AR18

CODE: 18CET418 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February-2023

ESTIMATION COSTING AND QUANTITY SURVEYING

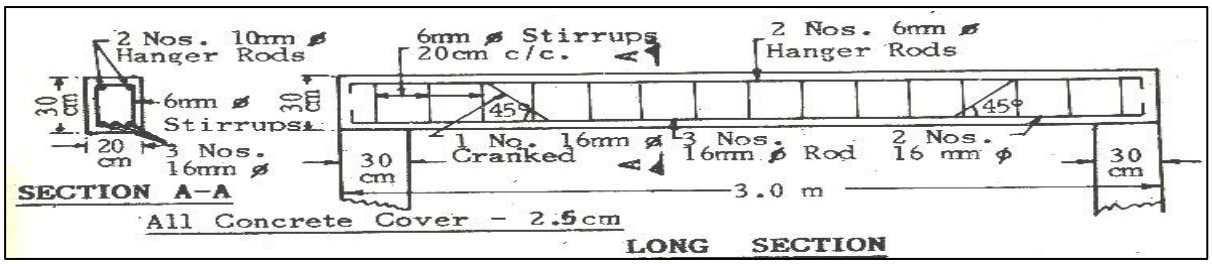
(Civil Engineering)

Time: 3 Hours **Max Marks: 60**

PART-A

Answer any Three questions Part-A **[3 X 12 = 36 M]**

1. a) Explain the importance of estimation? 6M
   b) What are the various methods of estimating and explain about individual wall method with example? 6M
2. a) Discuss the various methods of estimating the quantity of earthwork in canals. 6M
   b) Calculate the quantity of earth work by Mid-sectional area; Mean sectional area and Prismoidal formula methods for 200 m length for a portion of a road in a uniform ground the heights of banks at the two ends being 1.0 m and 1.6 m. The formation width is 10 m and side slopes 2:1. Assume there is no transverse slope. 6M
3. a) Explain the detailed specifications of R.C.C and I class Brick work? 6M
   b) Prepare a rate analysis for the following items 6M
   (i) 12 mm plastering 1:3 cement coarse sand mortar surface neat cement finish –unit sq.m.
   (ii) R.C.C work in Slab and beam with proportion 1:2:4 – unit cu.m
4. Prepare the detailed estimate for R.C.C rectangular beam of 3.0 m overall length and 20cm×30cm in section from the given drawings. And prepare schedule of bars. 12 M

