

Hall Ticket Number :

**R-17**

**Code: 7BA51**

III B.Tech. I Semester Supplementary Examinations June 2022

**Managerial Economics and Financial Analysis**

( Civil Engineering )

Max. Marks: 70

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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**UNIT-I**

1. Define Managerial Economics. "Managerial Economics helps in solving Managerial Problems". Do you agree with this statement? Support your answer.

**OR**

2. Define elasticity of demand. How do you measure the price elasticity of demand?

**UNIT-II**

3. Explain the Law of Returns to scale with appropriate examples.

**OR**

4. XYZ Company Ltd. Providing you the following data relating to 31<sup>st</sup> December 2015

Sales : 1,00,000 units of Rs.10 each unit

Variable cost : Rs. 6 per unit

Fixed Cost : Rs.3,00,000 P.A

You are required to

- a) Calculate P/V ratio, Break –even point in rupees and Margin of Safety.
- b) What should be Sales if profit Rs.1, 50,000?
- c) What should be the profit if sales are Rs.12, 50,000?

**UNIT-III**

5. Define Perfect Competition. Describe the price output determination under perfect competition.

**OR**

6. Discuss the features, merits and demerits of sole trader form of organization

**UNIT-IV**

7. What is the need of capital for the business enterprises? And also explain various types of capital required.

**OR**

8. A company has two proposals for consideration (X and Y). The cost of the proposals in both the cases is Rs.5, 00,000 each. The company applies 12% discounting rate to evaluate the proposals. Cash flows( annual earnings) after tax but before depreciation are as under

Year	Proposal –X Rs.	Proposal –Y Rs.
1	1,50,000	50,000
2	2,00,000	1,50,000
3	2,50,000	2,00,000
4	1,50,000	3,00,000
5	1,00,000	2,00,00

Which proposal would you recommend under Net present value method?

<b>UNIT-V</b>
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9. Prepare Trading and Profit and Loss a/c and a Balance Sheet as on 31.3.20015 from the following Trial Balance of Ajith Trading & Co.

Debit	Rs.	Credit	Rs.
Salaries	6,000	Capital	25,000
Purchases	26,000	Sales	47,000
Trade expenses	1,000	Discount	200
Wages	7,800	Creditors	23,000
Carriage on purchases	400	Bills payable	6,800
Office expenses	500	Bank overdraft	7,000
Commission	600	Returns	1000
Bad debts	1,200		
Debtors	30,000		
Furniture	3,000		
Machinery	10,000		
Bills receivable	2,000		
Insurance	5400		
Opening stock	7,000		
Cash in hand	500		
Cash at bank	3,600		
Drawings	3,500		
Returns	1,500		
	<b>1,00,000</b>		<b>1,00,000</b>

**Adjustments :**

- (a) Closing stock Rs.11,000
- (b) Outstanding wages Rs.2,000
- (c) Prepaid insurance Rs.50
- (d) Depreciate machinery and furniture @ 5%.

**OR**

10. What are the uses of Ratio analysis? How the Liquidity and profitability Ratio's help the banker to evaluating financial position of the borrowing organization?

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Code: 7G655

III B.Tech. I Semester Supplementary Examinations June 2022

**Structural Analysis-II**

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks )

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Marks

**UNIT-I**

1. A segmental arch has a span of 40m and a rise of 8m and is hinged at springings both the hinges are at same level. The arch supports a load of 100KN at the crown. Find the horizontal thrust at each support and the maximum B.M for the arch.

14M

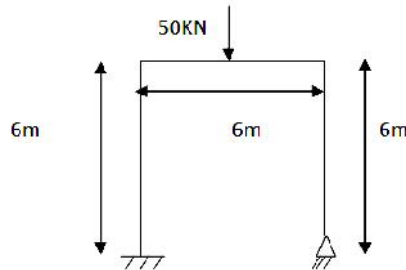
**OR**

2. A two hinged semicircular arch of radius 10m is subjected to a rise of temperature  $40^{\circ}\text{C}$ . Find the maximum stress due to rise in temperature. Take  $E = 2 \times 10^5 \text{N/mm}^2$ ,  $\alpha = 12 \times 10^{-6}/^{\circ}\text{C}$ . Depth of the arch section is 1000mm.

