AR20

CODE: 20CST413 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, October -2023

Cryptography and Network Security

(COMPUTER SCIENCE AND 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

			Marks	CO	Blooms Level
		UNIT-I			
1.	a)	Discuss the role of confidentiality in security services. How does encryption contribute to maintaining confidentiality in data communication?	5M	CO1	2
	b)	Describe the CIA triad in the context of a network security model. Explain how confidentiality, integrity, and availability are interrelated.	5M	CO1	2
		(OR)			
2.	a)	Discuss various techniques for mitigating buffer overflow vulnerabilities. Explain the benefits of using bounds checking and secure coding practices.	5M	CO1	2
	b)	Compare transposition ciphers and substitution ciphers in terms of their encryption methods. Discuss the security characteristics of each type.	5M	CO1	2
		UNIT-II			
3.	a)	Discuss the trade-offs between key length and encryption strength in AES.	5M	CO2	2
	b)	Describe the International Data Encryption Algorithm (IDEA). Explain its key length and block size.	5M	CO2	2
		(OR)			
4.	a)	Explain the advantages of using three-key 3DES over two-key 3DES.	5M	CO2	2
	b)	Explain the principles of the Counter (CTR) mode of operation in block ciphers.	5M	CO2	2
		UNIT-III			
5.	a)	Explain the components and process involved in creating and verifying a digital signature.	5M	CO3	2
	b)	Discuss the role of salt in password hashing using a secure hash function.	5M	CO3	2
		(OR)			
6.	a)	Explain the components and process involved in creating and verifying a digital signature.	5M	CO3	2
	b)	Discuss the structure and components of an X.509 certificate used in public-key cryptography.	5M	CO3	2
		UNIT-IV			
7.	a)	Describe the role of S/MIME in ensuring confidentiality and message integrity.	5M	CO4	2
	b)	What is the purpose of the Multipurpose Internet Mail Extensions (MIME) standard?	5M	CO4	2

(OR)

8.	a)	Discuss the importance of MIME transfer encodings in email communication.	5M	CO4	2
	b)	Identify and discuss three common challenges in ensuring the security of email communication	5M	CO4	2

UNIT-V

9.	a)	Describe the Encapsulating Security Payload (ESP) protocol in IPsec.	5M	CO5	2
	b)	Explain the purpose and functionality of the Authentication Header (AH) in IPsec.	5M	CO5	2

(OR)

10.	a)	Discuss the common methods that viruses and worms use to propagate through computer systems and networks.	5M	CO5	2
	b)	Outline the design principles that guide the development of effective firewalls.	5M	CO5	2

UNIT-VI

11.	a)	Explain the purpose and functions of the SSL Record Protocol. Describe how it provides confidentiality, integrity, and authentication for data exchanged between a client and a server.	5M	CO6	2
	b)	Describe the Alert Protocol in SSL. Explain how it handles error messages and security-related alerts during SSL sessions	5M	CO6	2

(OR)

12.	a)	Provide an overview of the Secure Electronic Transaction (SET) protocol. Explain its purpose and the specific security concerns it addresses in online payment processing.	5M	CO6	2
	b)	Explain what a buffer overflow vulnerability is and how it can be exploited by attackers.	5M	CO6	2

AR20

CODE: 20HST403 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, October-2023

MANAGERIAL ECONOMICS AND MANAGEMENT SCIENCE

(CIVIL, EEE & ECE Branches)

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

			Marks	CO	Blooms Level
		UNIT-I			
1.	a)	Explain the types of price elasticity of demand	5	1	L2
	b)	Explain types of survey methods of demand forecasting	5	1	L2
		(OR)			
2.	a)	Explain the scope of managerial economics	5	1	L2
	b)	Explain types of statistical methods of demand forecasting	5	1	L2
		UNIT-II			
3.	a)	Explain the least cost combination of inputs with an example	5	2	L2
	b)	The PV ratio of Matrix Books ltd. Is 40% and margin of safety is 30%. Find out the BEP and Net profit of the sales volume is Rs,14000/-	5	2	L2
		(OR)			
4.	a)	Explain the significance of Break Even Analysis	5	2	L2
	b)	Explain the properties of the Isoquant curve.	5	2	L2
		UNIT-III			
5.		Explain the features of Monopoly and types of Monopoly	10	3	L2
		(OR)			
6.		Explain price output determination of under Monopolistic competition at equilibrium point	10	3	L2
		UNIT-IV			
7.		Explain the assumptions of Douglas McGregor ‘s Theories X and Y.	10	4	L2
		(OR)			
8.		Explain the nature and importance of management	10	4	L2
		UNIT-V			
9.		Define product life cycle Explain the stages in product life cycle	10	5	L2
		(OR)			
10.		Explain any five different types of digital marketing.	10	5	L2
		UNIT-VI			
11.		Explain the difference between functions of personnel management and human resource management?	10	6	L2
		(OR)			
12.		Explain any five factors affecting wage and salary levels	10	6	L2

