AR18

CODE: 18CET418 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, February-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) Discuss the various units of measurement used for estimation of civil work. 6 M
   b) Explain different methods of estimations and explain in detail 6 M

2. Explain the following methods 12 M

   a. Mid –Sectional Area Method

   b. Mean Sectional Area Method

   c. Prismoidal Formal Method.

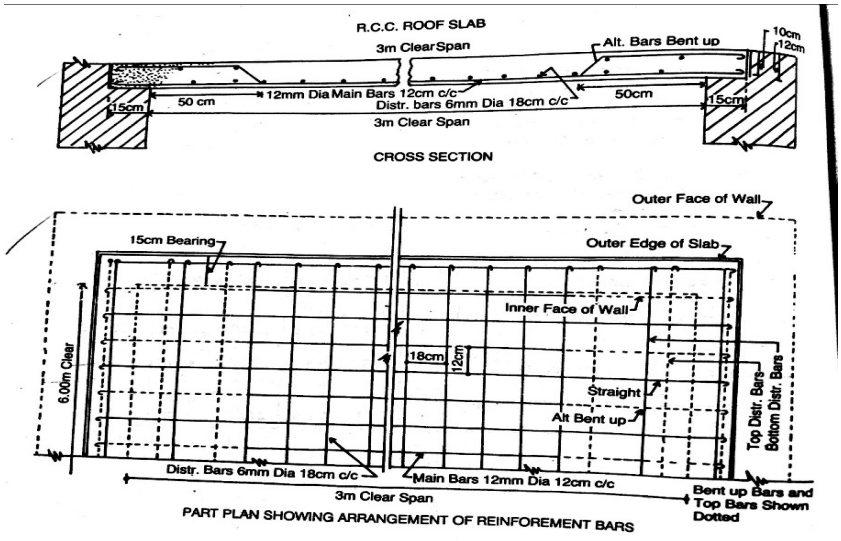
3. a. Calculate the rate of 10 Cum of Brick work in Cement Mortar (1:6) of first class Modular size Bricks.

6M

b. Calculate the rate per unit of cement concrete 1:2:4 6M

4. Prepare a detailed estimate of a R.C.C Roof Slab for the given below in figure 1 of having 3 m clear span and 6 m long from the given drawings, R.C.C work including centering and shuttering and steel reinforcement in detail shall be taken separately. also prepare schedule of bars. Assume Standard rates.

12M



5. Write short note on

a) BIM tools 6M

b) Construction safety planning using BIM 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 Figures 2,3,4. (24M)

(i) Earth Work Excavation [6 M]

(ii) Lime Concrete in Foundation [6 M]

(iii) 2.5 cm thick damp proof course [6 M]