14M

**UNIT-II**

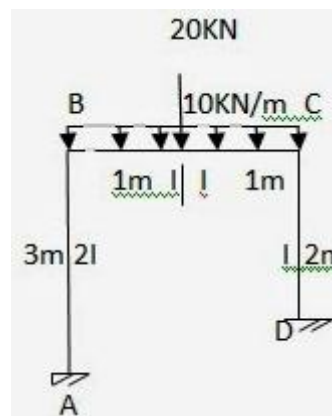
3. Analyze the given portal frame by using slope deflection Method.



14M

**OR**

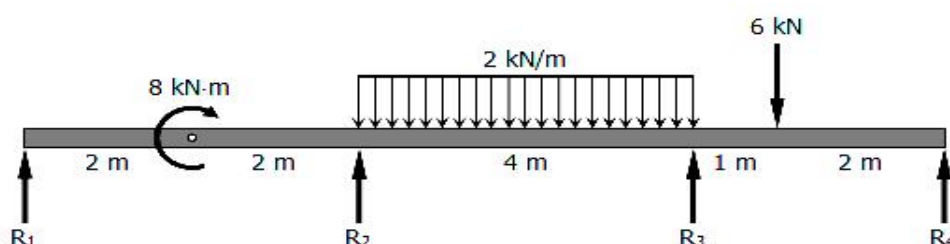
4. Analyze the given frame by using slope deflection method and assume uniform flexural rigidity.



14M

**UNIT-III**

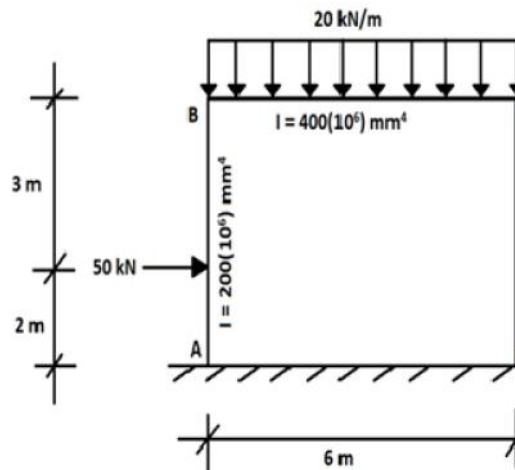
5. Analyze the given beam by using KANI'S method.



14M

**OR**

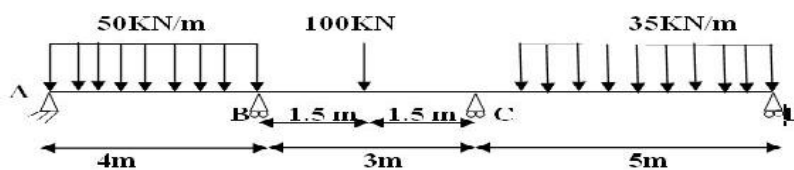
6. Analyse the given portal frame by using KANI's method.



14M

UNIT-IV

7. Analyze the beam by flexibility matrix method by assuming uniform flexural rigidity  $2EI$ .



14M

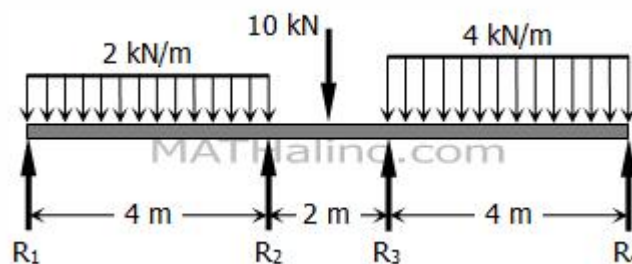
OR

8. Analyze the Continuous beam by stiffness matrix method ABCD is having a total span of 36m. The span AB is having a length of 12m and it is subjected to an UDL of 45kN/m. The span BC is also having a length of 12m and it is subjected to eccentric point load of 130 kN which is acting at a distance of 4m from the support B. The span CD is also having a length of 12m and it is subjected to an UDL of 20kN/m. The end A is hinged and the remaining are rollers.