AR20

CODE: 20ITT406 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, October-2023

Internet of Things

(INFORMATION TECHNOLOGY)

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

			Marks	CO	Blooms Level
		UNIT-I			
1.	a)	Label and explain the characteristics of IOT.	5	1	K1
	b)	Distinguish between Physical design and Logical design of IOT	5	1	K4
		(OR)			
2.	a)	Discuss about IOT levels and development templates.	5	1	K6
	b)	Demonstrate the role of IOT in Agriculture.	5	1	K2
		UNIT-II			
3.	a)	Compare and contrast the differences between IOT and M2M	5	2	K4
	b)	List and explain the limitations of SNMP	5	2	K1
		(OR)			
4.	a)	Discuss about SDN & NFV for IOT	5	2	K6
	b)	Illustrate about management with NETCONF-YANG	5	2	K2
		UNIT-III			
5.		Discuss in detail about raspberry PI with Python	10	3	K6
		(OR)			
6.	a)	Summarize about IOT platform design methodology	5	3	K5
	b)	Illustrate the use of Raspberry PI with python packages for IOT	5	3	K2
		UNIT-IV			
7.		Explain in detail about cloud storage models & communication APIs	10	4	K5
		(OR)			
8.	a)	Summarize about WAMP-Autobahn cloud for IOT.	5	4	K2
	b)	Design a Restful web API using Django	5	4	K6
		UNIT-V			
9.	a)	Outline about Apache Hadoop	5	5	K2
	b)	Demonstrate the use of Apache Storm for Realtime data analysis	5	5	K2
		(OR)			
10.		What is Apache Spark and how it overcome the drawbacks of Hadoop Map Radiuse.	10		K5
		UNIT-VI			
11.	a)	Discuss about Security requirement and threat analysis.	5	6	K6
	b)	Illustrate security & Vulnerability solutions for IOT.	5	6	K5
		(OR)			
12.		How identity management and identity establishment occurs in IoT Systems.	10	6	K5

CODE: 20MEI413 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, October-2023

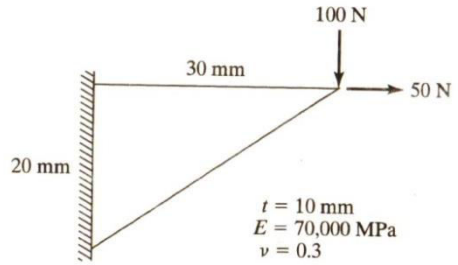
FINITE ELEMENT METHODS

(MECHANICAL ENGINEERING)

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

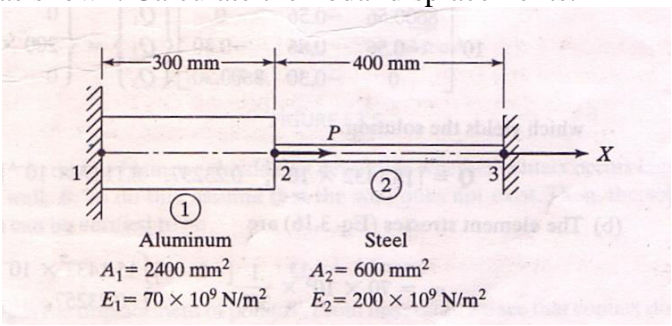
Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

