AR18

CODE: 18CET418 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, November-2022

ESTIMATION COSTING AND QUANTITY SURVEYING

(Civil Engineering)

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

Answer any Three questions Part-A

Answer any **one** question from Part-B

Part -A

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

1. a) Explain about tender notice and security money. 6 M
   b) What is a contract document and what documents shall be attached to the contract agreement or a bond?
   6 M

2. R.L of Ground along the centre lie of a proposed road from chainage 10 to chainage 20 are given below. The formation level at the 10 chainage is 107 and the road is in downward gradient of 1:150 up to the chainage 14 and then the gradient changes to 1 in 100 downward. Formation width of road is 10 m and side slopes of banking are 2:1 (horizontal: vertical). Length of chain is 30 m. Draw longitudinal section of the road and typical cross- section and prepare an estimate of earth work at the rate of Rs. 600/ cu m, also find the area of the side slopes and the cost of turfing the sides slopes at the rate of Rs.350
   12 M

Chainage	10	11	12	13	14	15	16	17	18	19	20
R.L formation ground	105.00	105.60	105.44	105.90	105.42	104.30	105.0	104.10	104.62	104.00	103.3

.

3. a. Calculate the rate per unit 1sq m. of white washing of two coats take 100 sqm 6M

   b. What are the factors affecting rate analysis? 6M

4. Prepare a detailed estimate of R.C.C beam of 8m clear span and 75cmx40cm in section from given drawings **figure 5.5** . Steel in detail and R.C.C work shall be calculate separately. also prepare a schedule of bars.
   12M

