIONS, (C18)

Model Paper- 18PT-501C

INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP

Mid -I (CIE)

Time : 1 Hour **Total Marks : 20 M**

PART – A Marks: 4 X 1M = 4 M

*NOTE: 1) Answer **all** questions and each question carries **one** mark.*

*2) Answers should be brief and straight to the point and shall not exceed **three** simple sentences*

1. Define commerce.
2. Write any two qualities of a leader.
3. What do you mean by production?
4. What does PERT stand for?

PART – B Marks : 2 X 3M= 6 M

*NOTE: 1) Answer **all** questions and each question carries **three** marks*
2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.

5(a) What is management?

OR

5(b) List out theories of motivation.

6(a) State the advantages of planning.

OR

6(b) What is dispatching?

PART – C

Marks : 2 X 5 M = 10 M

NOTE :

1.Answer **all** questions and each question carries **five** marks.

2.The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

7(a) What are the functions of management?

OR

7 (b) Draw a neat sketch of line and staff organization.

8 (a) Differentiate between PERT and CPM.

OR

8 (b) A Project has nine activities. The duration of each activity is as follows.

Sno	1	2	3	4	5	6	7	8	9
Activity	1-2	1-3	2-4	3-4	4-6	5-6	3-5	5-7	6-7
Duration(days)	6	8	7	12	3	5	7	11	10

Draw the network and find the project duration.

***

Board Diploma Exanimations, (C18)

Model Paper- 18PT-501C

INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP

Mid –II (CIE)

Time: 1 hr **Total Marks : 20**

PART – A Marks: 4 X 1 M = 4 M

*NOTE: 1) Answer **all** questions and each question carries **one** marks.*

*2) Answers should be brief and straight to the point and shall not exceed **three** simple sentences*

1. What does EOQ stands for?
2. Give the formula to calculate Contribution.
3. Define Market.

4. List any two elements of cost.

PART – B Marks : 2 X 3 M= 6 M

*NOTE: 1) Answer **all** questions and each question carries **three** marks*

2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.

5(a) What is Reorder level?

OR

5(b) Draw a neat sketch of ABC analysis graph.

6(a) Mention any three differences between Sellers's market and Buyer's market.

OR

6 (b)Write a short notes on Monopoly?

PART – C

Marks : 2 X 05 M= 10 M

NOTE :

1)Answer **all** questions and each question carries **five** marks

2)The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.

7(a) Describe any two stores equipment.

OR

7 (b) Explain purchasing procedure.

8 (a) Differentiate product and product analysis.

OR

8(b) How to Prepare a feasibility study report

WEB OFFSET PRINTING

Course Title	**: Web Offset Printing**	**Course Code**	**:18PT-502C**
Semester	**: V**	**Course Group**	**: Core**
Teaching Scheme in Hrs (L:T:P)	**: 36:24:0**	**Credits**	**: 3**
Type of Course	**: Lecture + Assignments**	**Total Contact Hours : 45hrs/60 pds**	
CIE	**: 60 Marks**	**SEE**	**: 40 Marks**

Pre requisites

Basic knowledge on Offset Lithography

Course Outcomes

CO1 :	Distinguish the various web fed offset machine constructions.
CO2 :	Evaluate pre- make ready and make ready operations.
CO3 :	Judge the in-feeding systems of Web offset Press
CO4 :	Summarize the various Plate, Blanket, dampening and Inking rollers.
CO5 :	Choose the types of folders and Dryers
CO6 :	Evaluate Auxiliary Equipment

Course Content

UNIT 1: INTRODUCTION TO WEB OFFSET PRINTING PRESS **Duration:10Pds**

Structure and type of presses - In-line press, stack press, Blanket to Blanket, common impression-Infeed, Printing unit, Drying, Chilling, Folding and Delivery-Blanket to blanket printing-The plate cylinder, blanket cylinder and Gap-less cylinder.

UNIT 2: MAKE READY OPERATIONS **Duration:08Pds**

Operations involved in pre make ready. Mounting of plates, Packing, Make-ready operations.

UNIT 3: FEEDING UNIT **Duration:12Pds**

Infeed - Types of reel stands, automatic splicers, preparing a splice, dancer roller-Reel braking method-Image and web control: Side lay, back up, slitting-Colour registering and web tensioning-Feeder - Preset feeder, Vacuum belt sheet forwarding system-Motorized side lay control.

UNIT 4: PRINTING UNIT **Duration:12Pds**

Inking and Dampening - motorized adjustment of ink zones and ink metering cylinder-Water cooled oscillating roller-Ink wash up device-Remote ON/OFF dampening system and dampening solution control-Printing unit - Automatic plate clamping-Adjustment of circumferential and lateral register-Printing pressure adjustment-Automatic blanket and impression cylinder wash-up device- Dryer and chill rolls: Types of dryers, types of chill roll pumping-Computer print control, press monitoring-Pre selection of operation in the press.

UNIT 5: DELIVERY UNIT **Duration:08Pds**

Folding - Web folding principles, folder types, cut off length, pinless folder-Delivery – Automatic setting of powder spray length-IR and UV dryers

UNIT 6: AUXILIARY EQUIPMENT **Duration:10Pds**

Auxiliary equipments - Sidelay sensors, web break detectors, anti-static devices, perforators, Imprinters, fountain solutions recirculation and refrigerating system, sheet cleaners, plate scanner, Ink agitator, Fountain height monitor, ink consumption computer, Air curtain

Specific Learning Outcomes

CO1: Distinguish the various web fed offset machine constructions.

1.) Explain structure and type of presses - In-line press, stack press, Blanket to Blanket, common impression.
2.) Describe infeed, printing unit, Drying, Chilling, Folding and Delivery.
3.) Define blanket to blanket printing.
4.) Compare plate cylinder, blanket cylinder and Gap-less cylinder.

CO2: Evaluate pre- make ready and make ready operations.

1.) Operations involved in pre make ready.
2.) Mounting of plates
3.) Packing
4.) Make-ready operations.

CO3: Judge the in-feeding systems of Web offset Press

1.) Explain infeed - Types of reel stands, automatic splicers, preparing a splice, dancer roller.
2.) Explain reel braking method.
3.) Identify image and web control: Side lay, back up, slitting.
4.) Illustrate colour registering and web tensioning.
5.) Describe feeder - Preset feeder, Vacuum belt sheet forwarding system.
6.) Indicate motorized side-lay control.

CO4: Summarize the various Plate, Blanket, dampening and Inking rollers.

1.) Explain inking and Dampening - motorized adjustment of ink zones and ink metering cylinder
2.) Appraise water cooled oscillating roller
3.) Discuss ink wash up device.
4.) Identify remote ON/OFF dampening system and dampening solution control.
5.) Explain printing unit - Automatic plate clamping.

6.) Indicate adjustment of circumferential and lateral register.
7.) Explain printing pressure adjustment.
8.) Explain automatic blanket and impression cylinder wash-up device.
9.) Identify dryer and chill rolls: Types of dryers, types of chill roll pumping.
10.) Define and explain computer print control, press monitoring.
11.) Explain pre selection of operation in the press

CO5: Choose the types of folders and Dryers

1.) Explain folding
2.) Web folding principles
3.) folder types
4.) cut off length
5.) Pinless folder.
6.) Describe delivery
7.) Automatic setting
8.) Powder sprays length.
9.) Explain IR and UV dryers.

CO6: Evaluate Auxiliary Equipment

1.) Explain and compare auxiliary equipments
2.) Sidelay sensors
3.) Web break detectors
4.) Anti-static devices
5.) Perforators
6.) Imprinters
7.) Fountain solutions recirculation and refrigerating system
8.) Sheet cleaners
9.) Plate scanner
10.) Ink agitator
11.) Fountain height monitor
12.) Ink consumption computer
13.) Air curtain..

Suggested Students Activities:

1.) Each student will do the report on construction of web fed offset presses
2.) Prepare a report on Dampening and Inking rollers maintenance
3.) Prepare a report on Web handling by robots.(search net)
4.) Prepare a complete report on Make ready of a web fed Press.

Recommended Books

1.) Web Offset Press operating - David B. Crouse with Robert J. Schneider, Jr., GATF.
2.) Sheet fed press operating – GATF.
3.) Modern Lithography - Iaun Fax, SITA Limited, Manchester.
4.) A manual of Lithographic press operation - A.S. Porter.
5.) Lithographic Training services. Printing in a digital world - David Bergsland, Delmar Publishers, International Thompson Publishing, New York.
6.) A Handbook for printing and packaging Technology – Bighwenath

E-Learning Links:

1.) https://whatis.techtarget.com/definition/web-offset-printing
2.) http://www.weboffsetprint.com/
3.) https://www.soloprinting.com/services/web-offset-printing/
4.) https://www.johnroberts.com/services/web-offset-printing
5.) https://www.saxoprint.co.uk/blog/web-offset-rotary-printing-process/

CO-PO Mapping Matrix

CO1	Distinguish the various web fed offset machine constructions.	R/U/A	1,2,4,10	10
CO2	Evaluate pre- make ready and make ready operations.	R/U/A	2, 3, 4	12
CO3	Judge the in-feeding systems of Web offset Press	R/U/A	1,2,3	12
CO4	Summarize the various Plate, Blanket, dampening and Inking rollers.	R/U/A	1,2, 3,	08
CO5	Choose the types of folders and Dryers	R/U/A	1, 2, 4, 8	08
CO6	Evaluate Auxiliary Equipment	U/A	1, 2,7,8	10

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI			10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE-MODEL PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Web Offset Printing

Sub Code: 18PT-502C

Time : 2 Hours **Max Marks = 40**

Part – A 8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one marks

1. Define offset printing?
2. Write short inline press?
3. Define infeed?
4. Write importance of drying?
5. Define make ready?
6. Write short notes on packing?
7. Define dancer roller?
8. Write about dampening?

Part – B 4 X 3 = 12 Marks

Answer the Following. Each Question carries 3 marks

9) a) Describe structure of offset presses?

(OR)

b) Write about gap less cylinder?

10 a) explain about web control?

(OR)

b) Write about types of reel stands?

11 a) Describe inking system in web presses?

(OR)

b) Explain about ink wash up device?

12 a) Describe automatic plate clamping?

(OR)

b) Explain about motorized side lay control?

Part – C 4 X 5 = 20 Marks

Answer The following. Each Question carries 5 marks

13) a) Explain about printing pressure adjustment?