			Marks	CO	Blooms Level
		UNIT- I			
1.	a)	Derive stress strain relations for plane stress problem.	6M	CO1	L3
	b)	Write the engineering applications of finite element method.	4M	CO1	L2
		(OR)			
2.	a)	A displacement field is imposed on a FE element as $\mathbf{u = 1+3x+4x^3+6xy^2}$; $\mathbf{v = xy - 7x^2}$, Write down the expressions for $\boldsymbol{\varepsilon_{xx}}$, $\boldsymbol{\varepsilon_{yy}}$, and $\boldsymbol{\varepsilon_{xy}}$, and find the values of three strain components at point (0,0).	6M	CO1	L5
	b)	In a plane strain problem we have, $\boldsymbol{\sigma_x = 20000}$ **psi**, $\boldsymbol{\sigma_y = -10000}$ **psi**, $\mathbf{E = 3 \text{ X } 10^7}$ **psi**, and $\boldsymbol{\nu = 0.3}$. Determine the value of the stress $\boldsymbol{\sigma_z}$.	4M	CO1	L5
		UNIT- II			
3.	a)	Illustrate the properties of stiffness matrix.	3M	CO2	L2
	b)	Determine the deflection at the point of load application using one element model.	7M	CO2	L5



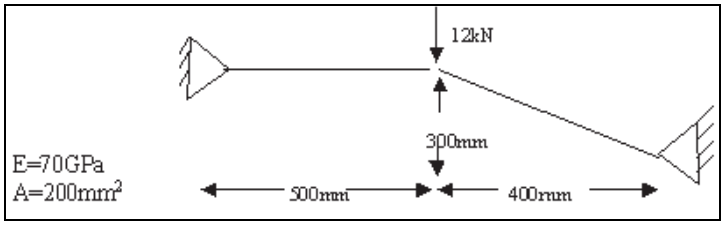
(OR)

4.		Consider the bar shown in figure, an axial load P = 200 x10^3 N is applied as shown. Calculate the nodal displacements.	10M	CO2	L5



UNIT- III

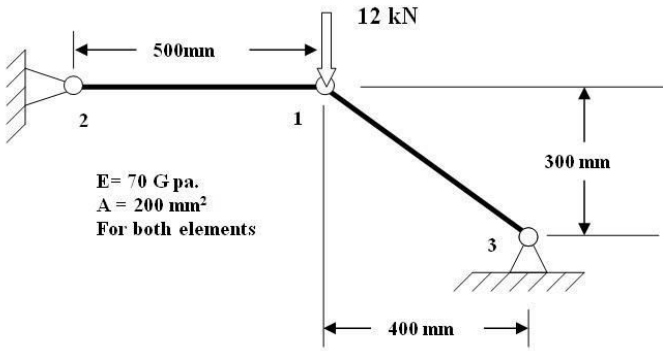
5.	a)	Determine the displacements at nodes in the truss elements shown in Figure.	6M	CO3	L5



	b)	Derive the transformation matrix for local to global nodal displacements for a plane truss element.	4M	CO3	L3

(OR)

6.		For the two-bar truss shown in figure, determine the displacements of node 1 and the stress in element 1-3.	10M	CO3	L5

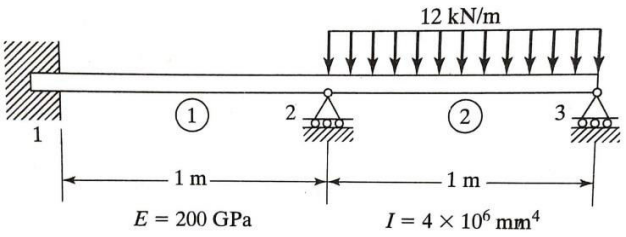


UNIT- IV

7.		Derive the Hermite shape functions for a two noded 2D beam element	10M	CO4	L3

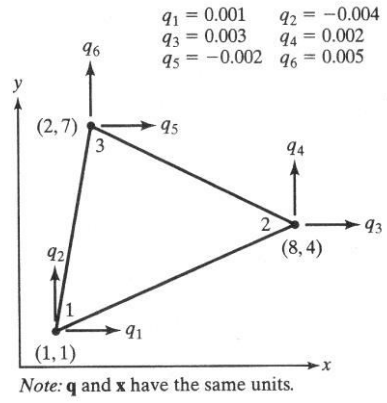
(OR)

8.		For the beam and loading shown in figure. Determine the slopes at 2 and 3.	10M	CO4	L5



UNIT-V

9.		For the triangular element shown in figure. Obtain the strain-displacements relation matrix B and determine the strains ε_x, ε_y, and γ_{xy}.	10M	CO5	L5



(OR)