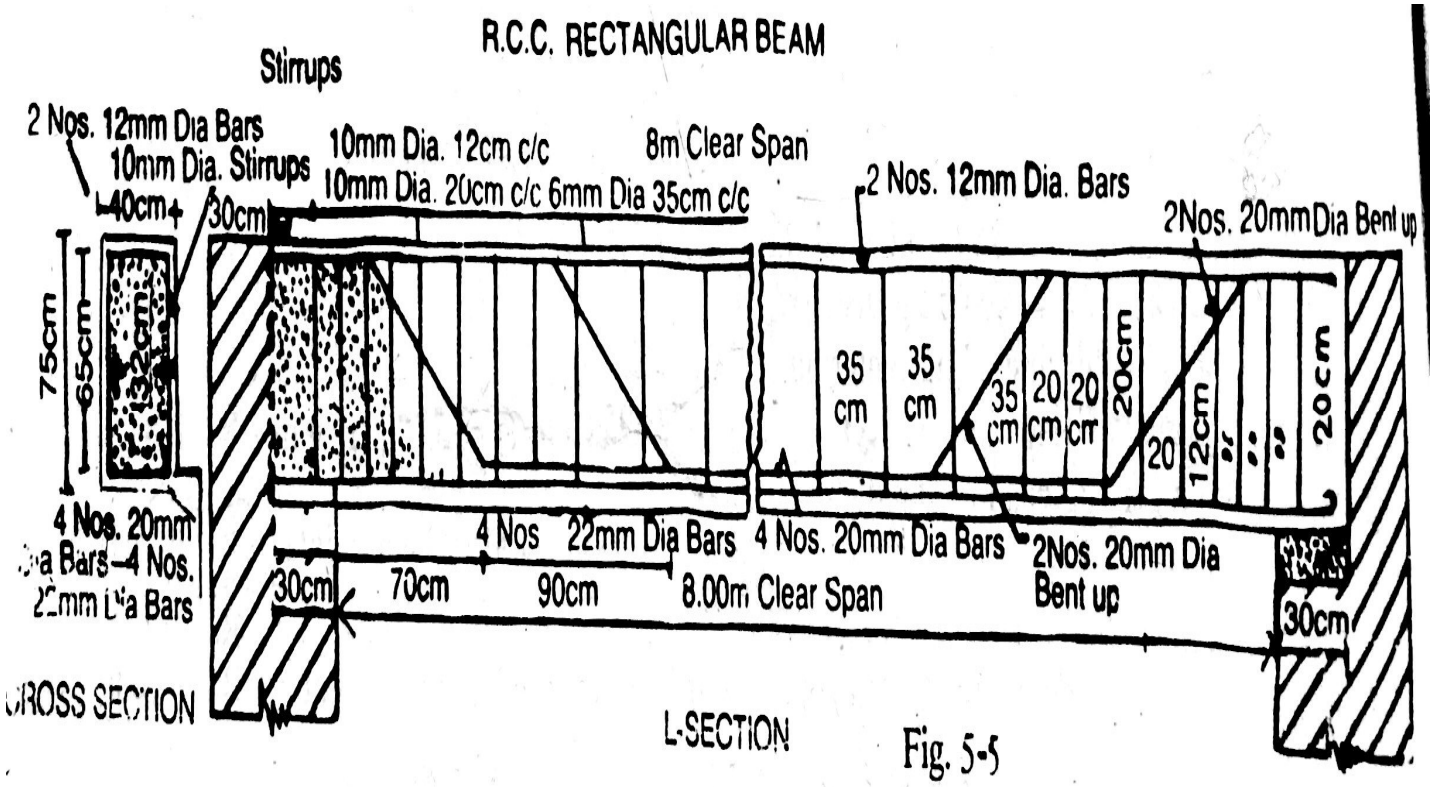


Fig. 5-5

5. Discuss the below

a) Compare BIM usages, phases and objectives 6M

b) How planning and scheduling in BIM can help from traditional method 6M

Part -B

Answer any one question from Part-B [1x24=24M]

6 Estimate the quantities of the following items of work from the building shown in **Figure 6.1** and & prepare Detailed & Abstract Estimate by long wall and short wall method.