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

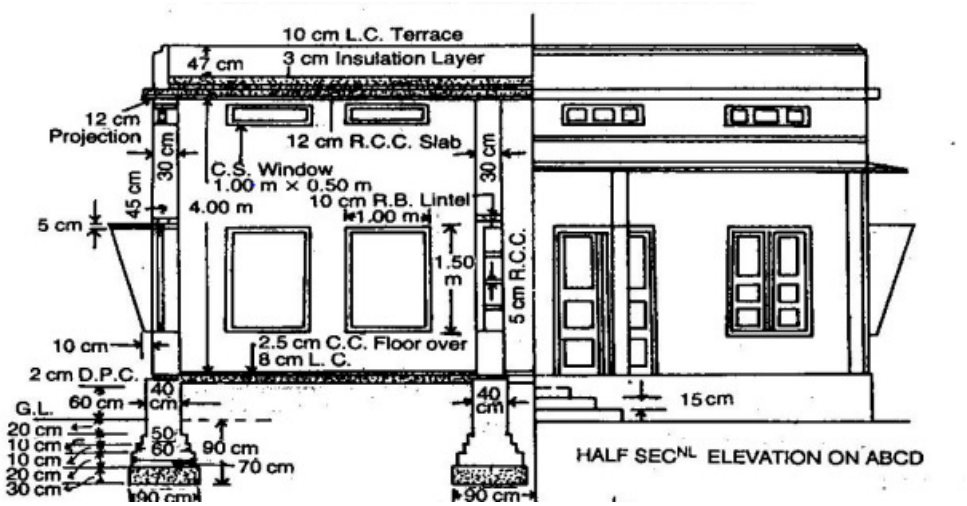


Figure 2

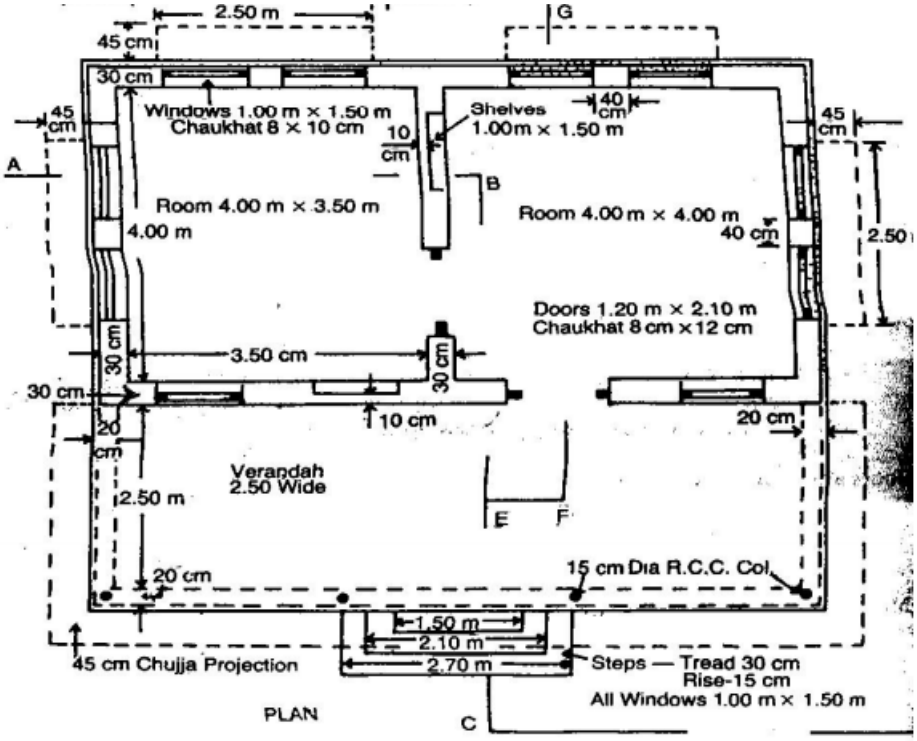


Figure 3

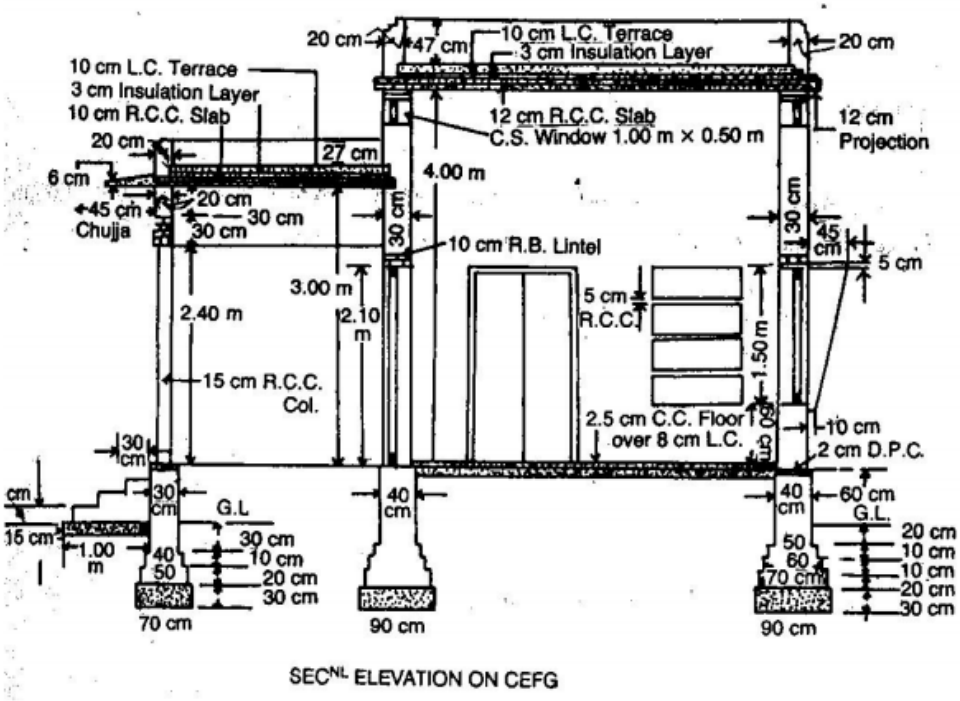


Figure 4

7 Prepare detailed estimate for the following items for building in figure 1. Using long wall-short wall method. 24M

i) Earthwork in excavation [6 M]
ii) Brick masonry in substructure [6 M]