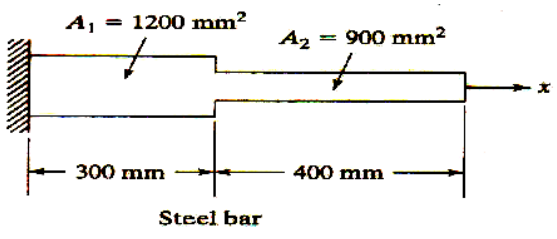
10.		Derive strain displacement **B** matrix for CST element.	10M	CO5	L3

UNIT-VI

11.	a)	Derive the consistent mass matrix for 2D Hermite beam	6M	CO6	L3
	b)	Explain the properties of Eigen values and Eigen vectors.	4M	CO6	L2

(OR)

12.		Consider axial vibration of the steel bar shown in figure. By hand calculations, determine the Eigen values and natural frequencies.	10M	CO6	L5



AR16 (RA)

CODE: 16CE4027 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular (RA)/ Supplementary Examinations, October, 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]**

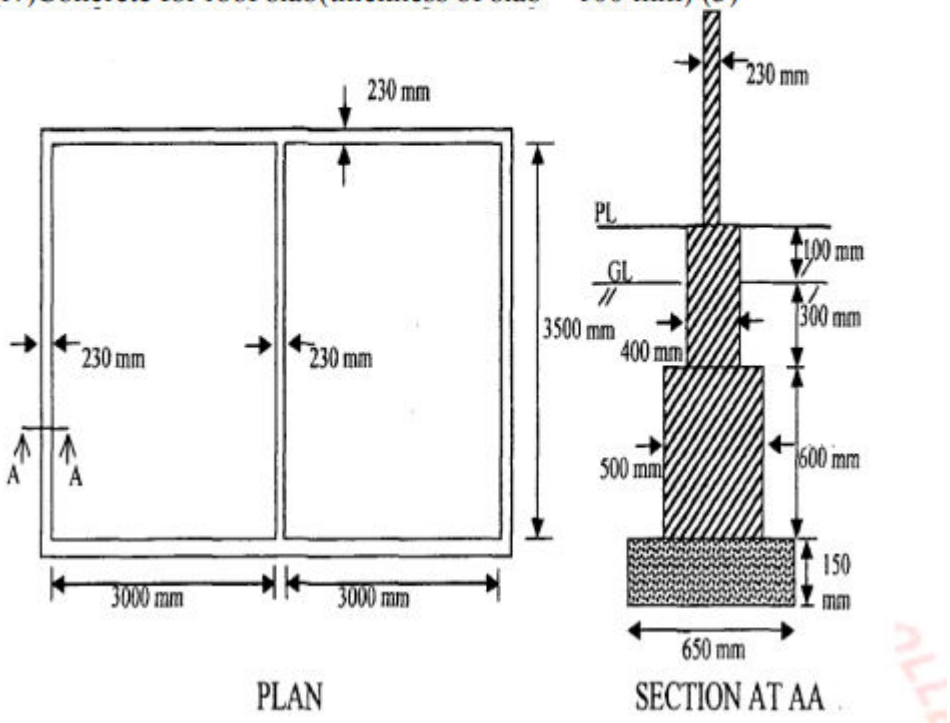
PART-A

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 class Brick work in CM 1:5 – 1 m3	7M
	b)	Plastering in CM 1:6, 12mm thick – 10 m3	7M
3.		A road is to be constructed in as side long partly in cutting and partly in banking. The formation width of road is 10 m, cross slope of ground is 6:1, side slopes in banking 2:1 and in cutting 1.5:1, depth of cutting at the centre is 45 cm although. Calculate the quantity of earthwork in banking and in cutting for a length of 200m. Estimate the cost of a making the formation of the road if the rate of earthwork is Rs 1,50,000 per cubic metre.	14M
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. 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.	14M
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-3 28M
Find the Estimate the quantities for the following items of works.
(i) Earthwork in Excavation (4)
(ii) Plain Cement Concrete for Foundation (4)
(iii)Ist class Brickwork for foundation (4)
(iv)Concrete for roof slab(thickness of slab = 100 mm) (3)