(i) Earth Work Excavation 6M

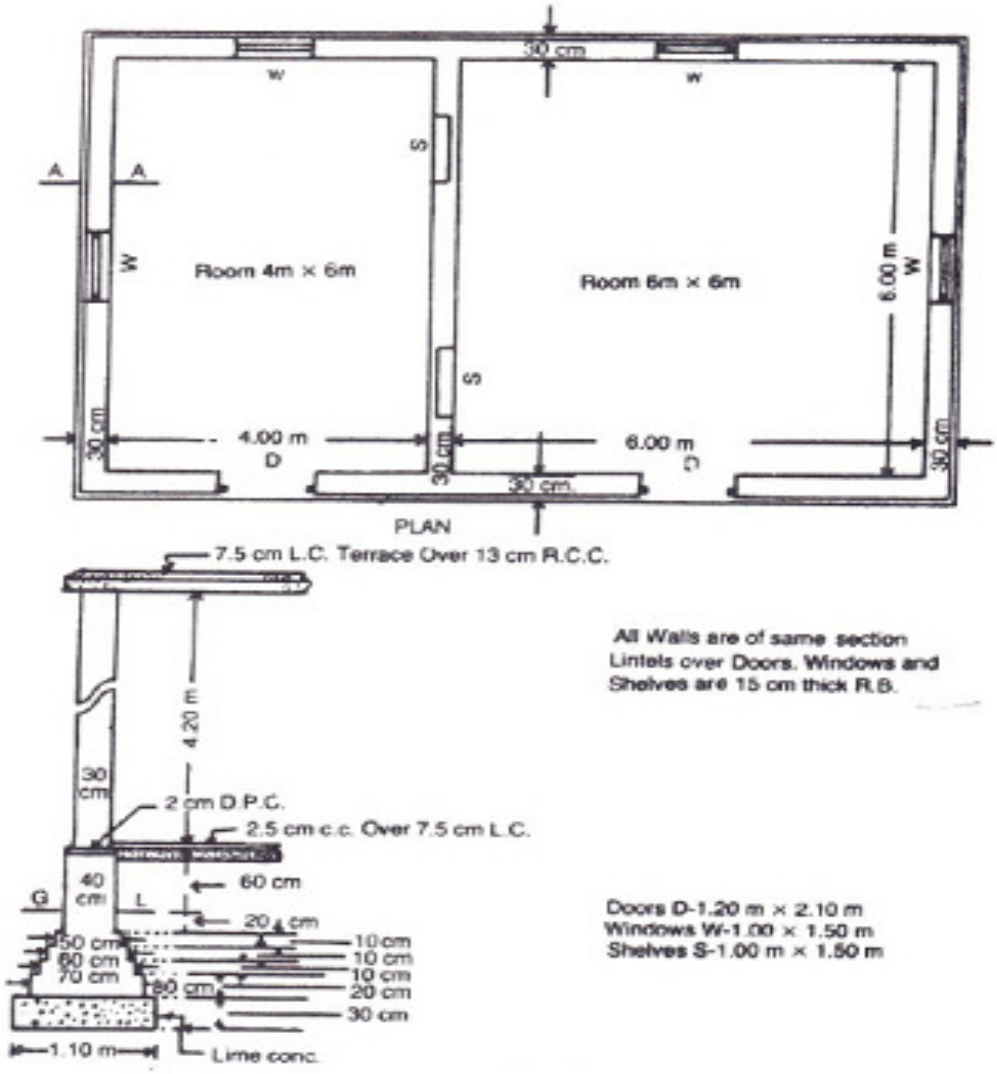
(ii) Lime Concrete in Foundation 6M

(iii) 2.5 cm thick damp proof course 6M

(iv) I Class Brick Work in Cement mortar (1:6) in superstructure walls 6M

(24M)

Figure 6.1



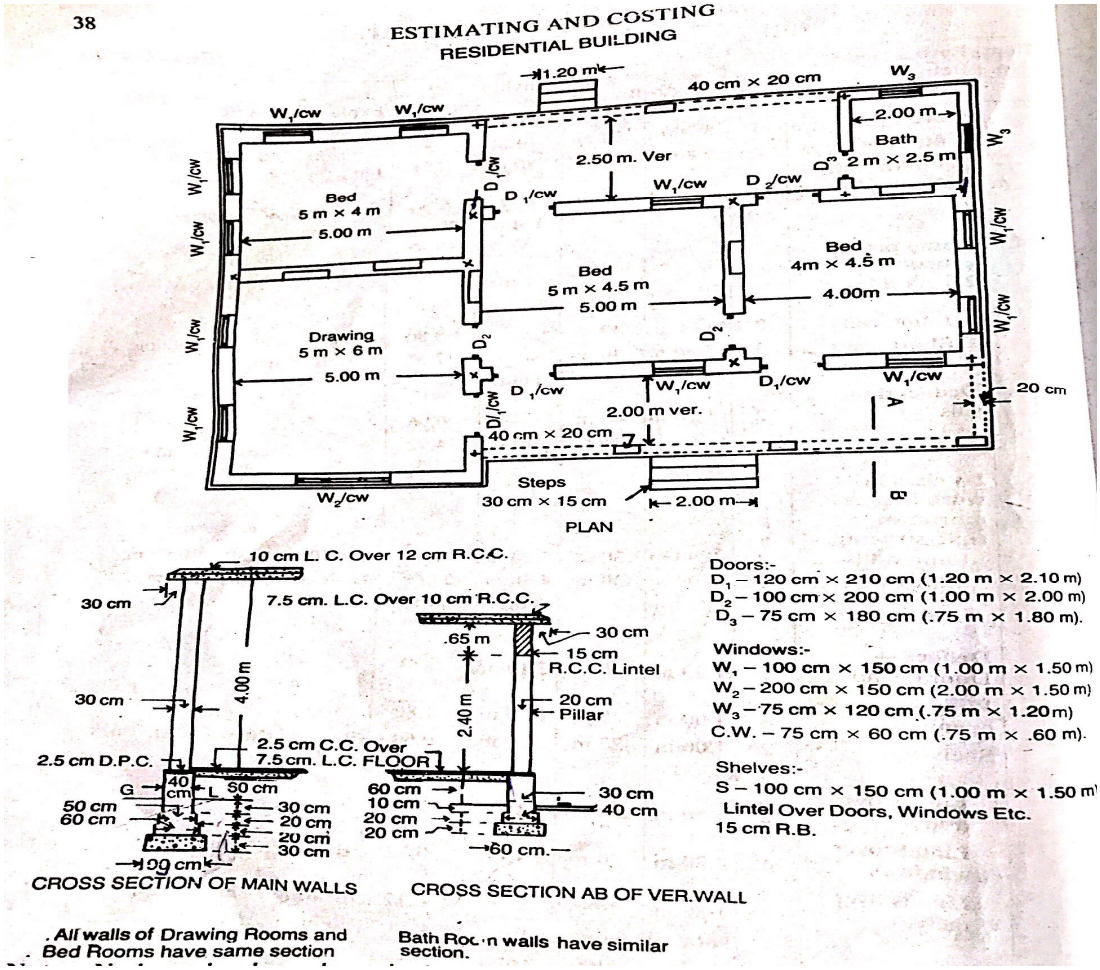
7 Estimate the quantities of the following items of a residential building from the drawing **figure 7.1** (24M)

