

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2024****Subject Code:3132001****Date:19-07-2024****Subject Name:Industrial Drafting****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Draw the conventional representation of Steel, Water, Lead.	03
	(b) Hexagonal shape is preferred to square one for nuts. Why?	04
	(c) Explain the full section and half section with suitable examples.	07
Q.2	(a) What is a T-bolt and how is it used?	03
	(b) What is the need of Assembly drawing? Classify the assembly drawing.	04
	(c) Explain Sectioning Convention with suitable example.	07
	OR	
	(c) Enlist various methods of preventing rotation of a bolt while screwing a nut on or off it. Explain any one of them with rough sketch.	07
Q.3	(a) Sketch the conventional representation of the following materials (a) splined shaft, (b) bearing, (c) square on shaft	03
	(b) Explain the following terms: Tolerance, Limits, Deviation, Basic Size	04
	(c) A vertical square prism, base 55 mm side is completely penetrated by a horizontal square prism, base 40 mm side so that their axes are 8 mm apart. The axis of the horizontal prism is parallel to the V.P., while the faces of both prisms are equally inclined to the V.P. Draw the projections of the prisms showing lines of intersection.	07
	OR	
Q.3	(a) Define the following terms with respect to screw threads: (a) pitch (b) pitch diameter, (c) major diameter, (d) minor diameter	03
	(b) Washers are used in bolted joints. Why?	04
	(c) A vertical cone, base 85 mm diameter, axis 100 mm long, is penetrated by a horizontal cylinder of 40 mm diameter, the axis of which is 25 mm above the base of the cone, parallel to the VP and 6 mm away from the axis of the cone. Draw the projections, showing lines of intersection.	07
Q.4	(a) What is a T-bolt and how is it used?	03
	(b) Explain with neat sketch: Taper keys, Sunk taper key.	04
	(c) List all the types of V- thread and Explain with neat sketch	07
	OR	
Q.4	(a) Mention various forms of nuts.	03
	(b) What is the use of key? List all the types of keys. Explain any one key with neat sketch	04
	(c) Explain the various commands in the modify tool box of AUTO CAD.	07

- Q.5** (a) Define the following terms in context of screw threads: Flank, Minor Diameter and Pitch. **03**
- (b) What is surface roughness, and how is it depicted in engineering drawings? **04**
- (c) Describe the purpose of a rag foundation bolt and provide a rough sketch. **07**
- OR**
- Q.5** (a) Enlist various locking arrangements of nut. **03**
- (b) Why are geometrical tolerances necessary in the assembly process? **04**
- (c) Explain the various commands in the draw tool box of AUTO CAD. **07**
