Total No. of Printed Pages:3

SUBJECT CODE NO:- K-297
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CIVIL) Examination Oct/Nov 2016
Theory of Structure - II
(Revised)

[Time:Three Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.

N.B i) Question number one and six are compulsory.
ii) Attempt any two questions from each section from remaining.
iii) Assume suitable data if necessary.
iv) Use of IS 800 and steel table is permitted.

Section A

Q.1 Attempt any five. 10

i) Explain upper bound theorem.
ii) Concept of plastic winged.
iii) Define the term local factor
iv) Distinguish between statically determinate and indeterminate structures.
v) State Castigliano's second theorem.
vi) Explain static indeterminacy.
vii) Assumption in trusses.

Q.2 a) Find shape factor of tangle of base b and height h. 05
b) Find the value of mp for propped cantilever of span l and subjected to uniformly distributed load of wμ/m. 10

Q.3 Analyse the beam shown in fig.1, if support B sinks by 25mm. Take EI =3800KNm^2. Draw SFD and BMD. Use slope detection method. 15

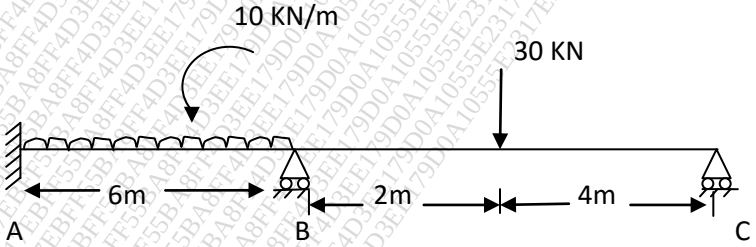

fig.1

Q.4 Analyse the patal frame shown in fig.2 by Column Analogy method. 15

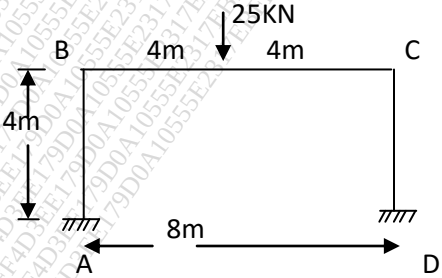

fig.2

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Q.5 Analyse the pin jointed redundant truss shown in fig. 3. Take EI= constant 15

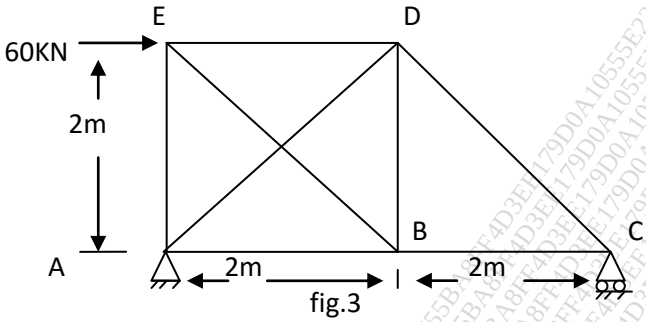

fig.3

Section B

Q.6 i) State the distribution theorem. 02

ii) Explain Distribution factor and Rotation factor. 02

iii) Construct influence line for BM, SF and normal thrust for two winged parabolic arch of span l and rise h. 06

Q.7 Determine the end moment A, B, C and D for continuous beam shown in fig.4 by using kelnis method. Draw BMD. 15

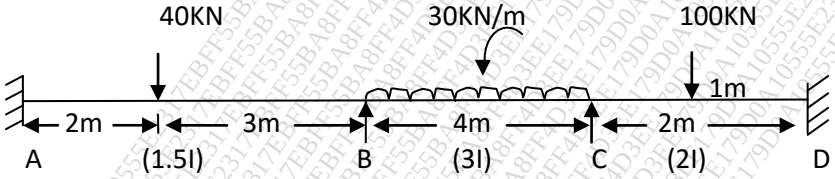

fig.4

Q.8 Determine the end moments of the member of frame shown in fig.5. Draw BMD use moment distribution method. 15

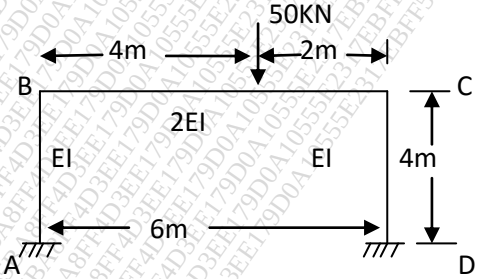

fig.5

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Q.9 A two winged parabolic arch on equal levels of supports having span of 36m is subjected to u.d.l of 40 KN/m on left half of span centralise is 8m 15
Determine the position and magnitude of maximum bending moment.
Take I = Ic sec θ. Draw BMD.

Q.10 Analyse the beam shown in fig 6 by moment distribution method. If support B sink by 2.50mm. For all members $I = 3.5 \times 10^7 mm^4$ and E= 200 KN/mm^2. 15

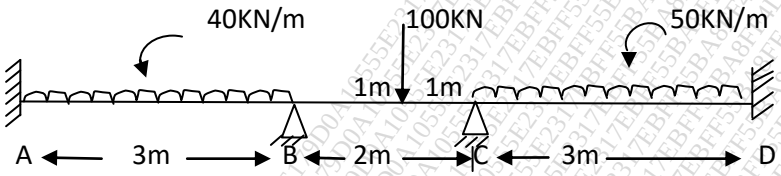

fig 6

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