a. Earth work in excavation 8M

b. Lime concrete in foundation 8M

c. First class brick work in 1:6 cement sand mortar in foundation and plinth 8M

Figure7.1


38
ESTIMATING AND COSTING
RESIDENTIAL BUILDING
PLAN
CROSS SECTION OF MAIN WALLS
CROSS SECTION AB OF VER.WALL
Doors:-
Windows:-
Shelves:-
Lintel Over Doors, Windows Etc.
15 cm R.B.
. All walls of Drawing Rooms and Bed Rooms have same section
Bath Room walls have similar section.

AR18

CODE: 18HST404 SET-2

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/Supplementary Examinations, November-2022

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)	Define demand? Explain the theory of demand.	6M
	b)	What do you mean by managerial economics? Explain the nature and scope of managerial economics.	6M
		(OR)	
2.	a)	Define elasticity of demand? Discuss the various types of elasticity of demand.	6M
	b)	What do you understand by demand forecasting methods and how its work?	6M

UNIT-II

3.	a)	Explain the theory of production function.	6M
	b)	Define Break-Even Analysis (BEA)? Explain with example.	6M
		(OR)	
4.	a)	What do you mean by Opportunity cost? Explain with example	6M
	b)	Define economics scale? Explain the Internal and External Economies of Scale	6M

UNIT-III

5.	a)	Define Pricing Strategies? Explain various types of Pricing Strategies methods.	6M
	b)	What do you mean by market? Explain the Market Structure.	6M
		(OR)	
6.	a)	Write a note on perfect and imperfect market competition.	6M
	b)	Define monopoly market? Explain the theory of monopoly market.	6M

UNIT-IV

7.	a)	Explain the various functions of management.	6M
	b)	Write a note on Theory of Motivation with example	6M
		(OR)	
8.	a)	Explain the importance of management.	6M
	b)	Explain the importance of social responsibilities of management.	6M

UNIT-V

9.	a)	Define marketing? Explain the functions of marketing.	6M
	b)	Define Marketing Mix? Explain the importance of Marketing Mix.	6M
		(OR)	
10.	a)	Explain the importance of Training and Development	6M
	b)	Define distribution? Explain the various channels of Distribution.	6M

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AR18

CODE: 18HST403 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/Supplementary Examinations, November-2022

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)	Differentiate between managerial and financial economics.	6M
	b)	Discuss about the individual demand and market demand with help of graph.	6M
		(OR)	
2.	a)	Discuss the nature and scope of managerial economics.	6M
	b)	Define demand? Explain the theory of demand.	6M

UNIT-II

3.	a)	Define forecasting? Explain the various methods of demand forecasting	6M
	b)	Explain the different types of elasticity of demand	6M
		(OR)	
4.	a)	Discuss the factors governing demand forecasting method.	6M
	b)	Differentiate between Survey and Statistical methods	6M

UNIT-III

5.	a)	Explain the difference between Isoquants and Iso-costs	6M
	b)	Define returns to scales? Discuss the laws of return to scales	6M
		(OR)	
6.	a)	Define MRTS? Explain the Marginal Rate of Technical Substitution	6M
	b)	Explain the Cobb-Douglas production function.	6M

UNIT-IV

7.	a)	Discuss about the price determination under perfect competition market.	6M
	b)	Critically explain the monopolistic market competition with examples.	6M
		(OR)	
8.	a)	Explain the importance of Capital Budgeting Techniques.	6M
	b)	Define market? Discuss about the Market structures.	6M

UNIT-V

9.	a)	What do you understand by Double-Entry book keeping and how its work?	6M
	b)	Distribute basic accounts.	6M
		i) Rama Account ii) Salaries account iii) Computer Account	
		(OR)	
10.	a)	Define balance sheet? Explain it with simple adjustments.	6M
	b)	Draw Journal format and explain with one own example.	6M