iii) Brick masonry in super structure [6 M]
iv) Plastering [6 M]

Note: Make suitable assumptions where necessary.

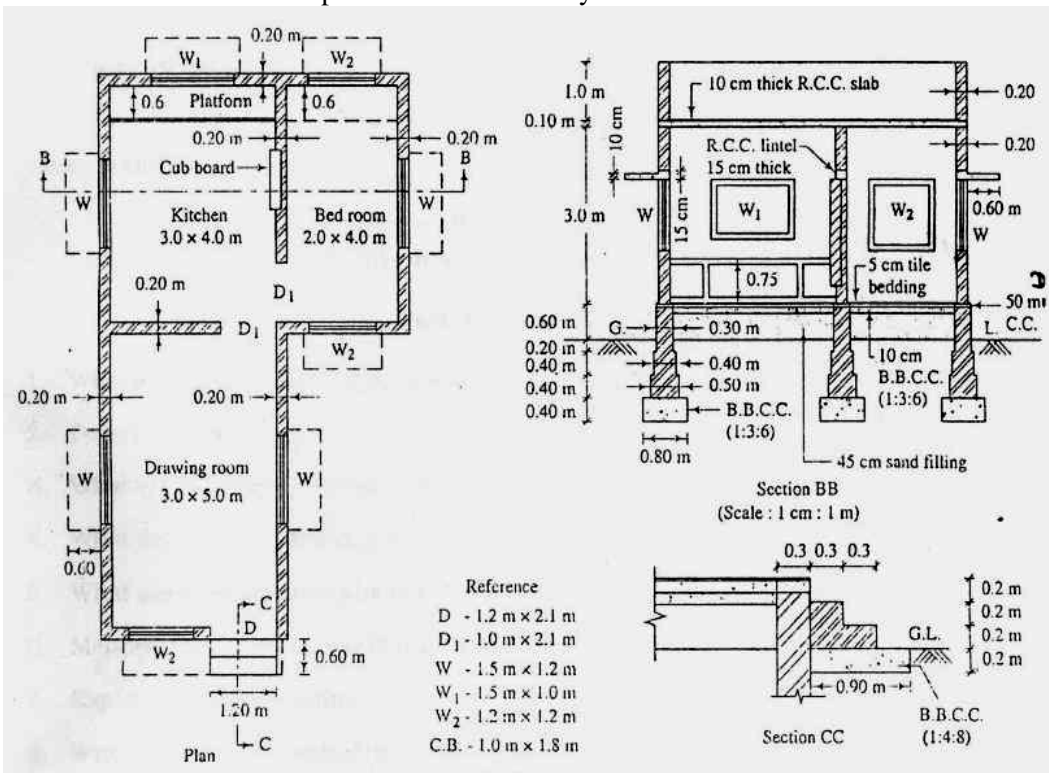


Figure 1

AR18

CODE: 18HST404 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, February-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 the managerial economics and explain its characteristics. [6 M]
   b) Explain the statistical methods of demand forecasting. [6 M]