(OR)

b) Write about automatic blanket wash up?

14 a) explain about chill rollers?

(OR)

b) explain about computer print control?

15 a)Write about folding?

(OR)

b) Write about IR and UV dyers?

16 a) Explain about auxiliary equipments?

(OR)

b) What do you know about feeding unit?

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Web Offset Printing

Sub Code: 18PT-502C

I MID SEM

Time : 1 Hours **Max Marks = 20**

Part – A 4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Define stack press
2. Write about dampening
3. List out reel stands
4. Write about impression cylinder

Part – B 2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) explain about web offset presses

(OR)

B.) Explain about blanket to blanket press

6. A.) Explain about splicer

(OR)

B.) Describe ink adjustment

Part – C 2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

7. A.) What do you know about dancer roller

(OR)

B.) Explain about chill rolls

8.) A.) Write about cut off length

(OR)

B.) Write about side lay sensors

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Web Offset Printing

Sub Code: 18PT-502C

MID SEM- II

Time : 1 Hours **Max Marks = 20**

Part – A 4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Write importance of offset printing
2. Write about blanket cylinder
3. Write about make ready
4. Define infeed.

Part – B 2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) Describe dampening system

(OR)

B.) Explain about different reel stands

6. A.) Explain about auxiliary equipment

(OR)

B.) Write about inking system

Part – C 2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

6. A.) Explain about ink wash up devices

(OR)

B.) Explain about automatic plate clamping

8.) A.) Write about folding

(OR)

B.) What do you know about web break detector

ADVANCED PRINTING TECHONOLOGIES & ADVERTISING IN PRINT MEDIA

Course Title : Advanced Printing Technologies & Advertising in Print Media	**Course Code :18PT-503C**
Semester : V	**Course Group : Core**
Teaching Scheme in Hrs (L:T:P) : 36:24:0	**Credits : 3**
Type of Course : Lecture + Assignments	**Total Contact Hours : 45hrs/60 pds**
CIE : 60 Marks	**SEE : 40 Marks**

Pre requisites

Advanced knowledge of printing techniques

Course Outcomes

CO1 :	Classify Non impact printing technologies & interpret about Hologram , Lenticular Printing
CO2 :	Identify design features of security printing process
CO3 :	Selection of security printing applications and E-Print
CO4 :	Know about advertising and types of advertisings
CO5 :	Know about Functions of advertising agency
CO6 :	Evaluate Advertising ethics and role of advertiser and Marketing

Course Content

UNIT 1: NON–IMPACT PRINTING TECHNOLOGIES AND SPECIALITY PRINTING PROCESS, Duration: 10 Pds

Overview of Non- impact Printing Technologies-Electrophotography -Ionography-Magnetography -Ink-jet Printing Thermography, Hybrid Printing Systems-Hologram Printing process-Lenticular Printing process-Waterless Printing

UNIT 2: SECURITY PRINTING Duration: 12 Pds

Designfeatures of security printing process, Security Inks- Anti-duplication security inks, Anti alteration inks, Security Printing Papers-Paper manufacturing, security paper manufacturing-Watermark-classification of watermark-digital watermark.

UNIT 3: APPLICATIONS OF SECURITYPRINTING AND E-PRINT

Duration: 08 Pds

Technical methods-security design features –fundamental Security technologies-advanced security Technologies. Features of Electronic Book - Features Electronic Ink – Features, Electronic Paper.

UNIT 4: INTRODUCTION TO ADVERTISING **Duration: 10 Pds**

World of Print media advertising- Advertising-types of advertising –history of advertising -Advertising through the age-Role of Printing Presses in Advertising

UNIT 5: MEDIA OF ADVERTISING AND OPERATIONS AND FUNCTIONS OF AN ADVERTISING AGENCY **Duration: 12 Pds**

Types of Print media- Newspaper and magazine media- types and sizes of newspaper and magazine-Media reaching the public(marketing and sales)-Promotional techniques-Outdoor Advertising- Hoarding, posters, Signboards, Structure and functioning of an Ad company- workflow of an Ad creation-softwares and parameters used by an agency- Describe the qualities of an advertiser

UNIT 6: ADVERTISING ETHICS AND ROLE OF ADVERTISING IN MARKETING

Duration: 08 Pds

Deception in Advertising-FTC Regulation-Puffery- watchdog-subliminal advertising- Advertising affecting categories of people –Women, children, corporate-Legal issues-Copyright, Marketing, Elements of Marketing Mix, Components of promotion, Product Life Cycle, Advertising of new product, packaging, packaging & sales promotion, Advertising and price, Advertising and channel of distribution, Advertising in the Promotion Mix.

Specific Learning Outcomes

CO1: Understanding about non impact printing

1.1 Explain the overview of Non Imapact printing

1.2 Explain ink jet printing

1.3 Explain Magnetography

1.4 Describe Ionography

1.5 Define Lenticular Printing Process

1.6 Describe Electrophotography

1.7 Define Hologram Printing Process

CO2: Detailed study about security printing

2.1 Classify design features

2.2 Define security inks

2.3 Explain method of anti-duplicate security inks

2.4 Define advanced security technologies

2.5 Explain security printing paper manufacturing

2.6 Explain about water marks

CO3: Security printing applications and E-Print

3.1 Define security technologies

3.2 Describe features of electronic book

3.3 Explain about security ink and paper

CO4: Advertising Introduction

4.1 Define print media advertising

4.2 Describe advertising

4.3 List out types of advertisings

4.4 Explain history of advertising

4.5 Explain advertising through age

4.6 Describe role of printing presses in advertising

CO5: Functions of advertising agency

5.1 Classify print media

5.2 Explain types of news papers

5.3 Explain outdoor advertising

5.4 Define work flow of ad creation

5.5 List out software's for advertising

5.6 Describe the qualities of an advertiser

CO6: Evaluate Advertising Ethics

6.1 Definition of FTC Regulation

6.2 Explain about copy right

6.3 Define marketing

6.4 Purpose of packaging

Suggested Students Activities:

1.) Understand and make report on Non impact printing
2.) Applications of security printing
3.) Discussion on advertising
4.) Understand and make report on Functions of advertising
5.) Understanding about advertising ethics and advertising in marketing

CO-PO Mapping Matrix

COURSE OUT COME		CL	Linked PO	Teaching Hrs
CO1	Understanding about Non impact printing	R/U/A	1,2,4,10	10
CO2	Detailed study about security printing	R/U/A	2, 3, 4	12
CO3	Security printing applications and E-print	R/U/A	1,2,3	12
CO4	Introduction to Advertising	R/U/A	1,2, 3,	08
CO5	Functions of advertising agency	R/U/A	1, 2, 4, 8	08
CO6	Evaluate advertising ethics Jobs For Digital processes	U/A	1, 2,7,8	10

Recommended Books

1. Handbook of Print Media - Helmut Kipphan, Springer.
2. Handbook of Advertising
3. Scientific advertising
4. Advertising principles
5. Marketing world
6. Inbound advertising
7. Advertising and sales promotion
8. Introduction to advertising agency

E-Learning Links:

1. https://en.wikipedia.org/wiki/Advertising
2. https://economictimes.indiatimes.com/definition/marketing-mix
3. http://www.sfu.ca/media-lab/426/readings/ritson&elliot.pdf
4. https://www.knowthis.com/types-of-advertising-media/ad-media-intro/

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3 (5, 6)	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI		3 (7,8)	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE - MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Advanced Printing Technologies & Advertising In Print Media
Sub Code: 18PT-503C

Time : 2 Hours Max Marks = 40

Part – A 8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one mark.

1.) Define Non impact printing
2.) List out advertisings
3.) What do you know about advertising
4.) What is the purpose of print media
5.) Define magazine
6.) List out advertising software's
7.) What is copy right
8.) List out elements of marketing

Part – B 4 X 3 = 12 Marks

Answer all Questions. Each Question carries three marks

9.) a. write about security inks
(or)
b. Explain parameters used by ad agency
10.) a. describe advertising through ages
(or)
b. Explain FTC regulation
11.) a .Explain about promotional techniques
(or)
b. Write functions of ad company
12.) a. Describe promotion mix
(or)
b. Explain about advertising distribution

Part – C 4 X 5 = 20 Marks

Answer any Two Questions. Each Question carries five marks.

13.) a. Write advantages with non impact printing
(or)
b. Write about work flow of ad agency
14.) a. Explain about role of printing presses in advertising
(or)
b. Describe sales promotion
15.) a. describe outdoor advertising
(or)
b. List out different print media and explain?
16.) a. Write about components of promotion

(or)

b. Explain about subliminal advertising

CIE -MODEL QUESTION PAPER
MID SEM-I
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Advanced Printing Technologies & Advertising In Print Media
Sub Code: 18PT-503C

Time : 1 Hour Max Marks = 20

Part – A 4 X 1 = 4 Marks

Answer all the Questions. Each Question carries one mark

1.) Define Ionography
2.)Write about waterless printing
3.)What do you know about digital water mark
4.)Write about anti-duplicate security inks

Part – B 2 X 3 = 6 Marks

Answer all Questions. Each Question carries 5 marks

5.) a. Explain about electro photography
(or)
b. Describe hybrid printing systems
6.) a. Explain about security printing paper
(or)
b. Classify watermarks and explain

Part – C 2 X 10 = 20 Marks

Answer all Questions. Each Question carries five marks

7.) a. Briefly explain about hologram printing process
(or)
b. Describe thermography
8.) a. Explain about design features of security printing
(or)
b. .What do you know about security paper manufacturing

CIE -MODEL QUESTION PAPER
MID SEM-II
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Advanced Printing Technologies & Advertising In Print Media
Sub Code: 18PT-503C

Time : 1 Hour Max Marks = 20

Part – A 4 X 1 = 4 Marks

Answer all the Questions. Each Question carries one mark

1.) Define E-Print
2.)Write about electronic book
3.)What do you know about advertising
4.)List out advertising

Part – B 2 X 3 = 6 Marks

Answer all Questions. Each Question carries 5 marks

5.) a. Explain about design features
(or)
b. Describe electronic ink
6.) a. Explain about print media advertising
(or)
b. Describe advertising through ages

Part – C 2 X 10 = 20 Marks

Answer all Questions. Each Question carries five marks

7.) a. Briefly explain about advanced security technologies
(or)
b. Describe features of electronic paper
8.) a. Explain about history of advertising
(or)
b. .What do you know about role of printing presses in advertising