14M

UNIT-V

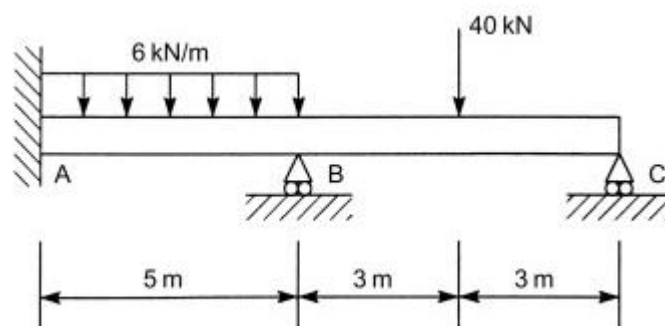
9. Determine the plastic moment for the given beam.



14M

OR

10. Determine the plastic load for the given beam.



14M

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Hall Ticket Number :

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**R-17**

**Code: 7G651**

III B.Tech. I Semester Supplementary Examinations June 2022

**Design and Drawing of Reinforced Concrete Structures**

( Civil Engineering )

Max. Marks: 70

Time: 3 Hours

Use of IS 456:2000 and SP 16 Design aided charts books are permitted in the examination hall

**PART-A**

*(Answer any one question)*

*1x28=28 marks*

Marks CO Blooms Level

1. Design a continuous R.C. Slab for a class room 8m wide and 15m long. The roof is to be supported on R.C.C Beams spaced at 3.5 m intervals. The width of beam should be kept 230 mm. The superimposed load is 3.2 kN/m<sup>2</sup> and finishing load expected is 1.8 kN/m<sup>2</sup>. Use M 20 concrete and Fe 415 steel.
- (a) Draw the reinforcement of the slab in plan view.
- (b) Draw cross section of the slab including beams with reinforcement details. 28M

**OR**

2. Design a simply supported rectangular beam to carry 38KN/m superimposed load over a span of 5.5 m on 300mm wide supports. Use M20 grade concrete and Fe 415 grade steel. Check the design for all necessary conditions. Draw to a suitable scale
- (a) Longitudinal section showing the reinforcement details.
- (b) The cross section of the beam at salient points, showing reinforcement details. 28M

**PART – B**

*(Answer any three questions)*

*3x14=42 marks*

3. A rectangular simply supported beam of clear span 4.2m is 340mmx540mm in cross Section. It is reinforced with 4 bars of 20mm diameter. Use M20 grade concrete and Fe415 steel. The effective cover is 40mm. Taking super imposed live load as 26 KN/m and dead load as 18KN/m, calculate the short term and long term deflections of the beam. 14M
4. A rectangular beam 300mm wide and 400 mm deep upto the centre of reinforcement, has to resist a factored moment of 45KN-m. Design the section. Use M20 grade concrete and Fe 415 steel. 14M
5. Explain the concept of Doubly reinforced beams 14M
6. A simply supported beam, 300 mm wide and 600 mm effective depth carries a uniformly distributed load of 75kN/m including esef weight over an effective span of 6 m. The reinforcement consists of 5 bars of 25 mm diameter. Out of these two bars can be safely bent up at 1 m distance from the support. Design the shear reinforcement for the beam. 14M
7. Explain the minimum and maximum percentage of steel reinforcement in column as per IS code. Write the reason for minimum and maximum percentage of steel reinforcement. 14M

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