Total No. of Questions : 6]

SEAT No. :

**P4462**

[Total No. of Pages : 2

# [4860]-44

## M.E. (Civil-Structures)

## d-DESIGN OF INDUSTRIAL STEEL STRUCTURES

## (2008 Course) (Semester-I) (501405) (Elective-II)

*Time : 4 Hours]* *[Max. Marks : 100*

***Instructions to the candidates:***

1) ***Attempt any two questions from Section-I and II.***
2) ***Answers to the two Sections should be written in separate answer books.***
3) ***Figures to the right indicate full marks.***
4) ***Neat diagrams should be drawn wherever necessary.***
5) ***If necessary, assume suitable data.***
6) ***Use of electronic pocket calculator, relevant IS code and steel table are allowed.***

## SECTION-I

***Q1)*** a) Explain in brief analysis and design of knee braced trussed bent with hinged. **[9]**

b) Explain in brief design of knee brace as per the codal provision and its limitation. **[9]**

c) Differentiate fixed and partially fixed bases in details with suitable sketches. **[7]**

***Q2)*** Analysis the columns of industrial building for different end condition at base i.e. hinged, fixed and partially fixed. Draw bending moment diagram of the columns. **[25]**

***Q3)*** a) State and explain analysis and design of gable portal frame with gantry loads. **[15]**

b) State and explain design of bracket supporting gantry loads. **[10]**

***P.T.O.***

## SECTION-II

***Q4)*** a) Explain in brief design concept of open web frames for industrial shed. **[15]**

b) Explain in details merits and demerits of trussed purlins. **[10]**

***Q5)*** a) Explain the use of mobile gantry girder and its design concept as per codal provision. **[15]**

b) Explain design criterion of machine foundation for and industrial building. **[10]**

***Q6)*** a) State and explain analysis and design of various bracing systems in industrial shed structure. **[15]**

b) Explain in brief different type of industrial flooring with design concept. **[10]**

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