(OR)

2. Explain various types of price elasticity of demand with suitable diagrams. [12 M]

UNIT-II

3. a) Discuss the law of return to scale. [6 M]
   b) Discuss the least cost combination of inputs. [6 M]

(OR)

4. Company A and Company B both under the same management makes and sells the same type of product. Their budgeted profit and loss accounts for the year ending 2010 are as follow: [12 M]

Particulars	**Company – A**		**Company – B**	
	Rs.	**Rs.**	**Rs.**	**Rs.**
Sales		3,00,000		3,00,000
Less: Variable Cost	2,40,000		2,00,000	
Fixed Cost	30,000		70,000	
		2,70,000		2,70,000
Profit		**30,000**		**30,000**

Compare which company is likely to earn greater profits in condition of:

a) Heavy demand for the product.
b) Low demand for the product.

Give your reasons assistance with BEP.

UNIT-III

5. a) Define monopolistic Competition and explain its features. [6 M]
   b) What is equilibrium? Discuss, what are the conditions attains the equilibrium. [6 M]

(OR)

6. a) Discuss the Demand based pricing methods and Strategy based pricing methods [6 M]
   b) Explain the price output determination under monopoly market in short-period. [6 M]

UNIT-IV

7. What is the contribution of Henry Fayol to management thought? Explain the Fayol's principles of management thoughts. [12 M]

(OR)

8. a) Describe Management. Explain functions of management. [6 M]
   b) Define Herzberg's two factors theory of motivation. How does Herzberg's theory apply to the work place? [6 M]

UNIT-V

9. Briefly explain the functions of HR Manager. [12M]

(OR)

10. Describe the principles of job evaluation. [12 M]

AR18

CODE: 18HST403 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, Februry-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)	Define the managerial economics? Discuss the basic economic tools in managerial economics.	**(6M)**
	b)	Explain the law of demand with suitable examples	**(6M)**
		(OR)	
2.	a)	Demand curve is negative, why?	**(6M)**
	b)	Explain the nature and scope of managerial economics.	**(6M)**

UNIT-II

3.	a)	What is price elasticity of demand? Discuss its importance in business decision making.	**(6M)**
	b)	Explain the different methods of demand forecasting with help of examples.	**(6M)**
		(OR)	
4.	a)	Briefly explain the factors governing demand forecasting.	**(6M)**
	b)	Explain the difference between survey methods and statistical methods.	**(6M)**

UNIT-III

5.	a)	Define production function with help of examples	**(6M)**
	b)	Describe the law of diminishing returns with the help of the diagram.	**(6M)**
		(OR)	
6.	a)	Write a note on Cobb-Douglas production function.	**(6M)**
	b)	Explain the difference between the Isoquants and Iso-costs.	**(6M)**

UNIT-IV

7.	a)	What is the difference between the perfect competition and imperfect competition?	**(6M)**
	b)	Explain the various methods of capital budgeting	**(6M)**
		(OR)	
8.	a)	Explain the importance of price determination in case of monopoly market.	**(6M)**
	b)	Explain pay back method and even and uneven cash inflows.	**(6M)**

UNIT-V

9.	a)	Discuss the important principles of accounting.	**(6M)**
	b)	Explain the importance of double entry book keeping in India	**(6M)**
		(OR)	
10.	a)	Write a short note on accounting cycle.	**(6M)**
	b)	Classify the deferent accounts.	**(6M)**
		i) Land a/c. ii) Vanitha a/c iii) Machinery a/c iv) Interest a/c v) Andhra bank a/c vi) Rent a/c.	