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AR18

CODE: 18CST416 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, November-2022

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 the use of CSS? Explain different types of CSS with a program	6M
		(OR)	
2.	a)	Write the Levels of Style Sheets, Selector Forms in CSS.	6M
	b)	Explain about Selector Forms and the Box Model in CSS .	6M

UNIT-II

3.	a)	Explain control statements in JAVA script with example programs.	6M
	b)	Explain about the introduction to Angular JS and Expressions in detail .	6M
		(OR)	
4.	a)	Explain Angular JS Form Validation & Form Submission with example.	6M
	b)	What is the purpose of constructors in Java. Write a program to illustrate the Constructors concept.	6M

UNIT-III

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

UNIT-IV

7.	a)	Draw the architectures of Various JDBC Driver Types. List their advantages and dis advantages.	6M
	b)	Explain servlet and Servlet API with example .	6M
		(OR)	
8.	a)	Explain about Lifecycle of a Servlet?	6M
	b)	How to Querying a Database	6M

UNIT-V

9.	a)	Explain about Implicit Objects in JSP.	6M
	b)	Explain about JSP life cycle.	6M
		(OR)	
10.	a)	Explain about JSP Actions, JSTL .	6M
	b)	Explain JSP Directives, JSP Scripting Elements	6M

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AR16

CODE: 16CE4027 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B. Tech I Semester Regular & Supplementary Examinations, November-2022

ESTIMATION AND QUANTITY SURVEYING

(Civil Engineering)

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

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

PART-A

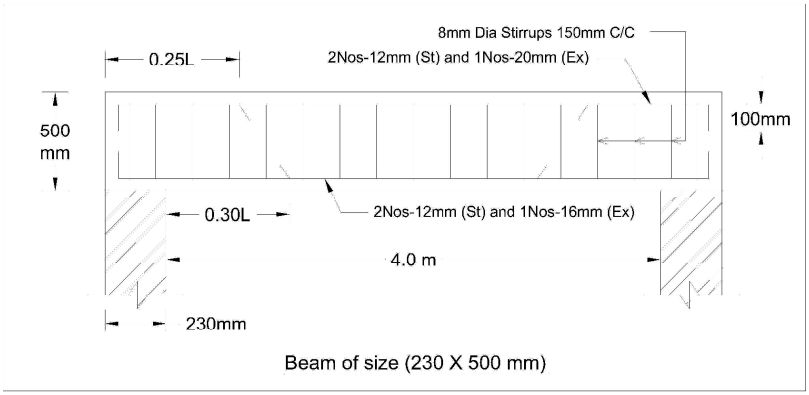
1. a) Discuss the various units of measurement used for estimation of civil works? 7M
   b) What is approximate estimate and explain about the importance and various types? 7M

2. a) Prepare the rate analysis for VRCC (1:2:4) with 20mm nominal size of Coarse aggregate also with 0.8% of reinforcement. 7M
   b) Prepare the rate analysis for 12mm thick cement plastering with CM (1:5). 7M

3. A road is to be constructed in hill areas with formation widths of 10m in banking and 8m in cutting. Side slope in banking is 2:1 and side slope in cutting is 1 ½: 1. The height of filling or the depth of cutting at the centers of the road and the cross slopes of the ground at intervals of 20m are as given below. Calculate the quantities of EW for the length of 140m. 14M

Chain age (m)	0	20	40	60	80	100	120	140
Depth of cutting(cm)	60	70	50	40				
Height of banking(cm)					70	60	80	90

4. Prepare detailed estimate & schedule of bars of a R.C.C element from the drawing shown in below figure including RCC work qty, centering & shuttering and steel reinforcement in detail shall be taken separately. 14M

