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- 3. A beam AB of span 6m carries a point load of 45 kN at a distance of 4m from the left end A. Find, (i) Slope at A, (ii) deflection under the load, (iii) section where the deflection is maximum & (iv) maximum deflection.

Section - B

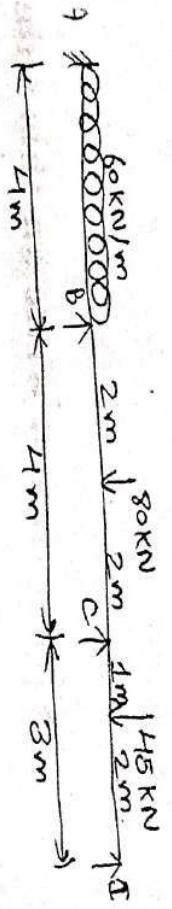
- 4. Two wheel loads 20kN and 10kN, 3meters apart cross a girder of 8m span with the 10kN load leading, from left to right. Draw the max. Shear and max. bending moment diagram. 15

Section - C

- 5. Describe the Muller Breslau's Principle in detail. 15
- 6. A 3-hinged parabolic arch of span ℓ has its abutments at depths h_1 and h_2 below the crown. The arch carries a U.D.L. of w per unit run over the whole span. Determine the horizontal thrust, at each support. 15

Section - D

- 7. Describe the column analogy method in detail. 15
- 8. Find the support moments at A, B, C, D for the continuous beam using Kanis's method. 15

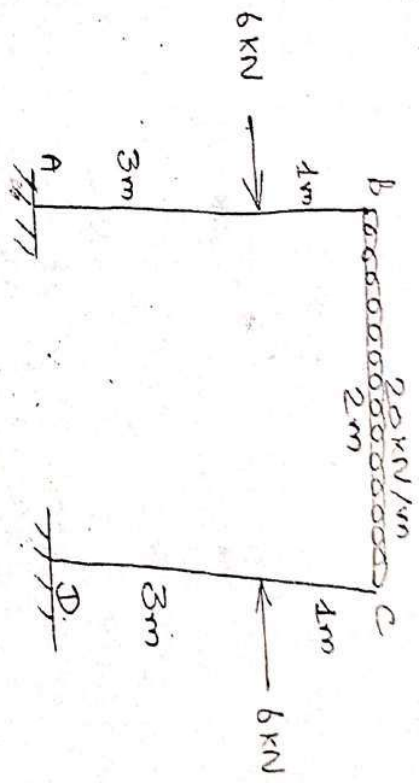


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- 9. Analyse the portal frame shown 15



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B.Tech. (ECE) 4th Semester (G-Scheme)
Examination, July-2022
DIGITAL ELECTRONICS
Paper- PCC-ECE-205-G

Time allowed : 3 hours]

[Maximum marks : 75

Note : Question no. 1 is compulsory. Attempt one questions from each unit.

1. (a) What are the differences between Combinational Circuits and Sequential Circuits? 2.5
- (b) What are the applications of Demultiplexer? 2.5
- (c) What is the difference between Synchronous and Asynchronous Counters? 2.5
- (d) What are the applications of Flip-Flops? 2.5
- (e) What is Half-Adder? 2.5
- (f) What are the limitations of the Karnaugh Map? 2.5

Unit - I

2. Find a minimal SOP representation for $f(A,B,C,D,E) = \sum m(1,4,6,10,20,22,24,26) + d(0,11,16,27)$ using K-map method. Draw the circuit of the minimal expression using only NAND. 15