JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

B.Tech-Vth Semester (Civil)

COURSE CODE (CREDITS): 18B11CE513(3) MAX. MARKS: 25

COURSE NAME: STRUCTURAL ANALYSIS

COURSE INSTRUCTORS: Mr. Chandra Pal Gautam Max. Time: 1 Hour and 30 Minutes

Note: *All questions are compulsory. Marks are indicated against each question in square brackets.*

Q1. (i) Mention different conditions in which can sway or does not sway with examples.

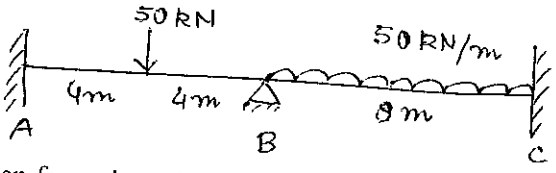
(ii) Differentiate between a fixed support, Rigid joint and a hinge support.

(iii) State the purpose of fixed end moments with examples.

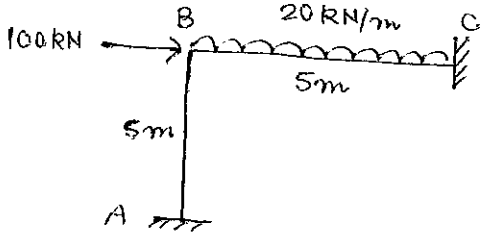
(iv) How the settlement in building occurs and mention the measures need to be taken.

[1+1+1+2=5] [CO 2]

Q.2. Solve the given beam by using Slope Deflection Equation and draw bending moment diagram. E = 70 GPa, I = 800 X 10^6 mm^4 **[6] [CO 3]**



Q.3. Solve the given frame by using Slope Deflection Equation and draw axial force, shear force and bending moment diagram. E = 70 GPa, I = 800 X 10^6 mm^4 **[7] [CO 3]**



Q.4. For the given beam if the support B settles by 5 mm and support D settles by 10 mm, find moments at all supports and draw bending moment diagram. E = 70 GPa, I = 800 X 10^6 mm^4

[7] [CO 3]