

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(NEW) EXAMINATION – SUMMER 2023

Subject Code:3132001

Date:26-07-2023

Subject Name:Industrial Drafting

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. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) Explain the shaft basis and hole basis systems.	03
(b) Draw a neat sketch of the convention of the following materials: (i) Wood (ii) glass (iii) metal (iv) concrete.	04
(c) Explain the following, indicating the symbol to be used in each case: (a) First angle projection, (b) Third angle projection	07
Q.2 (a) Draw a neat sketches of chain dimensioning and parallel dimensioning.	03
(b) What is the conventional representation for indicating the internal screw threads, bearings, interrupted views, and spur gear?	04
(c) Draw a hexagonal nut using a rough rule dimension for M20 nut	07
OR	
(c) Draw two views of a hexagonal headed bolt, 24 mm diameter and 100 mm long, with a hexagonal nut and a washer.	07
Q.3 (a) What do you mean by fast and loose pulley?	03
(b) Define the following terms in context of screw threads: Flank, Lead, Minor Diameter, Major Diameter.	04
(c) Explain Bush – Pin Coupling with neat sketch.	07
OR	
Q.3 (a) Draw ACME threads	03
(b) Draw the square threads. Mention few applications of it.	04
(c) Explain the full section and half section with suitable example.	07
Q.4 (a) What is the need of washer?	03
(b) Differentiate between flexible and rigid couplings.	04
(c) A vertical cone, diameter of base 75 mm and axis 100 mm long, is completely penetrated by a cylinder of 45 mm diameter. The axis of the cylinder is parallel to HP and VP and intersects the axis of the cone at a point 22 mm above the base. Draw the projections of the solids showing curves of intersection.	07
OR	
Q.4 (a) Mention various forms of nuts.	03
(b) Draw the conventions for the following: Straightness , Flatness , Perpendicularity and Circularity	04
(c) Vertical square prism, base 50 mm side, is completely penetrated by a horizontal square prism, base 35 mm side, so that their axes intersect. The axis of the horizontal prism is parallel to the prism, while the faces of the two prisms are equally inclined to the prism. Draw the projections	07

of the solids, showing lines of intersection. (Assume suitable lengths for the prisms.)

- Q.5** (a) Explain various type of fits. **03**
(b) Explain the following terms: Tolerance, Limits, Deviation, Basic Size **04**
(c) Enlist the various commands available in draw toolbox of AUTO CAD. **07**
Explain any three of them by giving suitable example.

OR

- Q.5** (a) Enlist various locking arrangements of nut. **03**
(b) With the help of sketches, show how the geometrical tolerances are indicated, as given in standard, for the following cases: **04**
(a) parallelism, (b) perpendicularity, (c) symmetry and (d) radial run out.
(c) Explain the various commands available in annotation toolbox of **07**
AUTO CAD. Explain any three of them by giving suitable example.
