R18

Reg. No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY::PUTTUR
(AUTONOMOUS)
M.Tech I year II Semester Regular Examinations June 2019
ADVANCED STEEL DESIGN
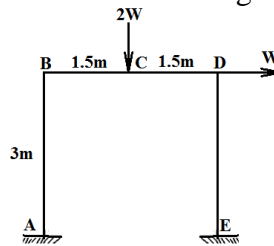#### (Structural Engineering)

Time: 3 hours   Max. Marks:60

(Answer all Five Units 5×12=60 Marks)

UNIT I

1	a	Explain about Idealized stress-strain curve for mild steel.	6M
	b	Explain fully plastic moment capacity.	6M

OR

2	Calculate the collapse load for frame as shown in the Figure.	12M

UNIT II

3	Design a hat section for a simply supported beam of effective span 2.5m.The superimposed load is 2KN/m. Yield strength of steel is fy=235MPa.	12M

OR

4	a	Types of sections used in light gauge steel structure.	6M
	b	Local buckling of elements and post buckling of elements.	6M

UNIT III

5	a	List out and explain the various uses of steel towers.	6M
	b	List out the types of towers & Explain briefly.	6M

OR

6	Briefly explain about the various structural configurations adopted in towers with neat diagrams. Also explain about the types of bearing systems adopted in towers.	12M

UNIT IV

7	Design a purlin section for the following data. Spacing of roof trusses C/C =5m, Dead load of roofing =0.5kN/m Live load on purlin =1.1kN/m, Wind load on Purlin =-1.5kN/m	12M

OR

8	a	State advantages & disadvantages of tubular sections in steel structure.	6M
	b	Write note on design considerations as per IS code for tubular structure used as scaffolding.	6M

UNIT V

9	Explain various steps involved in the design of gantry girder.	12M

OR

10	Design Girts in an industrial building for the following data. Height of columns =11m, c/c spacing of columns =8 m Span of truss =16 m, Side coverings =AC Sheets Intensity of wind pressure =1.05 kN/m2	12M

END