PRINTTERS ACCOUTING & ESTIMATING

Course Title : Printers Accounting & Estimating	**Course Code :18PT-504EA**
Semester : V	**Course Group : Core**
Teaching Scheme in Hrs (L:T:P) : 36:24:0	**Credits : 3**
Type of Course : Lecture + Assignments	**Total Contact Hours : 45hrs/60 pds**
CIE : 60 Marks	**SEE : 40 Marks**

Pre requisites

Basic knowledge in Estimating and Accounting

Course Outcomes

CO1 :	Definition of Estimating, Difference Between Estimating and Cost, Estimator
CO2 :	Purpose of Estimating Form and Specification Form
CO3 :	Classify Costing, Advantages with Efficient Costing, Fixed and Variable Cost
CO4 :	Know about Capital Cost of Machine, Depreciation on Machinery
CO5 :	Wages of Labour, Costing of Manual Operation
CO6 :	Purpose of Book Keeping, Difference between Double and Single Entry System

Course Content

UNIT 1: SYSTEMS OF BOOK KEEPING **Duration: 12 Pds**

Object of Book-keeping-Various systems of book-keeping- Double entry and single entry book-keeping systems-Advantages and disadvantages of double entry book keeping-Meaning of important book-keeping terms-Relationship between book-keeping and accounting-Source documents

(supporting documents)-Branches of accounting-Classification of accounts-Journals, Ledger, subsidiary book - Cash book and Petty cash book, Trial balance

UNIT 2: ESTIMATING AND ESTIMATOR **Duration: 12 Pds**

Meaning, differentiating costing and estimating-Qualification of an estimator-Responsibilities of an estimator-Reasons for variation in estimating-Forms used in estimating-Factors to be considered while estimating-Procedures for preparing estimates and submitting quotations-The factors, which decide the final cost of printed products-Use of Computers in estimating.

UNIT 3: ESTIMATING FORMS

Duration: 10 Pds

Forms in estimating- Factors to be considered for estimating-Procedures for preparing estimates and submitting quotations-Factors for final cost decision-Use of computers in estimating

UNIT 4: METHODS OF COSTING **Duration: 10 Pds**

Meaning of costing-Objective of costing-Advantages of costing-Methods of costing-Classification of costing in Printing Industry-Variable direct costs-Fixed direct costs-Fixed indirect costs

UNIT 5: COSTING OF MACHINE **Duration: 08 Pds**

Capital cost of machinery-Equipment-Utilization of machinery-Interest on capital cost of the machines-Depreciation-Depreciation on machinery

UNIT 6: MATERIALS AND LABOUR **Duration: 08 Pds**

Wages of direct labour-costing of machine operations-costing of manual operations Direct and Indirect cost of Materials and Direct and Indirect Cost of Labour

Specific Learning Outcomes

CO1: Purpose of Book Keeping, Difference between Double and Single Entry System

1. Define Book Keeping
2. Explain various systems of book keeping
3. Differentiate between Double entry and Single entry book keeping systems
4. Compare the advantages and disadvantages double entry Book Keeping
5. Restate the meaning of important book keeping terms
6. Differentiate between Book keeping and Accounting
7. Define Journal, Ledger, subsidiary book - Cash book and Petty cash book, Trial balance

CO2: Definition of Estimating, Difference Between Estimating and Cost, Estimator

1. Define estimation
2. Compare estimation with costing
3. Identify qualifications of an estimator
4. Explain the responsibilities of an estimator
5. Identify the reasons for variation in estimating

CO3: Purpose of Estimating Form and Specification Form

1. Use forms in estimating
2. Identify factors to be considered for estimating
3. Explain procedures for preparing estimates and submitting quotations
4. Indicate factors for final cost decision
5. Appreciate the use of computers in estimating

CO4: Classify Costing, Advantages with Efficient Costing, Fixed and Variable Cost

1. Give the meaning of costing
2. State the objective of costing
3. Tell the advantages of costing
4. Explain the methods of costing
5. Classify costing in Printing Industry
6. Identify variable direct costs, fixed direct costs and fixed indirect costs

CO5: Know about Capital Cost of Machine, Depreciation on Machinery

1.) Calculate the capital cost of machinery, equipment
2.) Calculate the utilization of machinery
3.) Work out the interest on capital cost of the machines
4.) Define depreciation
5.) Calculate depreciation on machinery

CO6: Wages of Labour, Costing of Manual Operation

1. Explain wages of direct labour
2. Work out the costing of machine operations
3. Work out the costing of manual operations

Suggested Students Activities:

1.) Understand and make report on Estimating and Estimator
2.) Compare the Estimate and Cost
3.) Understand and make Report on Estimating Form
4.) Understand and make report on Meaning of Costing
5.) Difference Between Material And Labour Cost
6.) Understand and Make Report On Book Keeping

Recommended Books

1. Cost Accountancy for Printers – Part I and Part II
2. British Federation of Master Printers
3. Computer-aided Estimating- Graphi Arts Technical Foundation, Pittsburgh, PA, 15213, USA

E-Learning Links:

1.) Rees, Fran. Johannes Gutenberg: Inventor of the Printing Press
2.) Thomas Franklin Carter, The Invention of Printing in China and its Spread Westward, The Ronald Press, NY 2nd ed. 1955, pp. 176–178
3.) Kipphan, Helmut (2001). Handbook of print media: technologies and production methods (Illustrated ed.). Springer. pp. 130–144. ISBN 3-540-67326-1.
4.) *Kipphan, Helmut (2001).* Handbook of print media: technologies and production methods *(Illustrated ed.). Springer. pp. 48–52.* ISBN 3-540-67326-1.

CO-PO Mapping Matrix

COURSE OUT COME		CL	Linked PO	Teaching Hrs
CO1	Definition of Estimating, Difference Between Estimating And Cost, Estimator	R/U/A	1,2,7,8,10	12
CO2	Purpose Of Estimating Form And Specimen Estimating Form	R/U/A	1, 3, 4, 9	10
CO3	Classify Costing, Advantages With Efficient Costing Fixed and Variable Cost	R/U/A	1,2,3,8	10
CO4	Know about Capital Cost Of Machine, Depreciation on machinery	R/U/A	1,2, 3, 7	08
CO5	Wages of Labour, Costing of Manual Operation	R/U/A	1, 2, 4,	08
CO6	Purpose of Book Keeping, Difference Between Double And Single Entry Systems	U/A	1, 2,4,7,8,10	12

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3 (5, 6)	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI		3 (7,8)	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE - MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Printer's Accounting & Estimating

Sub Code: 18PT-504EA

Time : 2 Hours **Max Marks = 40**

Part – A 8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one mark.

1. Define estimating
2. Compare Estimating and Cost
3. Which Factors to be Considered for Estimating
4. Write short notes on Methods of Costing
5. What is Capital Cost?
6. Define fixed cost.
7. Define Book Keeping
8. What is accounting.

Part – B 4 X 3 = 12 Marks

Answer all Questions. Each Question carries three marks.

9. Write Qualifications of an Estimator.

   OR

   State Objectives of Costing
10. Write about Utilization of Machinery

    OR

    What is the Difference Between Direct and Indirect Labour
11. Write difference between Book Keeping And Accounting

    OR

    Write Advantages and Disadvantages with Double entry System
12. State the objective of costing

    OR

    Appreciate the use of computers in estimating

Part – C 4 X 5 = 20 Marks

Answer any Two Questions. Each Question carries 10 marks

13. Write the Responsibilities of An Estimator

    OR

    Explain about Specimen Estimating Form
14. Describe Machine Depreciation

    OR

    Describe Costing of Manual Operation
15. Explain about Costing of Machine Operations

    OR

    Write about Importance of Book Keeping Terms
16. Calculate depreciation on machinery

    OR

    Explain the methods of costing

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Printer's Accounting & Estimating

Sub Code: **18PT-504EA**

Time : 1 Hour **Max Marks = 20**

Part – A **4 X 1 = 4 Marks**

Answer all the Questions. Each Question carries one mark.

1.) Define Estimating
2.)Write Reasons For Variations in Estimating
3.)Write Short Notes on Use of Computers in Estimating
4.)Which Factors to be Considered For Estimating

Part – B **2 X 3 = 6 Marks**

Answer any Two Questions. Each Question carries 3 marks

5.) Mention Difference Between Estimate and Cost
OR
Write about Estimating Form
6.) Which type of Factors To Be Considered While Estimating
OR
Write Short Notes on Quotation

Part – C **2 X 5 = 10 Marks**

Answer all Questions. Each Question carries five marks

7.) Describe Responsibilities of An Estimator
OR
Explain about Use Of Computers In Estimating
8.) Briefly Explain about Specimen Estimating Form
OR
Explain the methods of costing

Department of Technical Education

State Board of Technical Education &Training (TS)

ELECTRICAL TECHNOLOGY

Course Title	**:** ELECTRICAL TECHNOLOGY	Course Code	**: 18PT-504EB**
Semester	**:** V	Course Group	**: Open**
Teaching Scheme in periods (	**: 45 : 15 : 0**	Credits	**: 3**
Methodology	**: Lecture + Tutorial**	Total Contact	**: 60**
CIE	**: 60 Marks**	SEE	**: 40 Marks**

Pre requisites

Enthusiasm to learn the course, the basic knowledge of Electrical Engineering

Course Outcomes

At the end of the course, the student will have the ability to:

CO 1	Describe the fundamentals of electricity, electrical and magnetic circuits.
CO 2	Describe the construction & working of D.C.Generators
CO 3	Summarize the performance of D.C. Motors.
CO 4	Explain the fundamentals of alternating current
CO 5	Describe the construction & working of A.C. Machines
CO 6	Follow the Electrical Safety & Protection procedures and Electrical Measuring instruments.

