

Enrolment No. _____

BE - SEMESTER-IV(New) • EXAMINATION – WINTER 2016

Date:22/11/2016

Time:02:30 PM to 05:00 PM**Total Marks: 70**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- 1 Define root of screw thread.
- 2 In First angle method of projection Plane of projection is in between object and observer. True or false
- 3 Draw phantom line.
- 4 Define strain.
- 5 What is use of a washer?
- 6 In orthographic projection projectors areto the plane of projection.
- 7 The slope of thread is one half of its.....
- 8 What is hardness?
- 9 Draw natural flame.
- 10 What is nominal diameter of the screw?
- 11 What is carburizing?
- 12 What is the full form of LMTD?
- 13 Find out degree of freedom for water at triple point.
- 14 Define tolerance.

OR

	(c)	What are composite materials? Explain in detail about reinforcement.	07
Q.3	(a)	Compare methods of projection used in first quadrant and third quadrant.	03
	(b)	Enlist types of polymerization and explain addition polymerization with example.	04
	(c)	Describe different types of welding defects in detail. Also explain foundation bolt.	07

OR

- Q.3** (a) What is the significance of assembly drawing? **03**
(b) Compare nitriding and cyaniding. **04**
(c) What is phase diagram? List out the importance of heat treatments. Also explain Annealing in detail. **07**
- Q.4** (a) Compare single effect and multiple effect evaporators. Show different methods of feeding in evaporators by labeled diagram. What are the uses of evaporators in food industry? **07**
(b) Discuss carburizing and its methods in detail. **07**

OR

- Q.4** (a) Discuss concept of cooling curve with diagram also discuss micro constituents of iron and steel with allotropy. **07**
(b) What is Plate Heat Exchanger (PHE)? What are its applications in food industry? With the help of a neat diagram explain PHE. **07**
- Q.5** (a) Explain the principle of oxy acetylene gas welding with diagram. Draw different types of welding joints. **07**
(b) Differentiate between single and multiple start threads with the help of a neat labeled diagram. The number of threads in a M25 external ISO metric screw thread bolt are 20 per inch. Calculate the following: **07**
(i) Slope of the screw in mm if it is a single start thread
(ii) Nominal diameter in mm.
(iii) Lead in mm if it is a double start thread.
(iv) Pitch in mm.

OR

- Q.5** (a) Draw Front and Top view of given isometric drawing. **14**