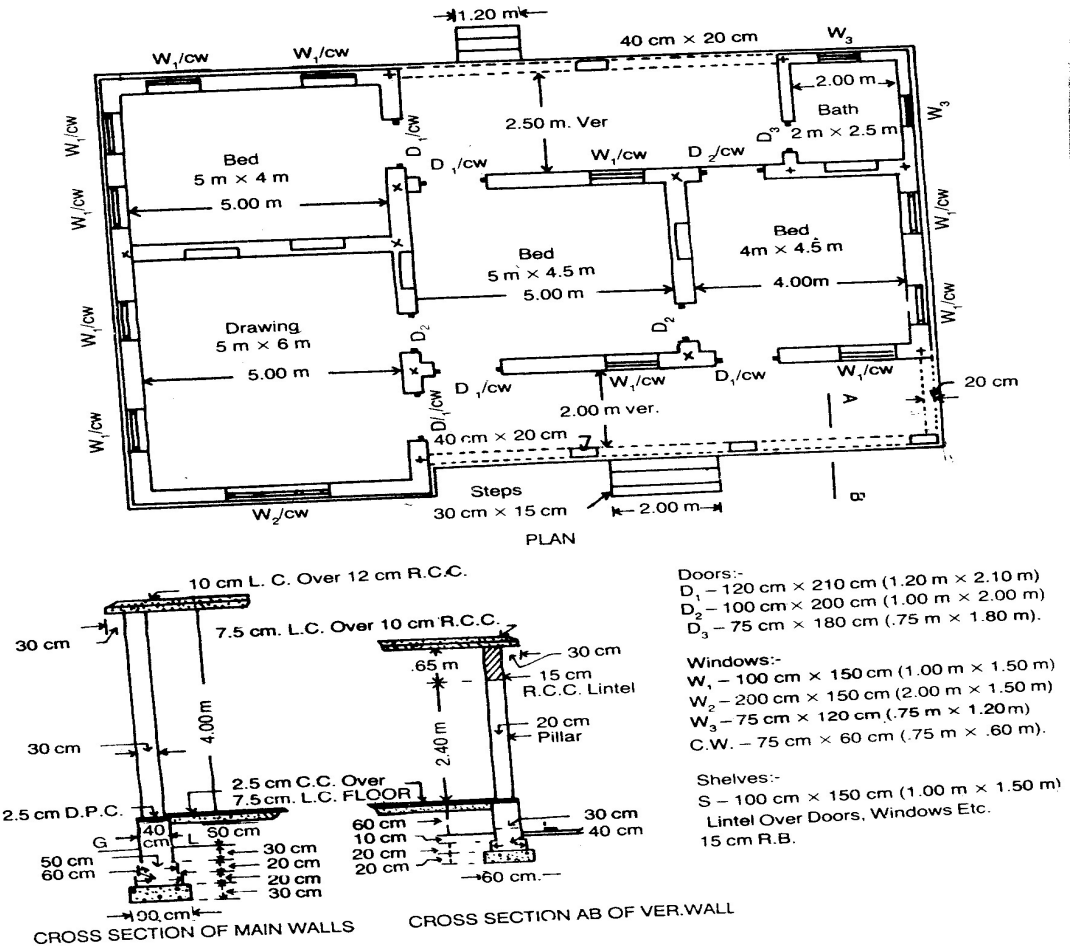


5. a) Discuss the construction safety is planning by using BIM tool. 6M
   b) Write short note on Basic modelling and project navigation, 6M

PART-B

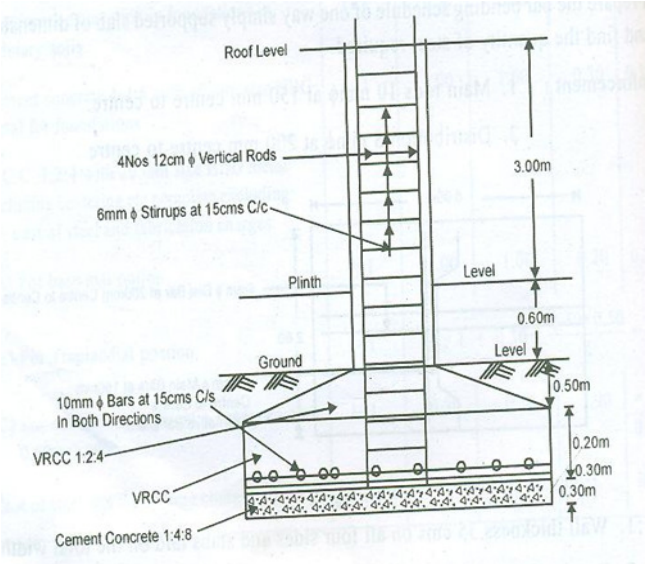
Answer any ONE question from Part-AB **[1 X 24 = 24 M]**

6. Estimate the quantities of the following items of a building from the given figure by general method. 24 M
   i) Earthwork work in excavation in foundation ii) Cement concrete in foundation
   iii) D.P.C iv) Brick work in foundation and plinth
   v) I class Brick work in super structure



7. a) What is tender? Prepare a tender schedule for a school building to be executed on behalf of department of higher education. 12 M

b) Prepare a detailed estimate of a R.C.C square column of size 0.30 X 0.30 m, base 1.2 X 1.2 m. from the given drawing. 12 M



AR18

CODE: 18HST404 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February-2023

MANAGERIAL ECONOMICS AND MANAGEMENT SCIENCE

(Common to EEE & ECE)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Explain the law of demand with an illustration.	6M
	b)	Discuss the concept of Elasticity of Demand.	6M
		(OR)	
2.	a)	Describe judgemental approach to demand forecasting.	6M
	b)	Classify different statistical methods of demand forecasting.	6M

UNIT-II

3.	a)	How Iso quants and Iso costs are related in production function.	6M
	b)	Illustrate least cost combination of inputs.	6M
		(OR)	
4.	a)	Distinguish between fixed and variable costs.	6M
	b)	Illustrate out of pocket costs and imputed costs.	6M