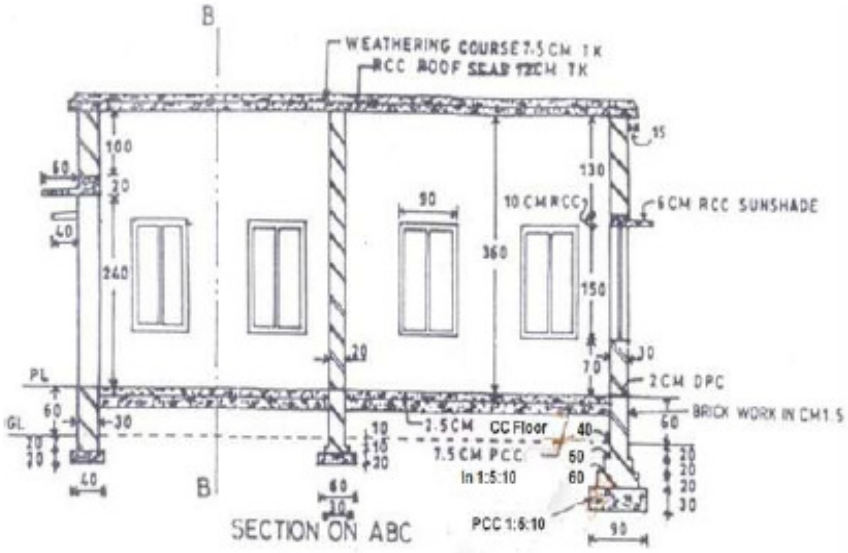


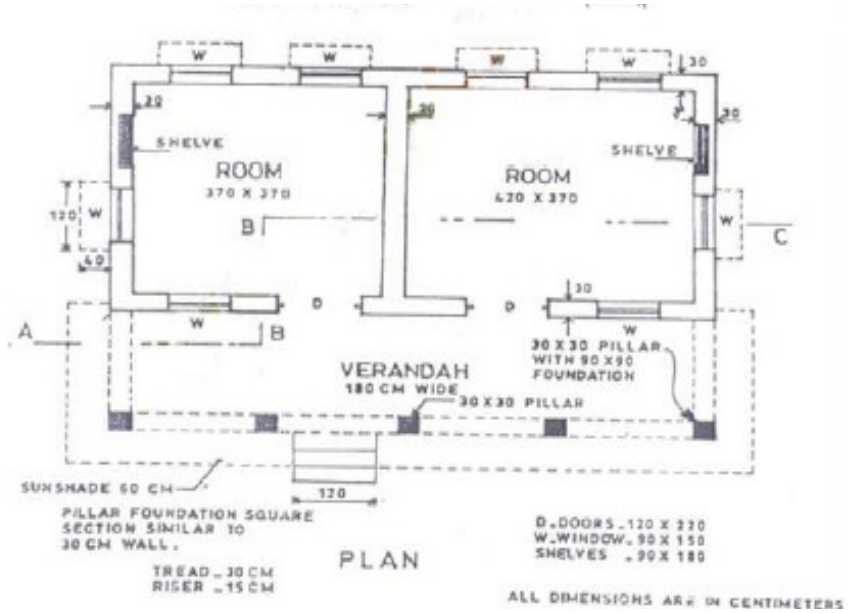
5. a) Discuss about the general principles of contract documents 7M
   b) State the purpose of penalties in contract agreements 7M

PART-B

Answer any one question from Part-B **[1x28=28M]**

6. a) Prepare an estimate of building shown in below Figure using long wall and short wall method for the following items, (i) Earth work excavation for the foundation (ii) PCC (1:3:6) for Flooring bed and (iii) Flooring with vitrified tiles. 28M





7. a) Prepare an estimate of building shown in above Figure using centre line methos for the following items, (i) Brick work with CM (1:6) for super structure (ii) Ceiling plastering with CM (1:3) and (iii) Inside and Outside wall painting work. 28M

AR16

CODE: 16ME4030 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, November, 2022

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)	Discuss in brief various types of hydraulic components used in automation with sketches	7M
	b)	Now a day's most of the industries are automated. justify the statement with suitable reasons.	7M
		(OR)	
2.	a)	Summarize the concept of USA principle.	6M
	b)	If automation seems a feasible solution to improving productivity, quality, or other measure of performance, then suggest the different strategies provide a road map to search for these improvements.	8M

UNIT-II

3.	a)	Discuss in brief various possible configurations of automated production lines	7M
	b)	A rotary worktable is driven by a Geneva mechanism with six slots. The driver rotates at 30 rev/min. Determine the cycle time, available process time, and the lost time each cycle indexing the table.	7M
		(OR)	
4.	a)	Enumerate Walking beam transfer mechanisms with neat sketches	6M
	b)	A 20-station transfer line has an ideal cycle lime $T_{,}$. = 1.2 min. The probability of station breakdowns per cycle is equal for all stations, and p = 0.005 breakdowns/cycle. For each of the upper-bound and lower-bound approaches, determine (a) frequency of line stops per cycle. (b) average actual production rate, and (c) line efficiency	8M

