

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**II B.Tech. II Sem., II Mid-Term Examinations, April – 2014****STRUCTURAL ANALYSIS-I****Objective Exam****Name: _____ Hall Ticket No.**

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**I Choose the correct alternative:**

1. External Indeterminacy is found by []
 A) $R+r$ B) $r-R$ C) $r+R$ D) $R-r$
2. Degree of freedom for node of a plane truss is []
 A) 2 B) 3 C) 4 D) 6
3. Which of the following does not fall in the category of displacement method []
 A) Method of consistent deformation B) Equilibrium method.
 C) Moment distribution method D) Stiffness method
4. Absolute max moment of a beam subjected to a single point load is []
 A) $Wl/8$ B) $wl/4$ C) $wl/2$ D) wl
5. Absolute max moment for UDL smaller than span occurs at []
 A) Mid span B) Quarter span C) Ends D) all of the above
6. Muller breslane principle for influence line is applicable for []
 A) Simple beam B) continuous C) redundant truss D) all the above
7. The shape of influence line diagram for max BM in a simply supported beam is []
 A) Rectangular B) triangular C) parabolic D) circular
8. Flexibility coefficient for shaft of length L and torsional rigidity GL under torsion at mid point is []
 A) $L^2/6GJ$ B) $L/2GJ$ C) $L/3GJ$ D) L/GJ
9. Number of unknowns to be determined in the stiffness method is equal to []
 A) Static indeterminacy B) Kinematic indeterminacy C) Both D) None
10. The element displacement equation in stiffness method is []
 A) $[\beta]\{\mu\}$ B) $[\beta]\{k\}$ C) $[\beta][\beta]^T$ D) None

Cont.....2

II Fill in the blanks:

11. The influence line diagram for forces in top & bottom chord members are drawn for _____
12. The Influence Line Diagram for forces in diagonal & vertical members are drawn for _____
13. A truss which receives load at its bottom chord joint is called a _____
14. A structure having members in three dimensions is called _____.
15. A truss is statically determinate internally, if the total number of members(n) = _____
16. Absolute max moment for a beam subjected to UDL is _____.
17. Absolute max shear force of a beam subjected to a single point load is _____.
18. A single concentrated load, rolling over the beam will cause max shear force & bending moment on a section, when the load is on _____
19. While drawing the influence lines, it is assumed that the load is transformed to the truss, only at its _____.
20. Area of the influence line diagram for the reaction at the hinged end of uniform propped cantilever is _____

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