UNIT-III

5.	a)	Discuss different types of competition.	6M
	b)	Explain the characteristics of perfect competition.	6M
		(OR)	
6.	a)	Explain cost based pricing strategies.	6M
	b)	Discuss characteristics of monopolistic competition.	6M

UNIT-IV

7.	a)	Explain Elton Mayo's experiments.	6M
	b)	Discuss system's approach to management.	6M
		(OR)	
8.	a)	Explain two factor theory of motivation.	6M
	b)	Outline responsibilities of management towards society.	6M

UNIT-V

9.	a)	Discuss the various phases of product life cycle with reference to features.	6M
	b)	Explain the functions of retailers in distribution.	6M
		(OR)	
10.	a)	Outline the procedure of grievance handling.	6M
	b)	Explain the terms job evaluation and merit rating.	6M

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AR18

CODE: 18HST403 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February-2023

MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS

(Mechanical Engineering)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Define demand? Explain the determinants of demand.	6M
	b)	Critically explain the importance of managerial economics	6M
		(OR)	
2.	a)	Why does demand curve slope downwards? Explain.	6M
	b)	Define managerial economics? Discuss its nature and scope.	6M

UNIT-II

3.	a)	Define elasticity? Explain the different types of elasticity of demand.	6M
	b)	Explain the various types of demand forecasting methods.	6M
		(OR)	
4.	a)	Differentiate between Statistical method and expert opinion method.	6M
	b)	Write a note on Judgmental approach to demand forecasting and how its work?	6M

UNIT-III

5.	a)	Define Break-Even Analysis? Explain the limitations of BEA.	6M
	b)	Define cost? Explain the various types of costs.	6M
		(OR)	
6.	a)	Define production? Discuss the theory of production function.	6M
	b)	Define economies of scale? Explain the importance of economies of scale.	6M

UNIT-IV

7.	a)	What do you mean by Monopoly? Explain about the Monopoly market.	6M
	b)	What do you understand by price determination? Explain with examples.	6M
		(OR)	
8.	a)	Differentiate between perfect and imperfect market competition.	6M
	b)	What do you understand by Project evaluation techniques and how its work?	6M

UNIT-V

9.	a)	Define Accounting? Explain the various types of methods.	6M
	b)	Define Double-Entry book keeping? Explain with examples.	6M
		(OR)	
10.	a)	Define Balance sheet? Explain the importance of Balance sheet.	6M
	b)	Explain about the trading, profit and loss accounts with examples.	6M

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AR18

CODE: 18CST416 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February-2023

WEB TECHNOLOGIES

(Common to CSE & IT)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1. a) Write the Basic Syntax of HTML and explain Standard HTML Document Structure. 6M
   b) What is list? Explain various types of lists with a program. 6M

(OR)

2. a) List out various Form tags each with suitable example? 6M
   b) Explain the Box Model and Conflict Resolution in CSS . 6M

UNIT-II

3. a) Explain about Pattern Matching using Regular Expressions in detail, with example. 6M
   b) Write a JavaScript program that reads an integer and displays a message whether it is a Prime number or Not ? 6M

(OR)

4. a) What is the need of Control Statements . Explain each type with proper syntax. 6M
   b) Define Function with its syntax .Write an example program to illustrate the functions concept . 6M

UNIT-III

5. a) Define DTD? Write both Internal and External DTDs for the following XML file Students.xml: 6M

```
<?xml version="1.0"?>
<students>
        <student roll=”1”>
        <firstname> Bipin </firstname>
        <lastname> Rawat </lastname>
        <year> 3 </year>
        <courses>
            <course id=”1”>
                <name> Advanced Java </name>
            </course>
            <course id=”2”>
                <name> Web Technologies </name>
            </course>
        </courses>
    </student>
</students>
```

	b)	Differentiate between DOM and SAX XML Parsers.	6M
		(OR)	
6.	a)	Explain XML schemas in detail.	6M
	b)	Explain the basic structure of an XML document. Differentiate XML and HTML	6M