Course Contents

UNIT-1 : Electrical engineering fundamentals **Duration: 12 Periods (L: 9 - T: 3)**

Definitions: Ohm's Law, Laws of resistance work, power, energy with units. Kirchoff's Laws, Definitions and units of magnetic field strength, flux, flux density, permeability, reluctance. Definitions and units electric field, field strength, permittivity, capacitance., Faraday's laws of Electro – magnetic induction. Dynamically and statically induced e.m.f., Lenz's Law, Fleming's right hand rule, Inductance – self and mutual – coefficient of coupling. Energy stored in a magnetic field**.**

UNIT-2 : D.C.Generators **Duration: 08 Periods (L: 9 - T: 3)**

Principle of operation - Parts of generator and materials used - Types of generators and schematic diagrams - E.M.F equation, voltage and current relations - Nomenclature used for determining armature, field and inter-pole windings - Power flow diagram - Welding Generator

UNIT-3: D.C.Motors **Duration: 08 Periods (L: 9 - T: 3)**

Principle of operation - Types of motors and schematic diagrams - Back e.m.f and speed equation and relation between voltages and currents - Starters and their necessity - Connection diagram of 3 point starter - Speed control – Field and Armature control - Applications of motors.

UNIT-4: A.C.Fundamentals **Duration: 12 Periods (L: 9 - T: 3)**

Definition – alternating current, voltage amplitude, time period frequency, instantaneous value, Average value, r.m.s. value, form factor - Graphical representation of Alternating quantities - Phase difference - A.C. Circuits - Single phase series circuits – Definition of poly-phase and 3 Ø circuits - Phase difference in 3 Ø - Star and delta connections, definitions of phase values and line values.

UNIT-5: A.C.Machines **Duration: 12 Periods (L: 9 - T: 3)**

Alternators – principle of working. Constructional features of alternators. Speed and frequency relations. Transformers working principle. Single phase transformers - Voltage ratio, Current ratio, Turns ratio - Welding transformer - 3-Phase Induction Motor - Working principle, Construction - Squirrel cage and Wound Rotor - Single phase Induction Motors - Types and applications of single phase induction motors.

UNIT-6: Electrical measuring instruments & Safety procedures

Duration: 08 Periods (L: 9 - T: 3)

Construction and principle of operation of moving coil permanent magnet type ammeter and voltmeter and moving iron ammeter and voltmeter - Construction and working principle of Dynamometer type wattmeter - Single phase induction type Energy meter - Electrical safety Procedures - Effects of shock and burns - Remedial procedures to be adopted in case of electrical shocks - Plate earthing - Pipe earthing.

Recommended Books

1.	Theraja B.L.	-	A Text Book of Electrical Engg. and Electronics.
2.	Mehtha.V.K	-	Principles of Electronics
3.	Gupta	-	Fundamentals of Elec. Engg.
4.	Uppal	-	A Text Book of Elec.Engg & Electronics.

Suggested E-learning references

1.www.khanacademy.org
2. www.ocw.mit.edu/courses/electriical-engineering
3. www.nptel.ac.in

Suggested Learning Outcomes

After completion of the subject, the student shall be able to

1.1 Define Ohm's Law.
1.2 State the Laws of Resistance.
1.3 State and compare Work, Power and Energy from electrical and mechanical aspects and understand their units.
1.4 State and explain Kirchhoff's laws.
1.5 Define
  a. Magnetic field strength
  b. Flux
  c. Permeability
  d. Reluctance and state their units
1.6 Define
  a. Electric field
  b. Electric field intensity
  c. Permittivity and state their units
1.7 State capacitance and its units
1.8 State Faraday's laws of Electro Magnetic Induction.
1.9 Explain Dynamically and Statically induced E.M.F.
1.10 State Lenz's Law.
1.11 Explain Fleming's Right Hand rule.
1.12 Define
  a. Self inductance
  b. Mutual inductance
  c. Co-efficient of coupling and state their units
1.13 Explain energy stored in a magnetic field.

2.1 Explain the working principle of D.C. Generators.
2.2 Describe the constructional features of D.C. Generators and materials used.
2.3 Classify D.C. Generators and draw their schematic diagrams.
2.4 State E.M.F equation of D.C. Generator

2.5 Solve the problems on EMF Equation.
2.6 Write the relation between currents and voltages in various D.C generators.
2.7 State the types of losses in D.C. Generator.
2.8 Label the terminals of D.C. Generators for armature, field and inter pole windings.
2.9 Draw power flow diagram of a D.C. Generator.
2.10 Sketch the connection of welding generator.

3.1 Explain the principle of operation of D.C. Motors.
3.2 Classify D.C. motors and draw their Schematic diagrams..
3.3 Explain the signification of back e.m.f in D.C. motors.
3.4 Write the relation between currents and voltages in various D.C. motors.
3.5 Write formula for speed of D.C. Motor in terms of supply voltage, current and flux.
3.6 Explain necessity of starters for D.C. motors.
3.7 Write the types of starters for D.C. motors
3.8 Describe with sketch the connection diagram of a D.C. 3 point starter.
3.9 Explain the speed control by Armature control method
3.10 Explain the speed control by Field control method
3.11 List the applications of D.C. motors

4.1 Define the following terms
- i) Alternating current
- ii) Amplitude (Peak Value)
- iii) Time Period
- iv) Frequency
- v) Instantaneous value
- vi) Average value
- vii) R.M.S Value
- viii) Form Factor

4.2 Define Phase and phase difference.
4.3 Explain the concept of Poly-phase and 3-phase system.
4.4 Explain phase difference and Phase sequence in 3 phase system.
4.5 Draw the Star and Delta connections.
4.6 Write the relation between Line and Phase values in Star and Delta connection.
4.7 Solve simple conversion problems on line and phase values.

5.1 State the working principle of alternators.
5.2 State frequency and speed relations in alternators.
5.3 State the working principle of transformers and their ratings.
5.4 Define Transformation, Turns, Voltage and Current ratios.
5.5 State the relation between Transformation, Turns, Voltage and Current ratios
5.6 Describe the operation of a welding Transformer with sketch.
5.7 Explain working Principle of 3-phase induction motors.
5.8 State the applications of 3-phase induction motors.
5.9 List out types of 1-phase induction Motors.
5.10 Applications of 1-phase induction Motors.

6.1 List the various meters for measure the different electrical quantity.
6.2 Classify the different types of measuring instruments on the bases of working principle.
6.3. Explain the construction and working principle of Moving Coil instruments.
6.4 Explain the construction and working principle of Moving Iron instruments.
6.5 Explain the construction and working principle of Dynamometer type Wattmeter.
6.6 Explain the construction and working principle of 1-phase induction type energy meters.
6.7 State the precautions to be taken to avoid electric shock.
6.8 Explain effect of electrical shock and burn.
6.9 Explain the remedial procedures to be adopted in case of electric shocks.
6.10 State purpose of earthing of electrical equipment and machinery.
6.11 Describe the procedure of Pipe earthing
6.12 Describe the procedure of Plate earthing

Note : Where ever mentioned, simple formula substitution problems only be solved and no problems in the other specific objectives.

Suggested Student Activities

1. Student visits Library to refer to Manual of Electrical Safety.
2. Student inspects the available equipment in the Lab to identify the components
3. Quiz
4. Group discussions
5. Surprise test

CO-PO Mapping Matrix

	Basic knowledge	Discipline Knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & sustainability	Ethics	Individual and Team work	Communication	Lifelong learning	Linked PO
CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	
CO1	3	3						2	2	3	1,2,8,9,10
CO2	3	3			2	2		2	2	2	1,2,5,6,8,9,10
CO3	3	2						2	2	2	1,2,8,9,10
CO4	3	2			2	2		3	2	3	1,2,5,6,8,9,10
CO5	3	2						2	3	2	1,2,8,9,10
CO6	3	2			2	2		3	2	2	1,2,5,6,8,9,10

Internal Evaluation

Test	Units	Marks
Mid Sem 1	1 and 2	20
Mid Sem 2	3 and 4	20
Slip Test 1	1 and 2	5
Slip Test 2	3 and 4	5
Assignment	1	5
Seminars	1	5
	Total	60

QUESTION PAPER PATTERN FOR MID SEMESTER EXAMS

Sl.No	Description	Level	No of Questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering(R)	4	1	Nil	4 Marks
02	Part-B	Understanding(U)	4	3	2	6 Marks
03	Part-C	Application(A)	4	5	2	10 Marks
Total Marks						20 Marks

MID SEM-I EXAM

S.No	Unit No	R	U	A	Remarks
1	Unit-I	1,2	5(a)	7(a)	
			5(b)	7(b)	
2	Unit-II	3,4	6(a)	8(a)	
			6(b)	8(b)	
Total Questions		4	4	4	

MID SEM-II EXAM

S.No	Unit No	R	U	A	Remarks
1	Unit-III	1,2	5(a)	7(a)	
			5(b)	7(b)	
2	Unit-IV	3,4	6(a)	8(a)	
			6(b)	8(b)	
Total Questions		4	4	4	

The length of answer for each question framed in respect of Part-A, B&C shall not exceed ¼ of a page,1 page and 2 pages respectively

QUESTION PAPER PATTERN FOR SEMESTER END EXAM

Sl.No	Description	Level	No of Questions	Marks for each question	Choice	Total Marks
01	Part-A	Remembering(R)	8	1	Nil	8 Marks
02	Part-B	Understanding(U)	8	3	4	12 Marks
03	Part-C	Application(A)	8	5	4	20 Marks
Total Marks						40 Marks

Unit No	Questions to be set for SEE				
	R			U	A
I	4	1		9(a)	13(a)
II					
III		2		10(a)	14(a)
IV					
V		3	5, 6	9(b), 11(a), 11(b)	13(b), 15(a), 15(b)
VI			7, 8	10(b), 12(a), 12(b)	14(b), 16(a), 16(b)
Total Questions	8			8	8

Blue Print of Marks for SEE

Unit No	Unit Name	Periods	Questions to be set for SEE				
			R			U	A
1	Electrical engineering fundamentals	12	Q4	Q1		Q9(a)	Q13(a)
2	D.C.Generators	08					
3	D.C.Motors	12		Q2		Q10(a)	Q14(a)
4	A.C.Fundamentals	08					
5	A.C.Machines	08		Q3	Q5,Q6	Q9(b), Q11(a), Q11(b)	Q13(b), Q15(a), Q15(b)
6	Electrical measuring instruments & Safety procedures	12			Q7,Q8	Q10(b), Q12(a), Q12(b)	Q14(b), Q16(a), Q16(b)
Total		60	8			8	8

18PT-503EB

State Board of Technical Education and Training, Telangana
Model Question paper
Mid Semester-I Examination

Corse Code: 18PT-504EB

Duration:1 hour

Course Name: Electrical Technology **Max.Marks:20**

PART – A **Marks: 4 X 1= 4**

Instructions: (1) Answer all questions
(2) Each question carries **one** marks.