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

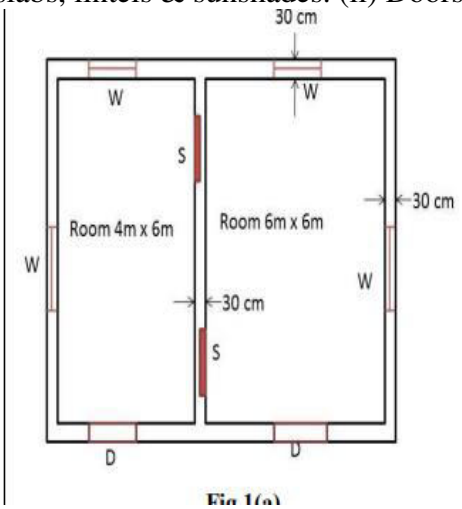


Fig 1(a)

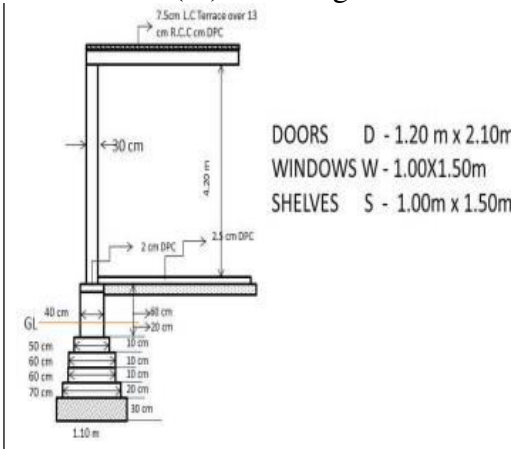


Fig 1(b)

AR16

CODE: 16ME4030 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, October, 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 reasons for automation	6M
	b)	Explain automation principles and strategies	8M
		(OR)	
2.	a)	Describe ten strategies for automation and production system	8M
	b)	Explain the hydraulic and pneumatic components used in automation	6M

UNIT-II

3.	a)	Discuss the classification of transfer lines	6M
	b)	A Geneva with eight slots is used to operate the worktable of a dial indexing machine. The slowest workstation on the dial indexing machine has an operation time of 2.5 seconds, so that the table must be in a dwell position for this length of time. (i) At what rotational speed must the driven member of the Geneva mechanism be turned to provide this dwell time? (ii) What is the indexing time each cycle?	8M
		(OR)	
4.	a)	Discuss the terminology used in transfer line analysis	6M
	b)	An eight station rotary indexing machine operates with an ideal cycle time of **20s**. The frequency of line stop occurrences is **0.06 stops/cycle** on an average. When a stop occurs it takes an average of 3min to make repairs Determine the following: i) Average production time ii) Average production rate iii) Line efficiency	8M

UNIT-III

5. 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. 14M
   i) Determine the theoretical minimum number of workstations to optimize balance delay.
   ii) For the number of stations determined in part (i), compute the balance delay d.

(OR)

6. a) Discuss the line balancing Algorithms 10M
   b) Discuss the fundamentals of automated assembly systems 4M

UNIT-IV

7. a) Explain ten principles of material handling systems 7M
   b) Describe conveyor operations and features 7M

(OR)

8. a) Describe Automatic guided vehicles management and safety 7M
   b) Explain AS/RS types and their applications 7M

UNIT-V

9. a) Explain the basic functions of Machine vision and how the image processing and analysis can be done 7M
   b) Explain the coordinate measuring machine operation and programming 7M

(OR)

10. a) What are the steps to be considered on a shop floor for implementing lean manufacturing principles? 7M
    b) Define agile manufacturing. How reorganizing can be done in the production system for agility 7M

AR18

CODE: 18CET418 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, October, 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]**

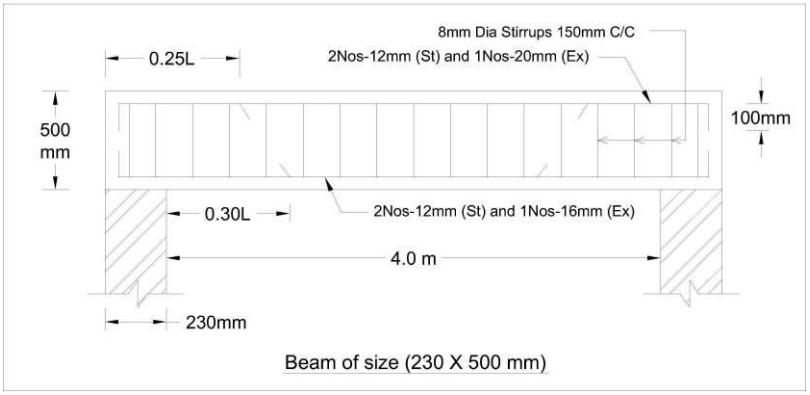
1. a) Discuss the various units of measurement used for estimation of civil works? 6M
   b) What is approximate estimate and explain about the importance and various types? 6M

