

## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- Feb 2018

B.Tech Vth Semester

COURSE CODE: 10B11CE611

MAX. MARKS:15

COURSE NAME: Design of Steel Structures

COURSE CREDITS: 4

MAX. TIME: One Hr

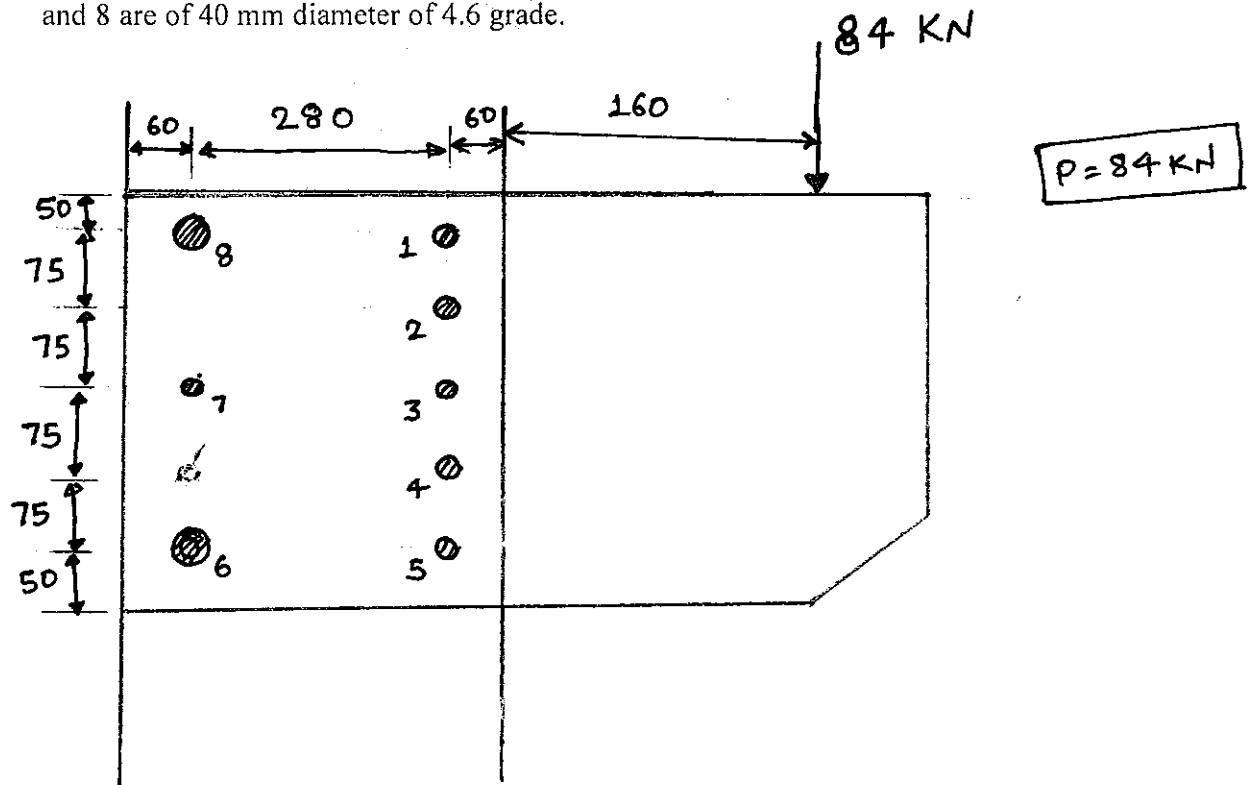
*Note: (i) All questions are compulsory.**(ii) Carrying of mobile phone during examinations will be treated as case of unfair means.**(iii) IS codes and steel tables are not allowed. Sharing of items like pen, pencil, calculator etc. will be treated as unfair means. Assume necessary data.*

Q1. With the help of neat diagram, discuss various types failures in Bolts. [3 Marks]

Q2. Two plates 10-mm and 14-mm thick are to be jointed by double cover butt joint. Assuming cover plates of 8-mm thickness, design the joint to transmit factored load of 300 kN. Assume Fe 410 plate and 16-mm-diameter grade 4.6 bolt. [5 Marks]

Q3. Check for the safety of the connection shown below. [7 Marks]

Bracket of thickness 15 mm is connected to ISMC 400 (web thickness = 8.8 mm). Two types of Bolts are used. Bolt no. 1, 2, 3, 4, 5 and 7 are of 20 mm diameter while Bolt No. 6 and 8 are of 40 mm diameter of 4.6 grade.



THE END.