1. Define Ohm's Law.
2. Define Magnetic field strength
3. Write the EMF equation of D.C. Generator
4. Write the classifications of D.C. Generators

PART - B **Marks: 2 x 3 = 6**

Instructions: (1) Answer **all** questions.
(2) Each question carries **three** marks.

5.(a) State the Laws of Resistance.

OR

5.(b) State Kirchhoff's laws

6.(a) State the types of losses in D.C. Generator.

OR

6.(b) Draw the schematic diagram of D.C. Shunt Generator

PART - C **Marks: 2 x 5= 10**

Instructions: (1) Answer **all** questions.
(2) Each question carries **five** marks.

7.(a) State Faraday's laws of Electro Magnetic Induction.

OR

7.(b) Explain energy stored in a magnetic field.

8.(a) Draw power flow diagram of a D.C. Generator

OR

8.(b) Sketch the connection of welding generator.

STATE BOARD OF TECHNICAL EDUCATION &TRAINING ,TELANGANA

Model Question paper

Mid Semester-II Examination

Corse Code: 18PT-504EB Duration:1 hour

Course Name: Electrical Technology **Max.Marks:20**

PART – A **Marks: 4 X 1= 4**

Instructions: (1) Answer all questions
(2) Each question carries **one** marks.

1. Write the types of starters for D.C. motors
2. Write the classifications of D.C. motors
3. Define Time Period
4. Define R.M.S Value

PART - B **Marks: 2 x 3 = 6**

Instructions: (1) Answer **all** questions.
(2) Each question carries **three** marks.

5.(a). Draw the Schematic diagram of D.C. shunt motor.

OR

5.(b). Write the types of speed control of D.C. motors.

6.(a). Define Phase and phase difference

OR

6.(b). Draw the Star and Delta connections.

PART - C **Marks: 2 x 5= 10**

Instructions: (1) Answer **all** questions.
(2) Each question carries **five** marks.

7.(a). List the applications of D.C. motors

OR

7.(b). Explain the speed control by Armature control method

8.(a). Write the relation between Line and Phase values in Star and Delta connection.

OR

8.(b). Explain phase difference and Phase sequence in 3 phase system.

STATE BOARD OF TECHNICAL EDUCATION &TRAINING ,TELANGANA

SUB CODE: 18PT-504EB

Electrical Technology

SEMESTER END EXAM MODEL PAPER

TIME: 2 HOURS **TOTAL MARKS: 40**

PART – A **Marks : 8 X 1= 8**

Instructions: (1) Answer all questions
(2) Each question carries **one** mark.

1. Define Flux
2. Define Form Factor
3. Define Transformation ratio
4. Define Amplitude
5. Define Turns ratio
6. Define Current ratio
7. What is the instrument used to measure Voltage.
8. What is the instrument used to measure Current.

PART - B

Marks: 4 × 3= 12

Instructions: (1) Answer all questions.
(2) Each question carries **three** marks.

9.(a). State Faraday's laws of Electro Magnetic Induction.

OR

9.(b). List out types of 1-phase induction Motors.

10.(a). Write the relation between Line and Phase values in Star and Delta connection.

OR

10.(b).Write types of earthing systems.

11.(a). State frequency and speed relations in alternators.

OR

11.(b). State the working principle of transformers

12.(a). State the precautions to be taken to avoid electric shock.

OR

12.(b). Explain the effects of electrical shock

PART – C

Marks: 4 × 5= 20

Instructions: (1) Answer all questions.
(2) Each question carries **five** marks.

13.(a). Draw power flow diagram of a D.C. Generator.

OR

13.(b). Explain working Principle of 3-phase induction motors.

14.(a). Write the relation between Line and Phase values in Star and Delta connection.

OR

14.(b). Explain the construction and working principle of Moving Coil instruments.

15.(a). Applications of 1-phase induction Motors.

OR

15.(b). State the applications of 3-phase induction motors.

16.(a). Explain the construction and working principle of Moving Iron instruments.

OR

16.(b). Explain the construction and working principle of 1-phase induction type energy meters.

PACKAGING TECHONOLOGY

Course Title : Packaging Technology	**Course Code :18PT-505EA**
Semester : V	**Course Group : Core**
Teaching Scheme in Hrs (L:T:P) : 36:24:0	**Credits : 3**
Type of Course : Lecture + Assignments	**Total Contact Hours : 45hrs/60 pds**
CIE : 60 Marks	**SEE : 40 Marks**

Pre requisites

Basic knowledge of printing and packaging

Course Outcomes

CO1 :	Organise concept of packaging and classify packaging for various purpose
CO2 :	Perceive corrugated boxes and styles and classification of rigid boxes
CO3 :	Ancillary Materials used in packaging
CO4 :	Understanding about types of packaging
CO5 :	Define bar code
CO6 :	Understanding about total concept of packaging

Course Content

UNIT 1: CONCEPT OF PACKAGING AND PACKAGING FOR VARIOUS PURPOSE

Duration:12Pds

Packaging Definition – Criteria – Functions – History of Packaging Material Types of Packaging – Carton Designs – Planning –Stages of Art work –Role of CAD in Carton design - Flute Boards

UNIT 2: CORRUGATED AND RIGID BOXES **Duration:12Pds**

Corrugated Boxes – Different styles – Purposes –Equipment used for conversion - Fibre Board Boxes – Advantages - Rigid Boxes – Styles – Purpose and Classifications.

UNIT 3: ANCILLARY MATERIALS AND METAL BASED MATERIALS USED IN PACKAGING

Duration:12Pds

Selection of Ancillary Materials – Board, Lining Material, Cushioning Material - Covering papers and Adhesives – Sealing Tapes - Study of various metal based packaging materials – Strapping and Stapling – purpose, strength & elongation.

UNIT 4: TYPES OF PACKAGING SYSTEM AND ITS ADVANTAGES Duration:08Pds

Form - fill and seal machine -Pouch packaging system – Blister packing system - Strip packing Advantages & Drawbacks

UNIT 5: BAR CODING Duration:08Pds

Bar coding elements - spaces – procedure and steps of bar coding - Advantages & Implications – Different testing methods of packing

UNIT 6 - TOTAL CONCEPT OF PACKAGING Duration: 14 Periods

Definition of packaging – integrate part of production, as a part of physical distribution as a tool for marketing –Functions of packaging-Advantages of packaging-Disadvantages of packaging-Packaging criteria-The concept of packaging-Historical events in the development of packages. Role of packaging technologist and his functions-3P – concept, Packaging – packaging utilities – status – development factors – criteria – marketing – levels of packaging– containerization. Types of materials used for different packaging components and various types of hazards occur during different modes of transportation

SPECIFIC LEARNING OUTCOMES

CO1: Organize concept of packaging and classify packaging for various purpose

1.) Packaging definition
2.) Packaging criteria and functions
3.) History of packaging material
4.) Types of packaging
5.) Carton designs
6.) Planning a carton
7.) Stages of art work
8.) Role of CAD in carton design
9.) Flute boards

CO2: Perceive corrugated boxes and styles and classification of rigid boxes

1.) Corrugated boxes
2.) Different styles of corrugated boxes
3.) Purposes of rigid boxes
4.) Equipment used for conversion
5.) Fibre board boxes and advantages
6.) Rigid boxes
7.) Styles, purpose and classifications of rigid boxes

CO3: Criticize metal based materials used in packaging

1.) Selection of ancillary materials

2.) Board selection
3.) Lining material
4.) Cushioning material
5.) Covering papers and adhesives
6.) Sealing Tapes
7.) Study of various metal based packaging materials
8.) Strapping and Stapling
9.) Purpose, strength & elongation.

CO4: Spell types of packaging and its convenience

1.) Form - fill and seal machine
2.) Pouch packaging system
3.) Blister packing system
4.) Strip packing advantages & drawbacks

CO5: Demonstrate bar code

1.) Bar coding elements - spaces
2.) procedure and steps of bar coding
3.) Advantages & implications
4.) Different testing methods of packing

C06: Total concept of packaging

1. Definition of packaging
2. Functions of packaging
3. Advantages of packaging
4. Disadvantages of packaging
5. Packaging criteria
6. The concept of packaging
7. Historical events in the development of packages.
8. Role of packaging technologist-his functions
9. 3-P concept
10. Application of packaging materials
11. Assessment of hazards based on modes of transport.

Suggested Student Activities

1. Each student should visit library to refer to manual/Journals of Packaging related to packaging materials and components.
2. Each student should visit the Lab to know the materials used for packaging.
3. Each student will do the report on Types Different Packages available in the market
4. Prepare any one type of package carrying different food products in market.
5. Identify and prepare a list of materials used in the Different types of packaging applications.
6. Quiz and Group discussion
7. Surprise test

Recommended Books

1. Packaging – An Introduction.-Stanley Sacharow

2. Fundamentals of Packaging - F.A. Paine
3. The Packaging Users Hand Book F.A. Paine
4. Hand Book of Package Engineering- J.F. Hanlon
5. Packaging Encyclopaedia – Cahners Publishing Company.

e-Learning links:

1. **http://nptel.ac.in**
2. **www.packagingclinic.com**
3. **www.iip.in.com**
4. **https://pcri.org**

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching periods
CO1	Define and explain the need of packaging	R/U/A	1,2,9	**8**
CO2	Identify the type of corrugated boxes and rigid boxes	R/U/A	1,2,9,10	**12**
CO3	Ancillary materials of packaging	R/U/A	1,2,6,9	**8**
CO4	Classify packaging methods	R/U	1,2	**12**
CO5	Know about bar code	R/U/A	1,2,5	**8**
CO6	Understanding the concept of packaging	R/U/A	1,2,3,8,9,10	**12**
				60

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				
		R			U	A
1	I	4	1		9(a)	13(a)
2	II					
3	III		2		10(a)	14(a)
4	IV					
5	V		3	5, 6	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)
6	VI			7,8	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)
Total Questions		8			8	8

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE-MODEL PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Packaging Technology

Sub Code: 18PT- 505EA

Time : 2 Hours **Max Marks = 40**

Part – A 8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one marks

1. Define Packaging?
2. Write short on strapping?
3. Define bar code?
4. Write importance of corrugated boxes?
5. Classify bar code elements?
6. Write any 3 advantages with bar code?
7. Define concept of packaging?
8. Write functions of packaging?