UNIT-IV

7.	a)	Explain about JDBC Drivers, JDBC API.	6M
	b)	How to Querying a Database.	6M
		(OR)	
8.	a)	Write short notes on javax.servlet Package	6M
	b)	How to Read Parameters in servlet with proper syntax and example.	6M

UNIT-V

9.		Write a JSP program to store and retrieve the Student details from MySQL data base.(Student table contains: rollno, name, branch,year)	12M
		(OR)	
10.	a)	What is the syntax for declaring variables and methods in JSP? Give examples	6M
	b)	Explain about JSP life cycle.	6M

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AR16

CODE: 16CE4027 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February-2023

ESTIMATION AND QUANTITY SURVEYING

(Civil Engineering)

Time: 3 Hours **Max Marks: 70**

All parts of the Question must be answered at one place

Answer any Three questions Part-A **[3 X 14 = 42 M]**

PART-A

1. a) What are the different types of Approximate Estimate? 7M
   b) Summarize the advantages of centre line method over long wall and short wall method? 7M
2. a) Illustrate about the quantities of materials required for the following works Ist Brick work in CM 1:5 – 1 m3 7M
   b) Plastering in CM 1:6, 12mm thick – 10 m3 7M

3. Calculate the quantity of earthwork in a tabular form for a portion of road from given data side slopes 2:1 in banking, 1½ :1 in cutting formation width of road is 10m. Levels have been taken every 40m apart. RL of formation 139.0m at 200m and in downward gradient of 1 in 200. 14M

Distance (m)	200	240	280	320	360	400	440	480	520	560
RL of Groud	117.2	138.35	138.20	137.65	138.0	137.2 135.3	135.1	135.95	136.6	136.15

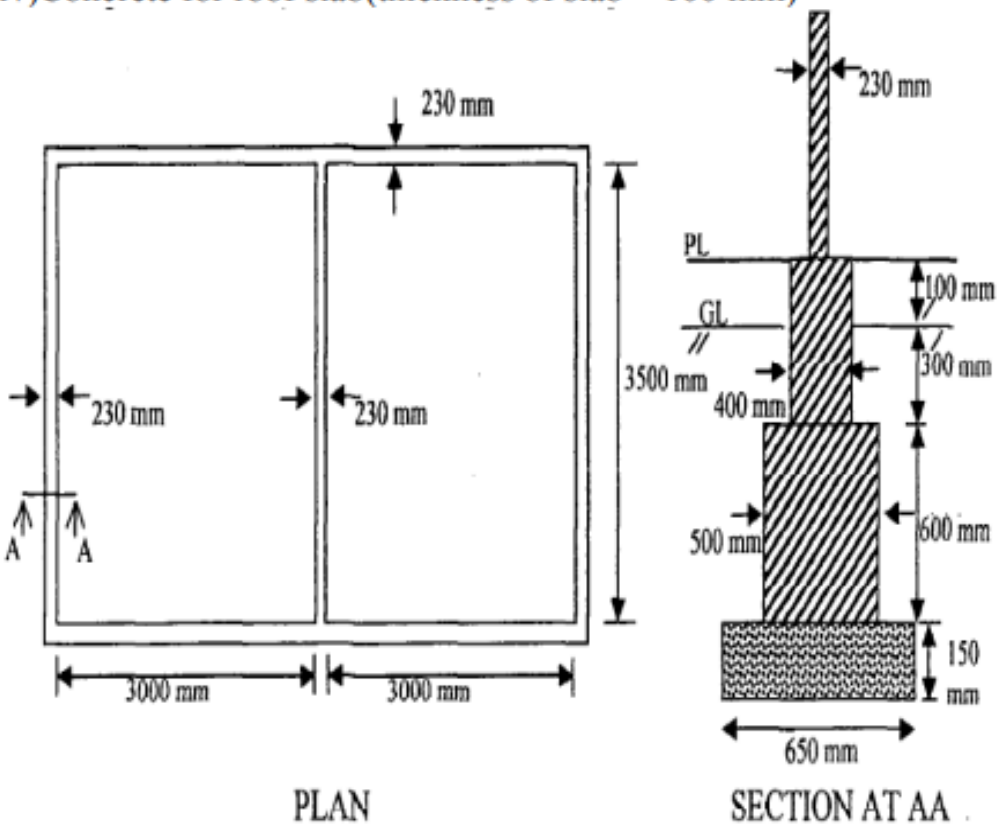
4. Calculate the quantity of steel reinforcement required for a roof slab of 3m X 6m and fully resting over a wall of 300 mm thick on all sides. 14M
   Details of reinforcement:
   (i) 10 mm dia main bars are provided in shorter span direction at 150 mm c/c.
   Alternative bars are bent up neat the support and all bars are hooked at both ends.
   (ii) 8 mm dia distribution bars are provided in longer span direction at 200 mm c/c. To hold the bent up bars in position 3 no's distribution bars are provided on each side at top.
   (iii) Cover: Bottom and top cover to reinforcement taken as 15 mm and end cover of 25 mm is provided.