UNIT-III

5. a) Discuss the various categories of work transport system in production industries . 7M

   b) A product whose work content time=5.0min is to be assembled on manual production line. the required production rate is 30 units/hr. from previous experience with similar products it is estimated that the manning level will be 1.25. assume that the proportion up time E=1.0 and that the reposing time T_r=0.2 min. determine cycle time and ideal no of workers required on the line. 7M

(OR)

6. a) Illustrate the various types of automated assembly system configurations with a neat sketches. 7M

   b) Mention several reasons why manual assembly lines are so productive compared to alternative methods. 7M

UNIT-IV

7. a) Discuss various categories of material handling equipments used in industries. 7M

   b) A closed loop over head conveyor must be design to delivers parts from one load station to unload station. The specified flow rate of parts that must be delivered between the two stations is 300 parts/hour. the conveyor has carries each holding one part forward & return loop will each be 90m long. Conveyor speed = 0.5m/sec. time to load and unload the parts at respective stations are 12 sec each. Is the system feasible if so find the appropriate number of carriers and center to center spacing between carriers 7M

(OR)

8. a) Discuss in brief various types of conveyors with sketches. 7M

   b) An six aisle automated storage/ retrieval system is to contain 50 storage compartments in the length direction and 8 compartments in the vertical direction. All storage comportments will be the same size to accommodate standard size pallets of dimensions x= 36inchs, y= 48 inches. The height of a unit load z= 30inches using the allowances a= 6in, b=8in and c=18 inch. Find the number of unit loads can be stored in the AS/RS systems and also its dimensions. The rack structure will be built 18inches above the floor level. 7M

UNIT-V

9. a) Enumerate the various operational functions involved in machine vision. 7M

   b) Describe any two types of CMM with neat sketches 7M

(OR)

10. a) List out the various characteristics required to develop products in the design engineering department of any company to be more agile. 7M

    b) Discuss the four principles of agility. 7M

AR16

CODE: 16EC4028 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, November-2022

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)	Discuss different components used in digital image processing system.	8M
	b)	How to measure distance in digital image processing? Give various distance measure?	6M

(OR)

2.	a)	Describe the fundamental steps in image processing.	8M
	b)	How image is acquired using a single sensor?	6M

UNIT-II

3.	a)	Find the KL transform for the matrix X= $\begin{bmatrix} 4 & -2 \\ 1 & 3 \end{bmatrix}$	10M
	b)	List the properties of Hadmard Transform	4M

(OR)

4.	a)	Explain Walsh Transform with suitable equations.	6M
	b)	Explain the following properties of 2D – DFT (i) separable property (ii) scaling property (iii) periodicity (iv) rotation property	8M

UNIT-III

5.	a)	Perform histogram equalization of the image $\begin{bmatrix} 4 & 4 & 4 & 4 & 4 \\ 3 & 4 & 5 & 4 & 3 \\ 3 & 5 & 5 & 5 & 3 \\ 3 & 4 & 5 & 4 & 3 \\ 4 & 4 & 4 & 4 & 4 \end{bmatrix}$	14M

(OR)

6.	a)	What is meant by image enhancement by point processing? Discuss any two methods in it.	8M
	b)	Differentiate the spatial image enhancement and image enhancement in frequency domain	6M

UNIT-IV

7.	a)	Define image restoration. Explain the operation of inverse filtering.	7M
	b)	Describe Constrained Least Square filtering for image restoration and derive its transfer function.	7M

(OR)

8.	a)	With the help of block diagram explain about degradation model.	7M
	b)	Explain about algebraic approach for image restoration.	7M

UNIT-V

9.	a)	Define Compression and explain data Redundancy in image compression.	7M
	b)	Describe Watershed segmentation Algorithm.	7M

(OR)

10.	a)	Explain Huffman coding with an example.	7M
	b)	Discuss Image Segmentation based on various thresholding techniques.	7M