***

AR18

CODE: 18CST416 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, February, 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) Design a static webpage to display the following table in HTML 6M

S.NO	Name	Vaccinated
1	Adam	Yes
2	Smith	No
3	John	Yes

b) What is the use of CSS? Explain different levels of style sheets? 6M

(OR)

2. a) Explain how to divide a webpage using frame tag in HTML 6M
b) Explain selector forms in CSS 6M

UNIT-II

3. a) Explain JavaScript Conditional control statements with examples 6M
b) What is String Expression in Angular JS? Give Example 6M

(OR)

4. What is a form? Design a Registration form using Angular JS and validate it 12M

UNIT-III

5. a) What is XML Schema? Design an XML Schema for the following XML document Student.xml: 6M

```
<? xml version="1.0"?>
<students>
 <student>
  <name>Rick Grimes</name>
  <age>35</age>
  <subject>Maths</subject>
  <gender>Male</gender>
 </student>
 <student>
  <name>Daryl Dixon </name>
  <age>33</age>
  <subject>Science</subject>
  <gender>Male</gender>
 </student>
</students>
```

	b)	Explain about DTD with an example	6M

(OR)

6.	a)	Analyse the differences between DOM and SAX XML Parsers	6M
	b)	Write the basic structure of an XML document with an example	6M

UNIT-IV

7.	a)	Explain JDBC architecture with a neat sketch	6M
	b)	Explain Servlet life cycle in detail	6M

(OR)

8.	a)	List various JDBC drivers and write their advantages and disadvantages	6M
	b)	Write a Servlet code to read parameters using ServletConfig Object	6M

UNIT-V

9.		Write a JSP Program to store and retrieve the Student details from MySQL database (Student table contains: student_id, student_name and student_dept.)	12M

(OR)

10.	a)	Explain about JSP processing in detail	6M
	b)	List and write the purpose of Implicit Objects in JSP	6M

***

AR16

CODE: 16CE4027 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

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

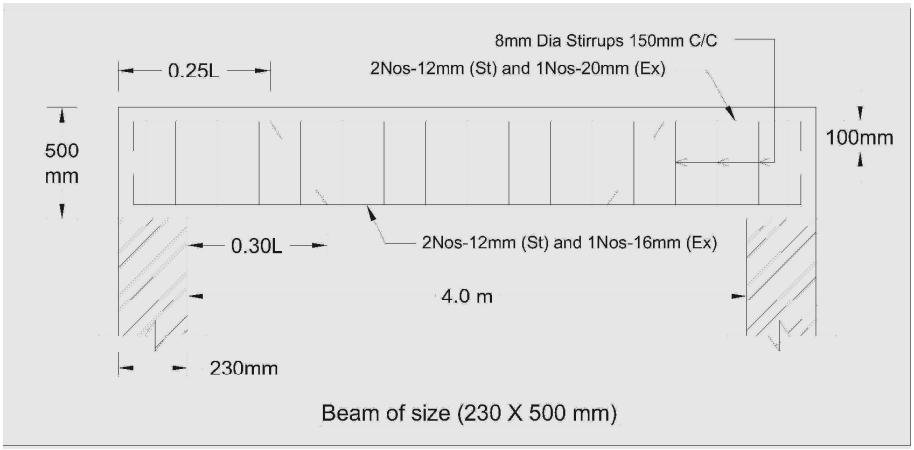
1. a) Discuss the various units of measurement used for estimation of civil works? 7M
   b) What is approximate estimate and explain about the importance and various types? 7M