2. a) 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. 12M

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

3. a) Prepare the rate analysis for VRCC (1:2:4) with 20mm nominal size of Coarse aggregate also with 0.8% of reinforcement. 6M
   b) Prepare the rate analysis for 12mm thick cement plastering with CM (1:5). 6M

4. a) 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. 12M



5. a) Write a short note on Scheduling and planning with 4D BIM 6M
   b) Write a short note on Construction safety planning using BIM 6M

PART-B

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

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. 12M

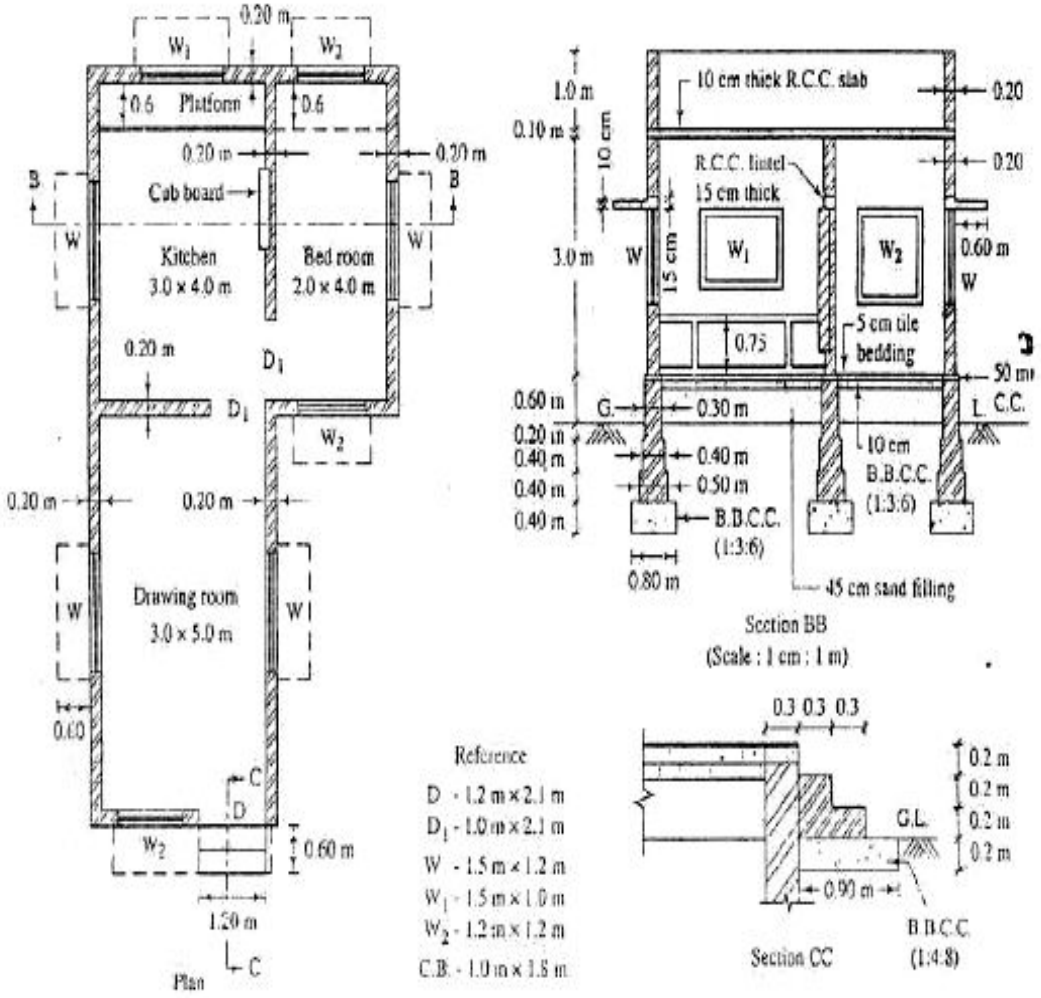
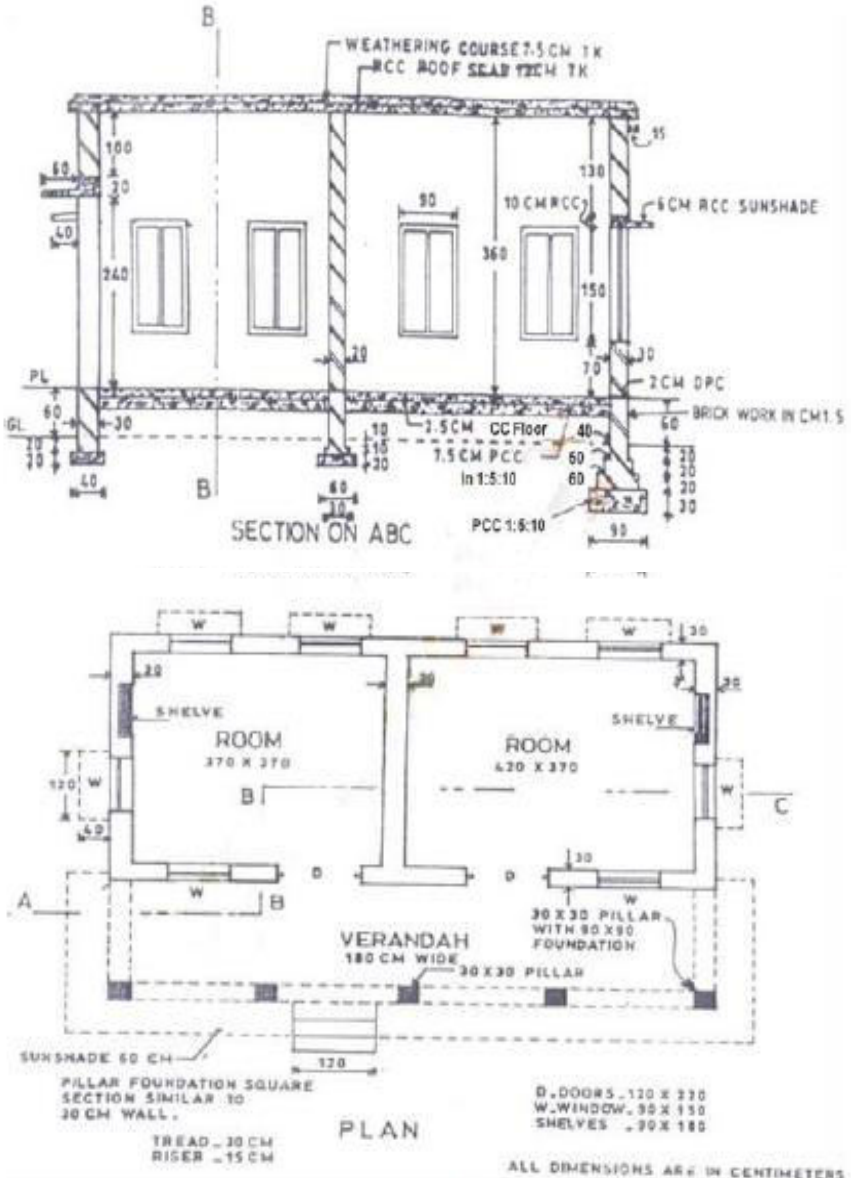