5. List and explain the different forms of contracts with respect to suitability advantage and disadvantages. 14M

Part-B

Answer one question in Part-B **[1 X 28 = 28 M]**

6. The Plan and sectional elevation of the building are given in Fig 28M
Find the Estimate the quantities for the following items of works.
(i) Earthwork in Excavation
(ii) Plain Cement Concrete for Foundation
(iii)Ist class Brickwork for foundation
(iv)Concrete for roof slab(thickness of slab = 100 mm)



PLAN SECTION AT AA

7. The Plan and sectional elevation of the building are given in Fig-1a, b 28M
Find the Estimate for quantities for the following items of works.
(i) RCC slabs, lintels & sunshades. (ii) Doors and windows (iii)Plastering internal

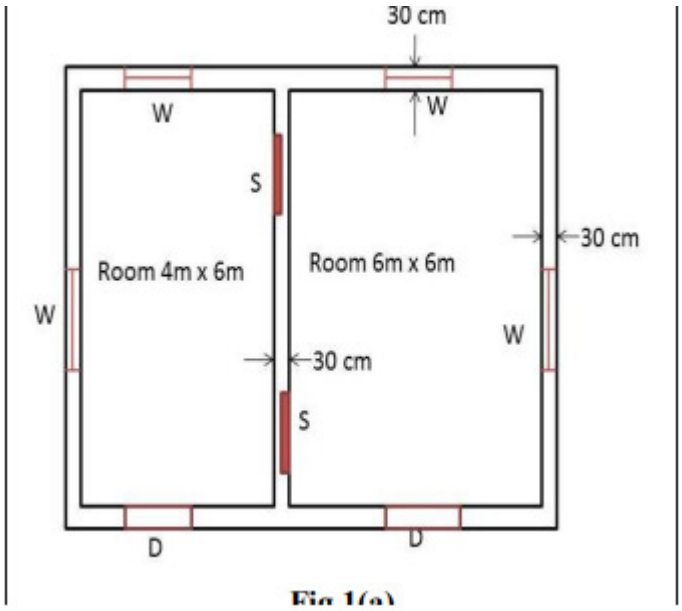
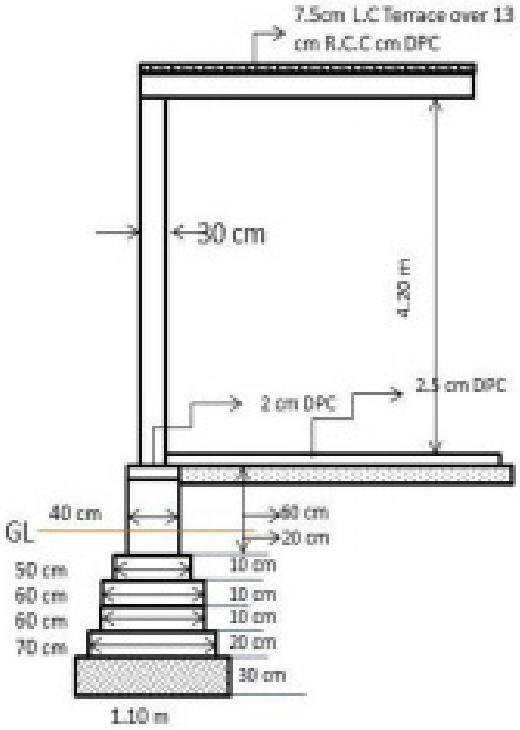


