R-14

Code: 4GA51

III B.Tech. I Semester Supplementary Examinations November 2019

Managerial Economics and Financial Analysis

(Common to CE, ME & ECE)

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. What do you mean by Managerial Economics? Describe the Nature and Scope of Managerial Economics?

OR

2. Discuss about the time perspective in business decision? Under what kind of business decisions time perspectives become an important consideration?

UNIT–II

3. What is meant by Elasticity of Demand? How is the Elasticity of Demand measured?

OR

4. Discuss about the cost – output relationship in the short run and the long run?

UNIT–III

5. "Monopolistic competition is the middle ground between perfect completion and monopoly" explain the statement in detail.

OR

6. Briefly explain the features, merits and demerits of public and private sector business organizations?

UNIT–IV

7. A company has **two** investment proposals each costing Rs.1,00,000 and the expected cash inflows are given below;

Year	1	2	3	4	5
Project – A	20,000	30,000	50,000	50,000	20,000
Project – B	35,000	35,000	35,000	35,000	35,000

The cost of capital is 10%. Calculate NPV and Profitability Index. Suggest the management.

OR

8. Define Accounting. Explain Double Entry Book Keeping System. Explain the classification of Accounts with detail examples?

UNIT–V

9. Elucidate the Solvency and Profitability Ratios?

OR

10. The following figures are extracted from the Balance Sheet of X Ltd., as on 31st December.

Particulars	2017 (Rs.)	2018 (Rs.)	Particulars	2017 (Rs.)	2018 (Rs.)
Stock	25,000	40,000	Bills Payable	2,000	3,000
Debtors	10,000	16,000	Provision for taxes	5,000	7,000
Cash at Bank	5,000	4,000	Bank Overdraft	5,000	15,000
Creditors	8,000	15,000			

Calculate the Current Ratio and Acid Test Ratio for the two years and comment on the Liquidity position of the company.

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R-14

III B.Tech. I Semester Supplementary Examinations November 2019
Structural Analysis-II
(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.   A parabolic arch hinged at the springings and crown has a span of 20m. The central rise of the arch is 4m. It is loaded with an u.d.l of intensity 2KN/m on the left 3m length. Calculate

a) The direction and magnitude of reactions at the hinges
b) The bending moment, normal thrust and shear at 4m and 15m from the left end
c) Maximum positive and negative bending moments?   14M

OR

2. a) Explain the effect of rib shortening in two- hinged arches.   6M

b) A two –hinged parabolic arch of span 20m and rise 4m carries an u.d.l of 50KN/m on the left half of the span. Find the reactions at the supports and the position and amount of maximum bending moment?   8M

UNIT–II

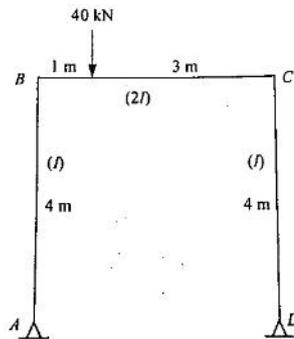3. a) Under what circumstances, the portal frames may undergo side sway?   4M

b) Analyse the portal frame shown in figure below by slope- deflection method. Also draw the S.F and B.M diagrams.
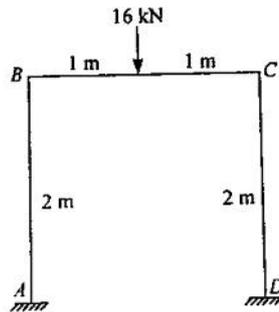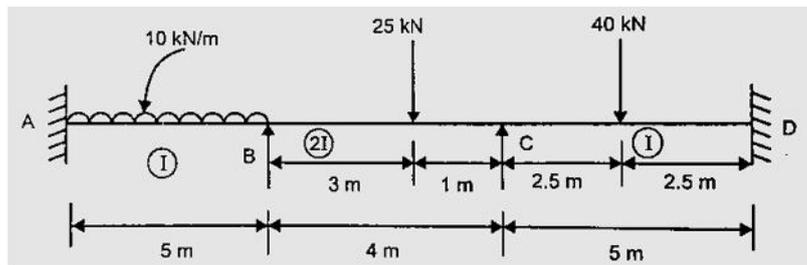

10M

OR

4.   Analyse the portal frame shown in figure below by moment distribution method. Also draw the shear force and bending moment diagrams.
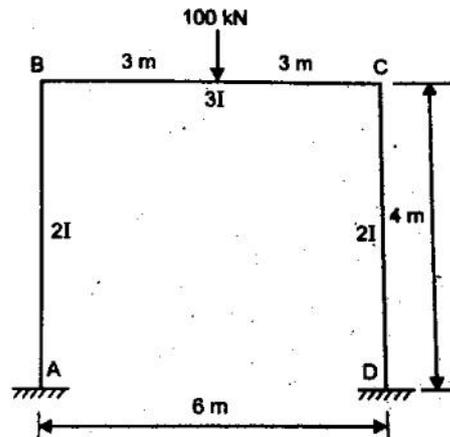

