Model Question paper

VIII SEMESTER BTECH DEGREE EXAMINATION, April 2012

(2008 scheme)

Branch: CIVIL

08.802:   DESIGN AND DRAWING OF STEEL STRUCTURES (C)

Time: 4hrs   Max: 100 marks

Answer all questions in part A and two questions from part B

Assume suitable data wherever necessary. Use of steel tables, IS 800, Is 875,(1,2 &3),

IS 801, IS 804, IS 806, IS 1161, IS 6533 (2) are permited

PART A   (2X10)

1. Design the inclined stag for a pressed steel tank of capacity 120 m^3
2. Draw the cross section of a truss bridge and mark all the parts

PART B   (2X40)

3. a) Design a rectangular steel water tank for a capacity of 150,000litres. The height of

   coloumns above ground level is 10m. SBC of soil is 150kN/m^2

   b) prepare detailed drawings showing front elevation and plan of the tank and also the

   connection details of the tank plates.

OR

4. a) Design a tubular truss for a span of 9m using AC sheets. Trusses are provided at 3 m

   spacing. Wind pressure as per IS 875. Place – kerala

   b) prepare a drawing of the truss designed with details of joint at ridge and at the base

5. a) Design a welded plate girder for a Bg main railway track for a span of 18m.

   Design the curtailment of the flange plate and also stiffeners.

   b) Draw to a suitable scale the longitudinal section, cross section and plan of the

    above designed bridge

OR

6 a) Design a self supporting steel stack for the following data. Height

of the stack – 80m, diameter- 4m, thickness of brick lining 100 mm and wind data.

Height	: 0-30 m	30-60 m	60-80 m
Wind pressure	: $1.4kN/m^2$	$1.5kN/m^2$	$1.6kN/m^2$

b) Draw to a suitable scale :

   i) The sectional elevation

   ii) Two sections of the above designed stack.