Fig 1(a)



DOORS D - 1.20 m x 2.10m
WINDOWS W - 1.00X1.50m
SHELVES S - 1.00m x 1.50m

1(b)

AR16

CODE: 16HS4005 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Supplementary Examinations, February-2023

MANAGERIAL ECONOMICS AND MANAGEMENT SCIENCES

(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Define the term Managerial Economics. Explain its significance.	7M
	b)	Discuss the various steps in Demand forecasting.	7M
		(OR)	
2.	a)	What are the determinants of demand?	7M
	b)	Explain the different types of price elasticity of demand.	7M

UNIT-II

3.	a)	Discuss the nature of Isoquant and Isocost functions.	7M
	b)	Describe the law of returns to scale.	7M
		(OR)	
4.		Elaborately explain various cost concepts.	14M

UNIT-III

5.		Differentiate between Perfect competition and Imperfect competition.	14M
		(OR)	
6.		Explain the Price-output determination under monopoly and perfect competition.	14M

UNIT-IV

7.	a)	Elucidate the various principles of Scientific management.	7M
	b)	Discuss the Hawthorne Experiments.	7M
		(OR)	
8.	a)	Define Leadership. Disuss various styles of leadership.	7M
	b)	Explain the role of Herzberg's hygiene factor theory of Motivation	7M

UNIT-V

9.	a)	Discuss the various stages of Product life cycle.	7M
	b)	Outline the components of Marketing Mix.	7M
		(OR)	
10.	a)	Describe the methods of Training and Development.	7M
	b)	Differentiate between Job evaluation and Merit rating.	7M

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AR16

CODE: 16ME4030 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Supplementary Examinations, February-2023

INDUSTRIAL AUTOMATION

(Mechanical Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Define automation. Explain various layouts used in automated plants with neat sketches	6M
	b)	Describe the reasons for automation	8M
		(OR)	
2.	a)	Explain the ten strategies used for automation and production systems	7M
	b)	Describe the hydraulic and pneumatic components used in automation	7M

UNIT-II

3.	a)	Explain linear transfer systems and Rotary Indexing work transfer mechanisms with neat sketches	8M
	b)	A rotary worktable is driven by a Geneva mechanism with five slots. The driver rotates at 40 rev/min. Determine the cycle time, available process time and indexing time each cycle .	6M
		(OR)	
4.	a)	Explain analysis of transfer lines with and without storage buffer	8M
	b)	Explain the terminology used in transfer line analysis	6M

UNIT-III

5.	a)	What are the factors that favour manual assembly lines	6M
	b)	Explain automated assembly systems	8M
		(OR)	
6.	a)	Discuss briefly on (i) Precedence diagram (ii) Manual Rational Work Element	6M
	b)	The total work content time of a certain assembly job is 7.8 min. The estimated downtime of the line is D = 5% and the required production rate is Rp = 80 units/hr. i) Determine the theoretical minimum number of workstations required to optimize balance delay. ii) For the number of stations determined in part (i), compute the balance delay d.	8M

UNIT-IV

7.	a)	Explain the types of material handling systems and their applications	7M
	b)	Describe various types conveyor systems and their applications	7M
		(OR)	
8.	a)	Explain various types material handling equipment	7M
	b)	Discuss types of automated storage and retrieval systems	7M

UNIT-V

9.	a)	Discuss CMM operation and programming	7M
	b)	Explain machine vision applications	7M
		(OR)	
10.	a)	Discuss lean production	7M
	b)	Write the comparison of lean production and agile manufacturing attributes	7M

AR16

CODE: 16EC4028 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Supplementary Examinations, February-2023

DIGITAL IMAGE PROCESSING

(Electronics and Communication Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Explain the basic concept of image sampling and quantization with neat sketch.	7M
	b)	Write short notes on imaging geometry.	7M
		(OR)	
2.	a)	Explain various types of connectivity relations and distance measures between pixels with an example of each.	7M
	b)	Explain the applications of array sensors in image acquisition.	7M

