

Total No. of Questions : 8]

[Total No. of Printed Pages : 3

Roll No

CE-403-CBGS

B.Tech., IV Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Structural Analysis-I

Time : Three Hours

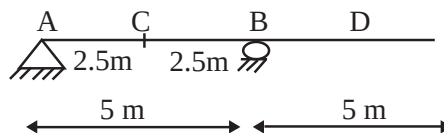
Maximum Marks : 70

Note: i) Attempt any five questions from given eight questions.

ii) All questions carry equal marks.

iii) In case of any doubt or dispute the English version question should be treated as final.

1. What is cable? Write assumptions in force analysis of cable.
2. Draw ICD for following figure for
 - i) Reaction at B
 - ii) Shear at C
 - iii) Moment at C

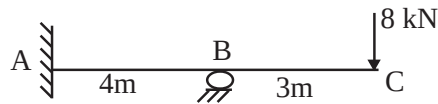


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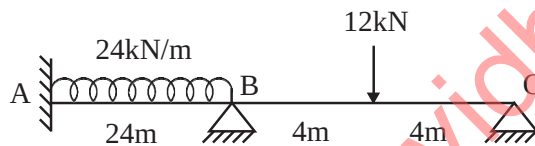
3. Analyse the following beam.



4. a) Write down the Betti's theorem.

b) Write a short note on stability of structure.

5. Analyse the following beam.



6. A three hinged parabolic arch of 22 metres span and 4m central rise carries a point load at 4 kN at 4m horizontally from the left hand hinge. Calculate the normal thrust and shear force at section under the load. Also calculate the maximum bending moment positive and negative.

7. a) What do you mean by strain energy? Explain.

b) What do you mean by virtual work principle? Explain.

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Contd...

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8. Write down a short note on the following.
- i) Maxwell's Reciprocal theorem
 - ii) Complementary Energy
 - iii) Arch
 - iv) Eddy's theorem

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