

Total No. of Printed Pages:01

**SUBJECT CODE NO:- H-5034**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**T. Y .Arch (Rev) (Sem-V)**  
**T.D.S. - IV**

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

Please check whether you have got the right question paper.

- N.B i) Question 1 & 5 are compulsory, solve any four from remaining.  
 ii) Assume suitable data wherever necessary & mention as such.
- Section A**
- Q.1 a) Explain what are lacing with neat sketch. 08  
 b) A column of effective length 5.8m has to carry axial load of 1200KN. Design the column section Consisting of 2 channels placed back to back at suitable distance also design lacing for the column. 16
- Q.2 Design a tension member in a roof truss to carry a force of 80KN. The diameter of connecting rivet is 16mm Design connection also with  $f_y=250\text{N/mm}^2$ . 13
- Q.3 What are gusseted base? Write the design procedure for gusseted base. 13
- Q.4 a) Compare riveted & welded connections. 07  
 b) What do you understand by rivet value? Explain types of rivet. 06
- Q.5 Write notes on (any four) 24  
 a) Types of Loads  
 b) Types of failures in rivet joint  
 c) State the assumptions in design if axially loaded joints.  
 d) Welded connections  
 e) Types of joints.
- Q.6 Design a simply supported beam to carry a uniformly distributed load of 44KN/m. The effective span of beam is 8m. The effective length of compression flange of beam is 8m. The ends of beam are not free to rotate at bearings. 13
- Q.7 a) Explain stepwise design procedure of tension member of a roof truss with welded joint. 08  
 b) List different types of structural steel & explain physical properties of any two types. 05