

Total No. of Questions : 6]

SEAT No. :

P4601

[Total No. of Pages : 2

[4960] - 44

M.E. (Civil - Structures)

DESIGN OF INDUSTRIAL STRUCTURES

(2008 Course)

Time : 4 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Attempt any two questions from Section I and Section II.
- 2) Answers to the two sections should be written in separate answer books.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Assume suitable data, if necessary and clearly state.
- 6) Use of electronic pocket calculator, steel table and IS 800 are allowed.
- 7) Use of cell phone is prohibited in the examination hall.

SECTION - I

- Q1)** a) Analysis the industrial building bents for columns [18]
i) hinged at base
ii) fixed at base
iii) partially fixed at base and draw moment diagram
b) State and explain design consideration of roof column and its base.[7]
- Q2)** The span of a knee roof trusses used over an industrial building 28 m long is 18 m. The pitch of roof truss is 1 in 4. The GI Sheets are used for roof covering. The basic wind pressure is 1.5 kN/m^2 . The height of eaves above ground level is 8 m. Propose a suitable type of roof truss. Determine the loads at various panel points due to dead load, live load and wind load. Also determine the reaction. [25]
- Q3)** Design of gable portal frame without gantry loads for the data given in Q.2 and draw the design sketches. [25]

P.T.O.

SECTION - II

- Q4)** a) Explain in details design concept of open web frames for industrial shed with suitable sketches. **[13]**
b) State the application of truss purlin and explain in brief design consideration. **[12]**
- Q5)** a) State and explain design consideration of mobile gantry structure. **[15]**
b) State and explain design consideration of machine foundation. **[10]**
- Q6)** Design suitable bracing systems for industrial structure of Q.2. **[25]**