Part – B 4 X 3 = 12 Marks

Answer the Following. Each Question carries 3 marks

9) a) Describe rigid boxes?

(OR)

b) Write about different testing methods of packaging

10 a) List out ancillary material and explain any one?

(OR)

b) Write disadvantages with packaging?

11 a)Describe procedure and steps of bar coding?

(OR)

b) Write advantages with bar code?

12 a) Describe levels of packaging?

(OR)

b) Explain about packaging materials?

Part – C 4 X 5 = 20 Marks

Answer The following. Each Question carries 5 marks

13) a) Explain about fibre board boxes?

(OR)

b) Write disadvantages with bar code?

14 a) Explain about pouch packaging system?

(OR)

b) Explain about developments in packaging?

15 a)Write about different testing methods of packaging?

(OR)

b) Write about bar code elements?

16 a) Explain about total concept of packaging?

(OR)

b) What do you know about different packaging components?

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Packaging Technology

Sub Code: **18PT- 505EA**

I MID SEM

Time : 1 Hours **Max Marks = 20**

Part – A 4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Define packaging
2. Write about carton design
3. Write short notes on rigid boxes
4. Write about corrugated boxes

Part – B 2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) Explain about history of packaging

(OR)

B.) Write about stages of art work

6. A.) Write about different styles of corrugated boxes

(OR)

B.) Write the purpose of rigid boxes

Part – C 2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

7. A.) Describe functions of packaging

(OR)

B.) Explain about flute boards

8.) A.) Write about fibre board boxes

(OR)

B.) Write advantages with rigid boxes

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Packaging Technology

Sub Code: **18PT- 505EA**

II MID SEM

Time : 1 Hours **Max Marks = 20**

Part – A 4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. List out ancillary materials
2. Write about sealing tapes
3. Write about form
4. Define pouch packaging

Part – B 2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) Describe cushioning materials

(OR)

B.) Write about adhesives in packaging

6.A.) Explain about blister packing system

(OR)

B.) Write strip packing advantages

Part – C 2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

7.A.) Explain about lining materials

(OR)

B.) Write about strapping and stapling

8.) A.) Write about drawbacks with strip packing

(OR)

B.) Explain about fill and seal machine

BASIC MECHANICAL ENGINEERING

Course Title :Basic Mechanical Engineering	**Course Code :18PT-505EB**
Semester : V	**Course Group : Core**
Teaching Scheme in Pds (L:T:P) : 36:24:0	**Credits : 3**
Type of Course : Lecture + Assignments	**Total Contact Hours : 45hrs/60 pds**
CIE : 60 Marks	**SEE : 40 Marks**

Pre requisites

Basic knowledge of Machines

Course Outcomes

CO1 :	Understanding Workshop Tools & Lathe Machine
CO2 :	LearningMechanical Properties and Working of Engineering materials
CO3 :	Understanding Basics of Engineering Mechanics
CO4 :	Identify Simple Stresses and Strains
CO5 :	Uses of Thermodynamics
CO6 :	Identify Thermodynamic processes & Entropy

Course Content

UNIT 1: Basic Workshop Tools & Lathe Machine Duration: 10Pds

Basic workshop processes - carpentry, fitting, forging and sheet metal work; Classification of Tools used in work shop; Marking & measuring tools such as steel rule, calipers, divider, Vernier calipers, sine bar, filler gauge, wire gauge, plate gauge, tri square, marking knife, Cutting tools such as saw, hack saw, chisels, wheel brace, drills, jackplane and files; Miscellaneous tools such as pincer, screwdriver, spanners and pliers;

Machine tools such as lathe machine –Lathe tool terminology; Construction and working principle of lathe with neat sketch; General operations of lathe.

UNIT 2:Mechanical Properties and Working of Engineering Materials Duration:08Pds

Important Engineering Materials used in industries; Various mechanical properties of engineering materials such as Tensile strength, Compressive strength, Ductility, Malleability, Hardness, Toughness,

Brittleness, Impact strength, Fatigue and Creep resistance; Hot working and cold working – their advantages and limitations.

UNIT 3: Basics of Engineering Mechanics **Duration: 10Pds**

Definition of the force, types of forces, system of forces, resolution of forces, free body diagram and equilibrium of forces; State the parallelogram law of forces, triangle law of forces.

UNIT 4: Simple Stresses and Strains **Duration: 10 Pds**

Define the terms stress, strain and Poisson's ratio; Types of stresses and strains; elastic limit, Hook's law; Stress - strain curve for ductile and brittle materials; Factor of Safety; Simple numerical problems related stress and strain values.

UNIT5: Fundamentals of Thermodynamics **Duration: 12Pds**

Definitions for system-boundary, surrounding, Types of thermodynamic systems- Properties of a system- Definitions for properties like pressure (p), Volume(v), Temperature (T), Enthalpy(H), Internal energy (U) and their units. Zeroth, first, second laws of thermodynamics.Gas Laws – Boyle's,Charle's Law – Joule's Law.

UNIT 6: Thermodynamic processes & Entropy **Duration: 10 Pds**

Types of thermodynamic processes, Expression for work done, change in internal energy. Concept of entropy.Derive characteristic gas equation – write universal gas equation, Specific heats Cp& Cv. Relationship between Cp, Cv& R.

Specaial Learning Outcomes

CO1: Purpose of various workshop tools and Lathe Machine

1.) Define different workshop processes
2.) Define carpentry, fitting, forging and sheet metal work
3.) Classification of Tools used in work shop-Marking & measuring tools such as steel rule, calipers, divider
4.) Explain the working principle of lathe machine

CO2: Identify different mechanical properties and engineering materials

1.) Definition of tensile strength, compressive strength
2.) Explain about ductility and malleability
3.) Distinguish hardness and toughness
4.) Explain about brittleness
5.) Definition of Impact strength, Fatigue and Creep resistance
6.) Explain about Hot working and cold working
7.) Discuss advantages and limitations of hot working and cold working

CO3: Select basic engineering mechanics

1.) Definition of the force
2.) Explain types of forces, system of forces
3.) Define Choice of resolution of forces
4.) Explain free body diagram and equilibrium of forces
5.) State the parallelogram law of forces
6.) Explain triangle law of forces

CO4: Understanding of stress and strain

1.) Define stress and strain
2.) Mention Poisson's ratio
3.) Explain Types of stresses and strains
4.) Describe strain curve for ductile and brittle materials

CO5: Perceive fundamentals of thermodynamics

1.) Definitions for system-boundary
2.) Classify Types of thermodynamic systems
3.) Definitions for properties
4.) Explain Zeroth, first, second laws of thermodynamics
5.) Derivation ofGas Laws – Boyle's,Charle's Law – Joule's Law

CO6: Analyzing of thermodynamic processes and entropy

1.) Classifythermodynamic processes
2.) Derive Expression for work done, change in internal energy.
3.) Define entropy
4.) Derive characteristic gas equation

Suggested Students Activities:

1.) Understand and make report on workshop tools and lathe machine
2.) Analyzing about Mechanical properties and Engineering materials
3.) Brief study on engineering mechanics
4.) Understand and make report on stress and strain and thermodynamics
5.) Differentiate types of thermodynamic processes and make a report on entropy

Recommended Books

1.Handbook of Mechanical Engineering- S.Chand
2. Basic Mechanical Engineering – Dr. D.S Kumar
3. Elements of Mechanical Engineering– S. Trymbaka Murthy
4. Basic Mechanical Engineering - Dr. Sadhu Singh

E-Learning Links:

1.) https://maker.pro/custom/tutorial/the-basic-mechanical-tools-you-need-for-your-workshop
2.) https://sengerandu.wordpress.com/tutorials/physical-metallurgy/engineering-materials/
https://www.electrical4u.com/mechanical-properties-of-engineering-materials/
3.) http://ecoursesonline.iasri.res.in/mod/page/view.php?id=125326
4.) file:///C:/Users/system1/Downloads/Book%20on%20Mechanics%20of%20Materials(Simple%20Stress%20and%20Strain).pdf
5) https://www.sfu.ca/~mbahrami/ENSC%20388/Notes/Intro%20and%20Basic%20Concepts.pdf
6) https://en.wikipedia.org/wiki/Thermodynamic_process
https://en.wikipedia.org/wiki/Entropy

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3 5, 6	9(b) 11(a) 11(b)	13(b) 15(a) 15(b)	
6	VI		7,8	10(b) 12(a) 12(b)	14(b) 16(a) 16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE-MODEL PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Basic Mechanical Engineering

Sub Code: 18PT-505EB

Time : 2 Hours **Max Marks = 40**

Part – A 8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one marks

1. List out workshop processes?
2. Define stress?
3. Define Pressure?
4. Write hooks law?
5. Define enthalpy?
6. Write short notes on internal energy?
7. List out thermodynamic processes?
8. Write about entropy?

Part – B 4 X 3 = 12 Marks

Answer the Following. Each Question carries 3 marks

9) a) Describe Tensile strength?

(OR)

b) Write about thermodynamics zeroth law?

10 a) explain about force?

(OR)

b) Write express for work done?

11 a) Describe properties of system?

(OR)

b) Explain about joule's law?

12 a) Describe change in internal energy?

(OR)

b) derive gas equation?

Part – C 4 X 5 = 20 Marks

Answer The following. Each Question carries 5 marks

13) a) write differences between hot working and cold working?

(OR)

b) Write about Boyle's law?

14 a) List out types of stress and strain and explain?

(OR)

b) Explain relation between cp, cv & R?

15 a)Write properties of volume and temperature?

(OR)

b) Write about first and second law of thermodynamics?

16 a) Explain about gas equation?

(OR)

b) What do you know about specific heats cp & cv?