UNIT-II

3.	a)	Define Haar Transform and explain its properties.	7M
	b)	Find the kernel coefficients for N=8 of 1-D Hadamard Transform.	7M
		(OR)	
4.	a)	Verify the spatial shift and frequency shift properties of 2D DFT.	7M
	b)	Explain Hotelling transform in detail.	7M

UNIT-III

5.	a)	Define histogram. Briefly explain histogram specification.	7M
	b)	Explain about various smoothing filters in the frequency domain.	7M
		(OR)	
6.	a)	Explain the concept of Homomorphic filtering.	7M
	b)	Briefly explain about various spatial filters for image smoothing and sharpening operations..	7M

UNIT-IV

7.	a)	Write short notes on i) RGB Color model and ii) CMYK Color model.	7M
	b)	What is meant by Restoration and explain about Image Degradation/Restoration model.	7M
		(OR)	
8.	a)	Explain about the basics of Full Color Image Processing.	7M
	b)	Explain the concept of constrained least squares fileting for restoring an image.	7M

UNIT-V

9.	a)	Discuss about the various redundancies in a digital image.	7M
	b)	Explain how derivative operators are useful for edge detection.	7M
		(OR)	
10.	a)	Define Compression and explain about the general compression system model.	7M
	b)	Derive the Laplacian coefficients for 3*3 mask? Explain how the Laplacian operator improves the quality of image.	7M

AR13

CODE: 13EC4027 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Supplementary Examinations, February-2023

DIGITAL IMAGE PROCESSING

(Electronics & Communication Engineering)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) What is meant by pixel?
   b) Define Digital image?
   c) What is the need for transform?
   d) Explain separability property in 2D fourier transform
   e) What is a Median filter?
   f) What is meant by masking?
   g) How a degradation process is modeled?
   h) What is inverse filtering?
   i) What is JPEG?
   j) Why edge detection is most common approach for detecting discontinuities?

PART-B

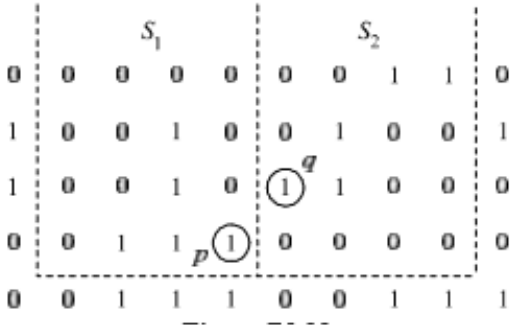
Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Explain various functional blocks of digital image processing 6M
   b) Describe the elements of visual perception with suitable diagram 6M

(OR)

3. a) Describe how the image is digitized by sampling and quantization 5M
   b) Let p and q be as shown in below Figure. Then,(a) S1 and S2 arenot4-connected because q is not in the set N4(p)u (b) S1 and S2 are 8-connected because q is in the set N8(p)u (c) S1 and S2 are m-connected because (i) q is in ND(p),and (ii) the set N4(p)\N4(q) is empty. 7M



UNIT-II

4.	a)	Explain Fast Fourier Transform (FFT) in detail.	6M
	b)	Explain the basic principle of Hotelling transform.	6M
		(OR)	
5.	a)	Explain about Haar transform and What are the properties of Haar transform.	6M
	b)	Write a short notes on Hadamard transform.	6M

UNIT-III

6.	a)	What is histogram? Explain histogram equalization.	6M
	b)	Discuss the image smoothing filter with its model in the spatial domain	6M
		(OR)	
7.	a)	Explain the types of gray level transformation used for image enhancement.	8M
	b)	How are image subtraction and image averaging is used to enhance the image?	4M

UNIT-IV

8.	a)	What is the use of least mean square filter in image restoration. Explain.	7M
	b)	Write in detail about the RGB colour model.	5M
		(OR)	
9.	a)	What are the two approaches for blind image restoration? Explain in detail.	6M
	b)	Explain the method of Constrained Least Squares Filtering for image restoration	6M

UNIT-V

10.	a)	Explain about fidelity criterion	6M
	b)	What is thresholding? Explain about global thresholding	6M
		(OR)	
11.	a)	Explain a method of generating variable length codes with an example	6M
	b)	Explain about the Global processing via graph-theoretic techniques for edge linking	6M

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