14M

UNIT–III

5.   Analyse the continuous beam loaded as shown in figure below by Kani's method. Sketch the B.M.D.
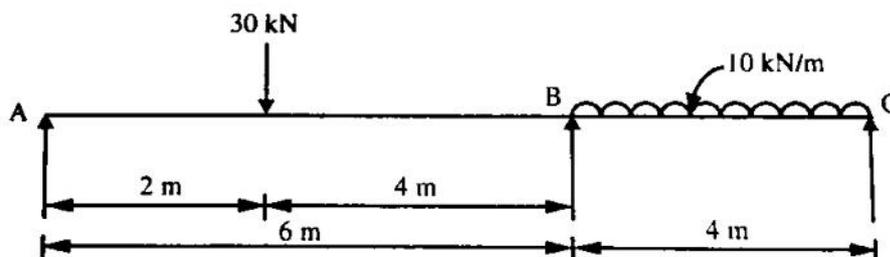

14M

OR

6. Analyse the frame loaded as shown in figure below by Kani's method and sketch the B.M.D.
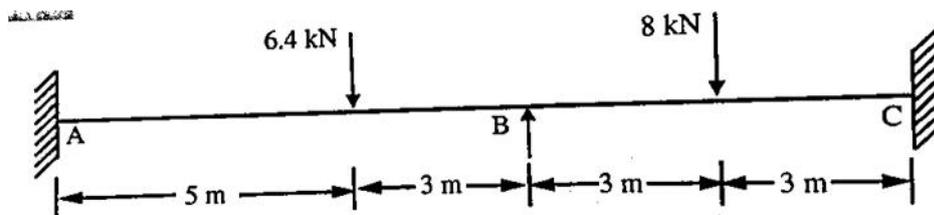

14M

UNIT–IV

7. Analyse the continuous beam shown in figure below by flexibility method and draw the B.M.D.
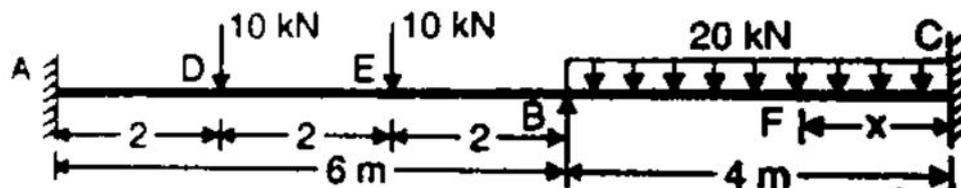

14M

OR

8. Analyse the continuous beam shown in figure below by stiffness method and draw the B.M.D.

14M

UNIT–V

9. a) What are the assumptions made for evaluation of the fully plastic moment?   5M

    b) A two span continuous beam of uniform section loaded with ultimate loads as shown in figure below. Determine the required plastic moment of resistance?

9M

OR

10. What are the basic theorems of plastic analysis? Explain them in detail.   14M

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Code: 4G655

III B.Tech. I Semester Supplementary Examinations November 2019

Design and Drawing of Reinforced Concrete Structures

(Civil Engineering)

Max. Marks: 70   Time: 3 Hours

PART-A

Answer *any One* questions (1 x 28 = 28 Marks)

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1. Design a roof slab with restrained edges which is continuous on three edges and discontinuous on one short edge for a room of 4.8 m X 3.6 m clear in size. The width of the beams on all edges is 230mm. Take the roof finishes as 2.0 kN/m^2 and that of the live load for roof as 1.5 kN/m^2. Use M-20 grade concrete and Fe 500 steel. Detail the following to scale.

    (a) Draw the reinforcement of the slab in plan view.
    (b) Draw cross sections of the slab in both directions showing reinforcement.

OR

2. Design an isolated square footings to carry a column load of 1090 kN for a 300mm square tied column containing 20 mm bars as the longitudinal bars. Assume soil safe bearing capacity as 150 kN/m^2. Use M-25 grade concrete and Fe-500 grade steel. Assume unit weight of soil as 17 kN/m^3.

    Draw to scale, showing reinforcement details

    (a) Plan view of the footing.

    (b) Sectional elevation of the footing.

PART-B

Answer *any Three* questions (3 x 14 = 42 Marks)

3. A simply supported 'T' beam has an effective span of 8m. The flange of the 'T' beam is 1000mmX100mm and the web below is 250mmX400mm. It is reinforced with 5-25 mm Fe415 grade steel bars in tension at an effective cover of 50mm. Determine the magnitude of two equal point loads which can be supported at its one-third points. Assume f_{ck}=20N/mm^2.

4. Design a rectangular beam section of 230 mm width subjected to an ultimate bending moment of 90 kNm and an ultimate shear force of 50 kN. Assume M 20 grade concrete and Fe 500 grade steel.

5. Design an axially loaded tied column 300mm X 450mm pinned at one end and fixed at other end with an unsupported length of 3.5m for carrying a factored load of 2200kN. Use M25 grade concrete and Fe 500 grade steel.

6. Design a short column under biaxial bending with the following data. Size of the column 450mmX450mm. Factored 'Pu'=1000kN, Mux=75kNm, Muy=60kNm. Reinforcement is assumed to be distributed equally on four sides. Use M20 grade concrete and Fe 500 grade steel.

7. A rectangular cantilever beam of span 4m is 350mmX650mm in cross section. Bending moment at the support due to uniformly distributed service loads is 150 kNm out of which 50% moment is due to permanent loads. Check the beam for deflection. It carries 3-25mm bars in tension at an effective cover of 50mm. M20 grade concrete and Fe415 steel are used.

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