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Basic Mechanical Engineering

Sub Code: 18PT-505EB

I MID SEM

Time : 1 Hours **Max Marks = 20**

Part – A 4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Define carpentry
2. Write about forging
3. Define hardness
4. Write about toughness

Part – B 2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) explain vernier callipers

(OR)

B.) Explain about cutting tools

6. A.) Explain about importance of engineering materials

(OR)

B.) Describe impact strength

Part – C 2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

7. A.) What do you know about miscellaneous tools

(OR)

B.) Explain about steel rule

8.) A.) Write about compressive strength

(OR)

B.) Write about ductility

CIE -MODEL QUESTION PAPER

DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Basic Mechanical Engineering

Sub Code: 18PT-505EB

II MID SEM

Time : 1 Hours **Max Marks = 20**

Part – A 4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Define force
2. List out forces
3. Write about poisson's ratio
4. Define brittleness

Part – B 2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) Describe system of forces

(OR)

B.) Explain resolution of forces

6. A.) Explain about elastic limit (OR)

B.) Write about ductile materials

Part – C 2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

6. A.) Explain about parallelogram law of forces

(OR)

B.) Explain about triangle law of forces

8.) A.) Write about hook's law

(OR)

B.) What do you know about stress and strain

WEB OFFSET LAB PRACTICE

Course Title:	**Web Offset Lab**	Course Code :	**18PT-506P**
Semester:	**V Semester**	Course Group :	**Core**
Teaching Scheme in Hrs(L:T:P):	**7.5:00:37.5**	Credits :	**1.5**
Type of Course :	**Lecture+Practical**	Total Contact Hours :	**45 Periods**
CIE :	**60 Marks**	SEE :	**40 Marks**

Pre requisites

Knowledge on Sheet Fed Offset

Course Content

UNIT 1: Lubrication and Maintenance

1) Lubrication and maintenance of the machine
2) Fixing the plate
3) Fixing the blanket
4) Preparation of the reel for running the job
5) Carrying out premake-ready procedures.
6) Studying operation of web offset printing machines.
7) Learning sheet handling for colour printing procedures.

UNIT 2: Printing Process

1) Handling of ink and dampening for colour printing.
2) Make-ready procedure for colour printing on web offset machine.
3) Multi colour printing operation.
4) Colour sequence alteration and their results.
5) Maintenance of quality and running the job.

6) Use of colour control strips.

7) Learning about anti-set off system.

8) Carrying out wash-ups

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	To carry out lubrication and cleaning of Machine	R/U/A	1,2,3,4,5,6,7,8	15
CO2	To prepare the machine for Printing	R/U/A	1,2,3,4	15

Suggested Student Activities

1. How to apply lubrication to machine.
2. Practicing of fixing blanket and plate cylinder.
3. Visit of offset machines.
4. Question on web offset printing process.
5. Conduct a Group discussion to be about the usefulness of the concerned section about inking and dampening units.
6. Surprise test in make ready procedure.

Suggested E-Learning references:

1. Lubricatio and Maintenance

- lubricant
- Lubrication Mechanisms
- bearing
- pistons, pumps, cams, bearings, turbines, cutting tools

2. Printing Process

- Toner-based printers
- Dot-matrix printers
- Cylinders of Nabonidus
- printing press
- Johannes Gutenberg
- Woodblock printing
- Printing capacity

Model Question Paper

C-18, Diploma in Printing Technology, 5th Semester

18PT-506P: Web offset Lab Practice

Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour **Total Marks: 20 / 20 / 40**

Note:

*i. Answer any **one** of the following.*

ii. Use lottery system for allocation of the experiment for the examination.

****

1. Explain about machine lubrication.
2. What is the importance of machine maintenance.
3. What do you know about plate and blanket fixing.
4. Explain about make ready
5. Write about inking unit.
6. What is the importance of dampening unit.
7. Explain about multi colour printing.
8. Write about anti setoff system.
9. What do you know about offset printing process.
10. Explain about pre make ready procedures.

PAPER TESTING LAB PRACTICE

Course Title	**Paper Testing Lab Practice**	Course Code	**18PT- 507P**
Semester	**V**	Course Group	**Core**
Teaching Scheme in Hrs(L:T:P)	**7.5:00:37.5**	Credits	**1.5**
Type of Course	**Lecture+ Practical**	Total Contact Hours	**45Periods**
CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

Knowledge on Different Printing Processes

Course Content

[illegible]	**Paper Testing Lab**	[illegible]	[illegible]
Semester	**V1**	Course Group	**Core**
Teaching Scheme in Hrs(L:T:P)	**7.5:00:37.5**	Credits	**1.5**
Type of Course	**Lecture+ Practical**	Total Contact Hours	**45Periods**
CIE	**60 Marks**	SEE	**40 Marks**

UNIT 1: Quality Testing **Periods-23**

1.) Checking GSM of Paper
2.) Brightness test
3.) Opacity of Paper
4.) Testing the number of folds paper can withstand
5.) Burst strength of the paper
6.) Testing the ink penetration on the paper

UNIT 2:Colour measurements **Periods-22**

1.) Digital Grammage
2.) Tensile Strength Testing
3.) Oil penetration Testing
4.) Folding Endurance Testing
5.) Burst Strength Testing
6.) Tearing Resistance Tester
7.) Cobb Sizing Tester

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Learning Different types of Paper Quality Testing Methods	R/U/A	1,2,2,4,9,10	15
CO2	Practising Paper testing using different Equipment	R/U/A	1,2,4,9	15

Suggested Student Activities

1. Identification of GSM of Paper.
2. Practicing on paper testing machine.
3. Visit of paper testing lab.
4. Question on colour measurement.
5. Conduct a Group discussion to be about the usefulness of the concerned section in paper testing section.
6. Surprise test in each section of colour measurement and paper testing.

Suggested E-Learning references:

1. Quality Testing

- *Quality Progress*, ISSN 0033-524X American Society for Quality
- *Quality Assurance in Education*, ISSN 0968-4883, Emerald Publishing Group
- *Accreditation and Quality Assurance*, ISSN 0949-1775
- *Food Quality and Preference*

2. Colour Measurement

- CIE 1931 XYZ color space tristimulus values
- Precise Color Communication – from perception to instrumentation
- HunterLab - A guide to color and appearance
- related to colorimetry

Model Question Paper

C-18, Diploma in Printing Technology, 6th Semester

18PT-507P: Paper Testing Lab Practice

Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour **Total Marks: 20 / 20 / 40**

Note:

*i. Answer any **one** of the following.*

ii. Use lottery system for allocation of the experiment for the examination.

****

1. Write about paper opacity.
2. Explain about brightness.
3. What do you know about paper testing.
4. Explain about colour measurement.
5. Write about tensile strength testing.
6. What is cob sizing tester.
7. Explain about tearing resistance strength.
8. Write about folding endurance testing.
9. What do you know about oil penetration tester.
10. Explain about burst strength.

WEB DEVELOPING LAB PRACTICE

Course Title:	**Web Developing Lab Practice**	Course Code :	**18PT-508P**
Semester:	**V Semester**	Course Group :	**Core**
Teaching Scheme in Hrs(L:T:P):	**7.5:00:37.5**	Credits :	**1.5**
Type of Course :	**Lecture + Practical**	Total Contact Hours :	**45Periods**
CIE :	**60 Marks**	SEE :	**40 Marks**

Pre requisites

Knowledge on Computer Fundamentals

Course Content

HTML

1. Introduction to HTML
2. Tags in HTML
3. First Web Page
4. Structure of Web Page
5. Creating Full web page
6. Header Tags
7. Formatting Text
8. Ordered Lists
9. Unordered Lists
10. Images
11. Forms
12. Tables
13. Links
14. HTML Entities
15. I Frames

Cascade Style Sheets

1. Introduction to CCS
2. Inline CSS
3. Internal CSS
4. Classes and IDs
5. Dives
6. Colours
7. Floating
8. Positioning

9. Margins
10. Padding
11. Boarders
12. Fonts
13. Styling Text
14. Aligning Text
15. External CSS

Java Script

1. Introduction to Java Script
2. Internal Java Script
3. Accessing Elements
4. Responding to Click
5. Changing Website Content
6. Manipulating Styles with Java Script
7. Disappearing Circles
8. Variables
9. Arrays
10. If Statements
11. Loops
12. While Loops
13. Functions
14. External Java Script

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Demonstrate knowledge and skills utilizing various HTML tags for designing a static web page.	R/U/A	1,2,6,7,8	15
CO2	Creating Cascade Style Sheets	R/U/A	1,2,3,4	15
CO3	Enable interactive Web pages using JavaScript	R/U/A	1,2,3,4	15

Suggested Student Activities

1 Explain about HTML.
2 Practicing on computer.
3 Visit of software industry.
4 Question on java script.
5 Conduct a Group discussion to be about the usefulness of the concerned section in HTML.
6 Surprise test in each section of the designing section.

Suggested E-Learning references:

1. HTML
   - HTML elements
   - interactive forms
   - interactive forms
   - JavaScript
2. Cascade style sheets
   - style sheet language
   - markup language
   - JavaScript
   - fonts
   - CSS validation service
3. Java script
   - many non-browser environments
   - about JavaScript
   - about JavaScript

Model Question Paper

C-18, Diploma in Printing Technology, 6th Semester

18PT-508P: Web Developing Lab Practice

Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour **Total Marks: 20 / 20 / 40**

Note:

*i. Answer any **one** of the following.*

ii. Use lottery system for allocation of the experiment for the examination.

****

1. Write about HTML.
2. Explain about external java script.
3. What do you know about internal java script.
4. Explain about web page.
5. Write about designing steps.
6. What are cascade style sheets.
7. Explain about HTML steps.
8. Write about java script functions.
9. What do you know about margins.
10. Explain about colours.

PROGRAMMING IN C LAB PRACTICE

Course Title :	**Programming in C lab practice**	Course Code	**18PT-509P**
Semester	**V**	Course Group	**Core**
Teaching Scheme in Periods(L:T:P)	**15:00:30**	Credits	**1.5**
Methodology	**Lecture + Practical**	Total Contact Hours :	**45Pds**
CIE	**60 Marks**	SEE	**40 Marks**

Pre requisites

Basic knowledge of Computer Operation.

Course outcomes

Course Outcome	
CO1	Write programs using input/output statements, variables and operators
CO2	Work on Constants, Variables, Data Types, Operators and Expressions in C
CO3	Construct programs on Decision making and Looping statements.
CO4	Develop programs using arrays, Strings and structures

Course Content

1. **Programming Methodology and Introduction to C Language** **Duration: 5 Periods**

   Program - Define High level language and low level language-history of C language - importance of C language – Define & Differentiate Compiler, Assembler - structure of C language - programming style of C language - steps involved in executing the C program

2. **Understand Constants, Variables and Data Types in C and Understand Operators and Expressions in C**

   Duration: 15 Periods

   Character set - C Tokens - Keywords and Identifiers- Constants and Variables - data types and classification - declaration of a variable - Assigning values to variables - Define an operator - Define an expression -Classify operators - List and explain various arithmetic operators with examples -Illustrate the concept of relational operators - List logical operators - various assignment operators - Increment and decrement operators - Conditional operator - List bitwise operators -List various special operators- Arithmetic expressions- precedence and associativity of operators- Evaluation of expressions - formatted input and output.