Figure 2

b) Discuss about the general principles of contract document and state the purpose of penalties in contract agreement. 12M

7. 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.



12M

b) List the components of a typical tender notice and explain about the conditions of contract. 12M

AR18(RA)

CODE: 18CST416 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular (RA)/Supplementary Examinations, October ,2023

Web Technologies

(CSE & IT Branches)

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 how basic and nested tables are created using HTML	6M
	b)	Create a HTML form with five basic features.	6M
		(OR)	
2.		Explain about Cascading Style Sheets with an example.	12M

UNIT-II

3.	a)	Write a JavaScript code to test whether the given number is Armsstrong number or not.	6M
	b)	Discuss java script constructors	6M
		(OR)	
4.	a)	Discuss Angular JS arrays	6M
	b)	Discuss Angular JS strings	6M

UNIT-III

5.	a)	Give a brief note on DOM parser.	6M
	b)	Explain the various types of XML schema data types used	6M
		(OR)	
6.	a)	Show how SAX is an alternative method for parsing XML documents. Write its advantages	6M
	b)	Explain the four possible keywords in a DTD declaration with suitable examples.	6M

UNIT-IV

7.	a)	Explain features of JDBC	6M
	b)	Discuss JDBC drivers	6M
		(OR)	
8.		With a neat diagram explain the life cycle of Servlet. Also explain each method involved in the life cycle.	12M

UNIT-V

9.	a)	Illustrate JSP life cycle	6M
	b)	Explain JSP Implicit Objects	6M
		(OR)	
10.	a)	Discuss JSP Directives	6M
	b)	Explain JSP Scripting Elements	6M

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AR18(RA)

CODE: 18HST403 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular(RA)/Supplementary Examinations, October, 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)	Discuss why managerial economics is considered essential for managers and decision-makers in organizations.	6
	b)	What is demand? Explain the key determinants of demand.	6
		(OR)	
2.	a)	Define managerial economics? Explain its significance in business decision-making.	6
	b)	Define the law of demand and its significance in economics.	6

UNIT-II

3.	a)	Describe different types of key factors that influence the process of demand forecasting.	6
	b)	Define survey methods of demand forecasting? Explain their advantages and limitations.	6
		(OR)	
4.	a)	Explain the significance of demand forecasting in optimizing inventory management, production planning, and pricing strategies.	6
	b)	Explain the judgmental approach to demand forecasting in detail.	6

UNIT-III

5.	a)	Discuss the key properties of the Cobb-Douglas production function	6
	b)	Define the marginal rate of technical substitution (MRTS) and its significance in production analysis.	6
		(OR)	
6.	a)	What is cost? Explain the short run and long cost curves.	6
	b)	Define Break-Even Analysis (BEA)? Explain its primary purpose in managerial decision-making.	6

UNIT-IV

7.	a)	What is perfect competition market? Explain the price determinants under perfect competition market.	6
	b)	Define monopolistic competition? Explain its key characteristics.	6
		(OR)	
8.	a)	Discuss the concept of market power in a monopoly and why monopolies have significant control over prices.	6
	b)	Describe the following terms. 1. Net Present Value (NPV) 2. Internal Rate of Return (IRR) 3. Profitability Index (PI) 4. Modified Internal Rate of Return (MIRR)	6

UNIT-V

9.	a)	Explain the importance of accounting principles in the field of financial accounting.	6
	b)	Define double-entry bookkeeping? Explain its significance in accounting.	6
		(OR)	
10.	a)	Describe the significance and functions of both journals and ledgers in the accounting process.	6
	b)	What is trial balance? Explain purpose and components of trail balance.	6

AR18(RA)

CODE: 18HST404 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular (RA)/Supplementary Examinations, October, 2023

MANAGERIAL ECONOMICS AND MANAGEMENT SCIENCE

(EEE & ECE Branches)

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)	Discuss why managerial economics is considered essential for managers and decision-makers in organizations.	6
	b)	Explain the concept of elasticity of demand and its various types.	6
		(OR)	
2.	a)	What is demand? Explain the key determinants of demand.	6
	b)	Describe the different methods of demand forecasting.	6

UNIT-II

3.	a)	What is cost? Explain the long run short run cost concepts.	6
	b)	Discuss the importance of the production function in understanding the relationship between inputs and outputs in the production process, and provide real-world examples to illustrate its application.	6
		(OR)	
4.	a)	Explain the different types of price elasticity of demand?	6
	b)	Explain the concept of the break-even point in business and the methods used to determine it.	6

UNIT-III

5.	a)	What is market? Explain the concept of market structure.	6
	b)	What is monopoly and monopolistic competition markets? Discuss their key characteristics, implications for pricing and product differentiation.	6
		(OR)	
6.	a)	Explain the concept of perfect competition and discuss its key characteristics.	6
	b)	Explain the concept of pricing strategies in business.	6

UNIT-IV

7.	a)	What is management? Explain the Nature, Importance and Functions of Management.	6
	b)	Explain Frederick Taylor's Scientific Management Theory, its key principles, and its impact on the field of management.	6
		(OR)	
8.	a)	Explain Henri Fayol's 14 Principles of Management.	6
	b)	Explain the Systems Approach to Management in organizational theory.	6

UNIT-V

9.	a)	Discuss the essential concepts and functions of Human Resources Management (HRM) in organizations.	6
	b)	Explain the fundamental functions of marketing, the concept of the marketing mix.	6
		(OR)	
10.	a)	Explain the concepts of Personnel Management and Industrial Relations in the context of human resource management.	6
	b)	Briefly explain the marketing strategies based on product life cycle.	6