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

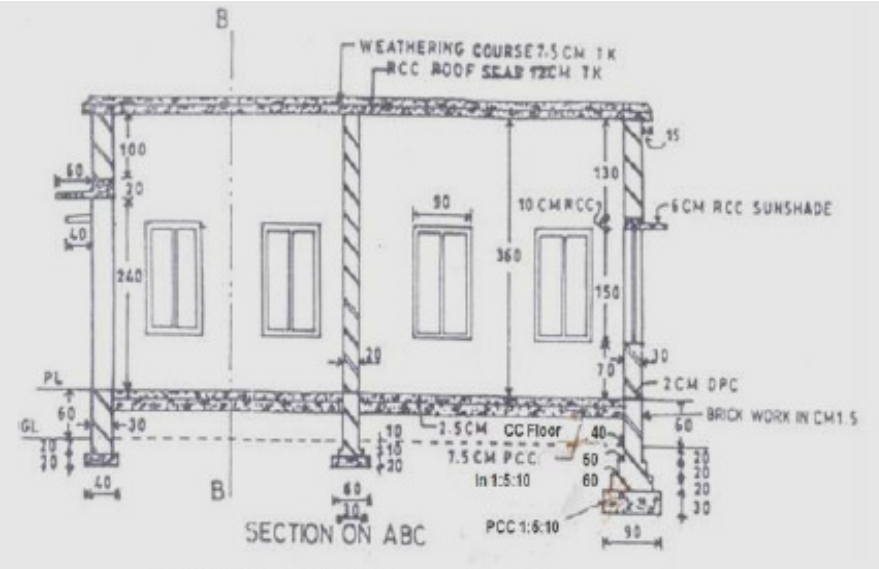


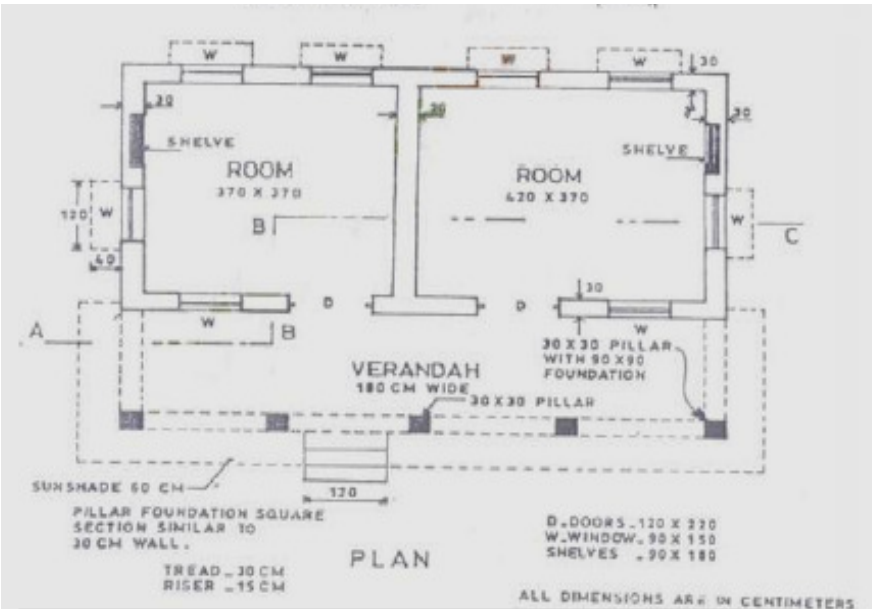
5. a) Discuss about the general principles of contract documents 7M
   b) State the purpose of penalties in contract agreements 7M

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: 16HS4005 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

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

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

***

AR16

CODE: 16ME4030 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February,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)	Explain the reasons for automation in industries.	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 agile manufacturing. 7M

AR16

CODE: 16EC4028 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, February-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 Discrete Cosine 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 Weiner 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

AR16

CODE: 16CS4026 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

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

DATA ANALYTICS

(CSE Branch)

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.	Give an example script with reading data and define a function to display this data and save these commands, finally display these commands using history commands.	14M
	(OR)	
2.	Explain about various data items with suitable examples.	14M

UNIT-II

3.	Explain about Manipulation of data objects to generate sequences, repetitions of data and paste operations with examples.	14M
	(OR)	
4.	Explain about construction of various Data Objects with examples.	14M

UNIT-III

5.	Illustrate any two in-built functions to generate normal distribution with example	14M
	(OR)	
6.	Explain about One way ANOVA with example.	14M

UNIT-IV

7.	Describe in detail about Hadoop Distributed File System (HDFS) Architecture.	14M
	(OR)	
8.	Explain about steps required to Configure Hadoop cluster in pseudo-distributed mode.	14M

UNIT-V

9.	Explain about Hadoop Map Reduce process steps with neat sketch.	14M
	(OR)	
10.	Write a Mapper code, Reducer code for word count implementation.	14M