3. Decision making and Looping statements **Duration: 10 Periods**

Simple if statement with sample program – if else statement – else if statement – switch statement - Classification of various loop statements- while statement – do-while statement - for loop statement - break and continue statements.

4. Arrays and Structures **Duration: 15 Periods**

Arrays - declaration and initialization of One Dimensional - Accessing elements in the Array - Declaration and initialization of two Dimensional Arrays - sample programs on matrix addition and matrix multiplication – Strings – String handling functions - Declaration of a Structure – Structure members – Array of structures.

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Write programs using input/output statements, variables and operators	**R, U, A**	**1,2,3,4,8,9,10**	**5**
CO2	Work on Constants, Variables, Data Types, Operators and Expressions in C	**R, U, A**	**1,2,3,4,8,9,10**	**15**
CO3	Construct programs on Decision making and Looping statements.	**R,U, A**	**1,2,3,4,8,9,10**	**10**
CO4	Develop programs using arrays, Strings and structures	**U, A**	**1,2,3,4,8,9,10**	**15**
			Total Sessions	**45**

REFERENCE BOOKS

1. Let Us C -- YeshwanthKanetkar BPB Publications
2. Programming in ANSI C -- E. Balaguruswamy Tata McGrawHill
3. Programming with C -- Gottfried Schaum'outline
4. C The complete Reference -- Schildt Tata McGraw Hill

List of Experiments

1. Exercise on structure of C program
2. Exercise on Keywords and identifiers
3. Exercise on constants and variables
4. Execution of simple C program
5. Exercise on operators and expressions
6. Exercise on special operators

7. Exercise on input and output of characters
8. Exercise on formatted input and output
9. Exercise on simple if statement
10. Exercise on if else statement
11. Exercise on else if ladder statement
12. Exercise on switch statement
13. Exercise on conditional operator
14. Exercise on while statement
15. Exercise on for statement
16. Exercise on do...while statement
17. Exercise on one dimensional arrays
18. Exercise on two dimensional arrays
19. Exercise on string handling functions.
20. Exercise on structure
21. Exercise on array of structures

SCHEME OF INSTRUCTIONS AND EXAMINATION

18PT-510P- PROJECT

V SEMESTER

S. No	Subject	Items	Max Marks	Remarks
1	PROJECT	1. Project I spell (Abstract submission)	25	Evaluate as per Rubrics 1
		2. Project II spell (Final submission)	25	Evaluate as per Rubrics 2
		3.a)Maintenance of Log Book	15	
		b)Record work	15	
		4.a) Seminar	10	
		b) Viva Voce	10	
Total: 100				

Note:

The Project shall carry 100 marks and pass marks are 50%

A candidate failing to secure the minimum marks has to reappear for the mini project with a new topic.

Guidelines for a Mini Project:

Project helps the student to explore and strengthen the understanding of fundamentals through practical application of theoretical concepts. Project can help to boost the skills and widen the horizon of thinking. It acts like a beginners guide to do larger projects later in their career. Here are some tips, which help a student to come out with a successful Mini Project.

1. Selection of Topic:

Selection of topic is an important task in a Project. One should have a clear idea about one's subject strengths and the selected topic should be relevant to it. Always select the project that has value addition. Always select a project which is either advantageous to a lot of people or enhance your technical and managerial skills. The project must play its role towards a positive growth/development in that specific field.

2. Research about the selected topic online:

Do some online search about the selected topic. Go through the research papers from different researchers around the world on the topics related to Project. Find some websites containing the information about the materials used for Project.

3. Suggestions from subject experts:

Consults the subject experts in the Institution and interact with them about the Project topic. The student can also meet many subject experts from various parts of India through social media and some discussion forums. This helps the student in getting suggestions in different possible ways, through which gives a clear idea on the topic selected for Project.

4. Planning:

After getting a clear idea about the topic, prepare a rough plan about procurement of resources, experimentation and fabrication along with the teammates. Make a rough schedule, adapt to it and distribute the work among the teammates. This will keep your Project on track and individuals will come to know about their part in the Project rather than any individual (leader) taking full responsibilities.

5. Execution of plans:

Make sure that the materials will be ready for the experimentation/fabrication by the scheduled time. Follow the schedule during experimentation/fabrication to get accurate and efficient results.

6. Presentation:

Experimentation/Fabrication does not make a Project successful; one should be able to present the results in proper way. So it should be prepared in such a way that, it reflects the exact objective of the Project.

Guidelines for Preparation of Report:

The project report should follow the following format:

I. *Abstract:*

Give a brief overview of the project in not more than one page.

II. *Introduction:*

Discuss briefly an overview of the sector/industry/background to the topic/problem.

State the objectives of the research

Summary of the project/case scenario

III. Literature Review (one and half pages)

Give the brief outline of the of the findings given in the Technical Papers/Books, journals etc related

to the topic i.e. what other scholars have written about the topic (citations).

IV. *Search/Research Methodology*

The plan/methodology of carrying out the project-interviews/questionnaires/secondary data

V. *Discussion of the findings*

The use of graphs, tables, pictures etc.., is essential

VI. *Conclusions and Recommendations*

Give the conclusions/ Your remarks/ Recommendations

VII. *References*

Minimum requirements: A minimum number of references should be at least five (5)

The project should have a maximum of 20 pages of 12 font size in Times New Roman format.

Presentation(20 Marks):

Criteria for evaluating presentation.

Structure: Is the structure evident, understandable, appropriate? Is transition from point to point smooth?

Slides / transparencies: Are slides well designed (not too busy, right font)? Are graphic and visual appropriate? Any spelling, grammar, word use slips?

Timing: Is presentation timed properly, rehearsed?

Style: Is the level of treatment appropriate (not too detailed or too general)? Is the presentation energetic, enthusiastic, and clear? Is the volume good?

Appearance: Students are expected to present in formal attire.

Handling of Questions: How the students respond to the question and answer session.

Viva Voice: (20 Marks)

The lecturer/Head of section/External Examiner will ask students individual questions one – one based on the report and the presentation submitted. The questions should be related to the topics covered.

Important Points:

The projects have to be done in groups.

Students are needed to visit companies and interact with the employees there and gather information the various aspects of Operations Management.

The students should have to submit the report on the week of Mid- assessments (I and II)

The Viva Voice will give students their individual marks, while the Report and the presentation will be common.

RUBRICS-1:

	GOOD	AVERAGE	ACCEPTABLE	UNACCEPTABLE
Identification of problem	Good explanation of the purpose and need of the project	average explanation of the purpose and need of the project	Moderate explanation of the purpose and need of the project	Minimal explanation of the purpose and need of the project
Study the existing systems	Collects a great deal of information and good study of the existing systems	Collects some basic information	Limited information	Incomplete information
Objectives and methodology	Good justification to the objectives	Incomplete justification to the objectives	Only some objectives of the proposed	Objectives of the proposed work are either not identified or not well

RUBRICS-2:

	GOOD	AVERAGE	ACCEPTABLE	UNACCEPTABLE
Incorporation of suggestions	Changes are made as per modification	All major changes are made as per modification	Few changes are made	Suggestions are not incorporated
Project demonstration	All defined objectives are achieved	All modules are achieved	Some of the defined objectives are achieved	Defined objectives are not achieved
Demonstration and presentation	Objectives achieved as per time frame	Objectives achieved as per time frame	Objectives achieved as per time frame	No Objectives achieved as per time frame
Team work and Motivation	Approaches the project with self motivation and mingling with the team work	Completes the project without must self confidence	Completes the task assigned individually	Partially completed and lacks self motivation

SKILL UP GRADATION/ ACADEMIC ACTIVITIES

CREDITS - 2.5

1.) Each student will do the report on construction of web fed offset presses
2.) Prepare a report on Dampening and Inking rollers maintenance
3.) Prepare a report on Web handling by robots.(search net)
4.) Prepare a complete report on Make ready of a web fed Press.
5.) Understand and make report on Non impact printing
6.) Applications of security printing
7.) Discussion on advertising
8.) Understand and make report on Functions of advertising
9.) Understanding about advertising ethics and advertising in marketing
10.) Understand and make report on Estimating and Estimator
11.) Compare the Estimate and Cost
12.) Understand and make Report on Estimating Form
13.) Understand and make report on Meaning of Costing
14.) Difference Between Material And Labour Cost
15.) Understand and Make Report On Book Keeping
16.) Student visits Library to refer to Manual of Electrical Safety.
17.) Student inspects the available equipment in the Lab to identify the components
18.) Quiz
19.) Group discussions
20.) Surprise test
21.) Each student should visit library to refer to manual/Journals of Packaging related to packaging materials and components.
22.) Each student should visit the Lab to know the materials used for packaging.
23.) Each student will do the report on Types Different Packages available in the market
24.) Prepare any one type of package carrying different food products in market.
25.) Identify and prepare a list of materials used in the Different types of packaging applications.
26.) Quiz and Group discussion
27.) Surprise test
28.) Understand and make report on workshop tools and lathe machine
29.) Analyzing about Mechanical properties and Engineering materials
30.) Brief study on engineering mechanics
31.) Understand and make report on stress and strain and thermodynamics
32.) Differentiate types of thermodynamic processes and make a report on entropy
33.) How to apply lubrication to machine.
34.) Practicing of fixing blanket and plate cylinder.
35.) Visit of offset machines.
36.) Question on web offset printing process.
37.) Conduct a Group discussion to be about the usefulness of the concerned section about inking and dampening units.
38.) Surprise test in make ready procedure.
39.)Identification of GSM of Paper.
40. Practicing on paper testing machine.
41. Visit of paper testing lab.
42. Question on colour measurement.
43. Conduct a Group discussion to be about the usefulness of the concerned section in paper testing section.

44. Surprise test in each section of colour measurement and paper testing.

7 Explain about HTML.
8 Practicing on computer.
9 Visit of software industry.
10 Question on java script.
11 Conduct a Group discussion to be about the usefulness of the concerned section in HTML.
12 Surprise test in each section of the designing section.