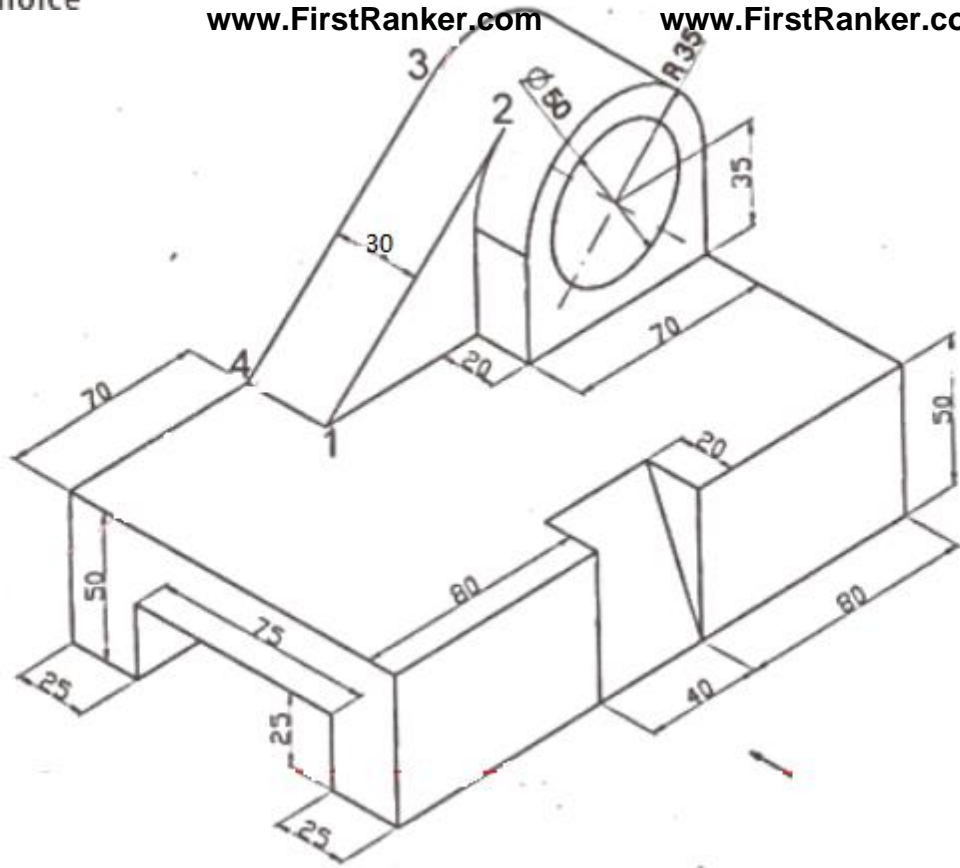


GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2141403****Date:17/05/2019****Subject Name: Materials & Manufacture of Food Equipment****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

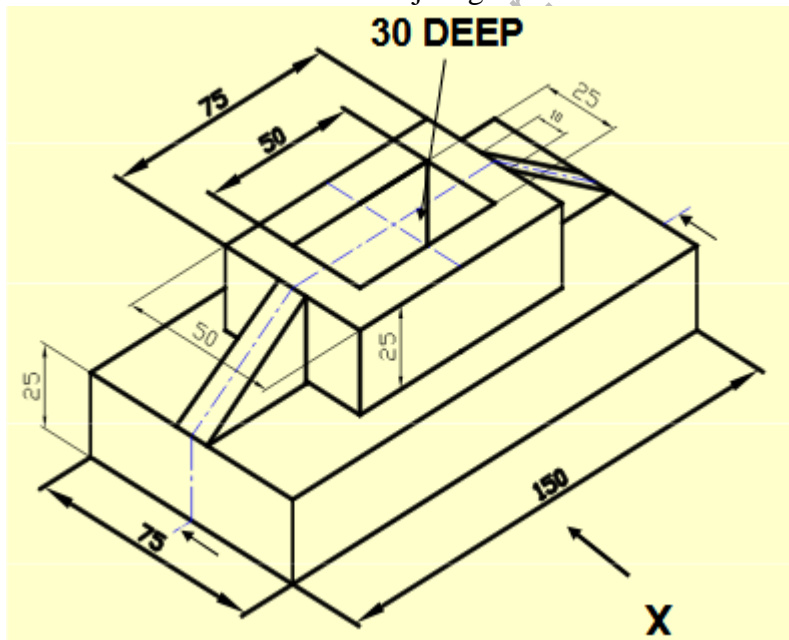
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks
4. Drawing sheet to be provided to the students.

		MARKS
Q.1	(a) How is the yield strength of the material determined?	03
	(b) Discuss the ductility and brittleness property with help of stress strain diagram.	04
	(c) Draw and explain isomorphous phase diagram. Also explain the method for the determination of the phase composition and amount using the lever rule.	07
Q.2	(a) What are different quenching media used for heat treatment of metals	03
	(b) What the different types of welding flames? Write important features of each.	04
	(c) Discuss the important safety measures for the construction and fabrication of food equipment with suitable example.	07
	OR	
	(c) Draw and explain the stress strain curve for a material subjected to tensile stress.	07
Q.3	(a) Explain toughness and stiffness property of material.	03
	(b) What are the stages of heat treatment process?	04
	(c) Describe the changes in the crystal structure of iron-carbon system with change in temperature. Explain the isothermal reactions indicated by the horizontal lines on iron-iron carbide phase diagram.	07
	OR	
Q.3	(a) Explain briefly the components of explosion welding process.	03
	(b) What is fusion welding? Explain any one fusion welding process in detail.	04
	(c) What is annealing? Explain the types of annealing process in detail.	07
Q.4	(a) Differentiate between first angle and third angle method of projection.	03
	(b) What are the conventions to draw sectional views? Name types of sectional views. Write a short note on removed sectional view.	04
	(c) Draw front and top view of given object using first angle method of projection.	07



OR

- Q.4** (a) Define the followings: **03**
 (i) Straightness
 (ii) Basic size
 (iii) Tolerance
 (b) Draw sectional front view of object given below **04**



- (c) Enlist types of screw threads. Write down steps to draw hexagonal bolt and draw an hexagonal bolt having B = 50 mm and L=80 mm. **07**
- Q.5** (a) Define pitch, lead and crest. **03**
 (b) Explain how internal and external screw threads are schematically represented? **04**

- (c) What is composite material? Classify composite materials. Describe in detail about agglomerated material. **07**

OR

- Q.5** (a) Sketch neatly knuckle or pin joint. **03**
(b) Classify keys. Sketch woodruff and peg key. **04**
(c) What is degree of polymerization? Describe in detail about condensation polymerization also mention applications of polymers in food industries. **07**

www.FirstRanker.com