

Dr. Sawan

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- FEB- 2019

B.TECH 8TH / M.Tech II Semester

COURSE CODE: 12M1WCE231

MAX. MARKS: 15

COURSE NAME: Prestressed Concrete Design

COURSE CREDITS: 3

MAX. TIME: One Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume any suitable data if needed.

Q1. Elaborate on the classification of prestress. Write the stages of pretensioning and post tensioning systems. [5, CO1]

Q2. A prestressed concrete beam of rectangular section 300mm×600mm has a span of 12m. The effective prestressing force is 980kN at an eccentricity of 120mm. The beam carries a live load of 7.5kN/m. Find the extreme stresses. Also draw the appropriate resultant stress diagram [6, CO2]

i) at the end section

ii) at the mid section at transfer

iii) at the mid section at service condition

Q3. Discuss in brief the advantages and disadvantages of prestressing.

[4, CO1]