Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–III (New) EXAMINATION – WINTER 2018**

**Subject Code: 2132001 Date: 28/11/2018**

**Subject Name: Industrial Drafting**

**Time: 10:30 AM TO 01:30 PM Total Marks: 70**

**Instructions:**

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

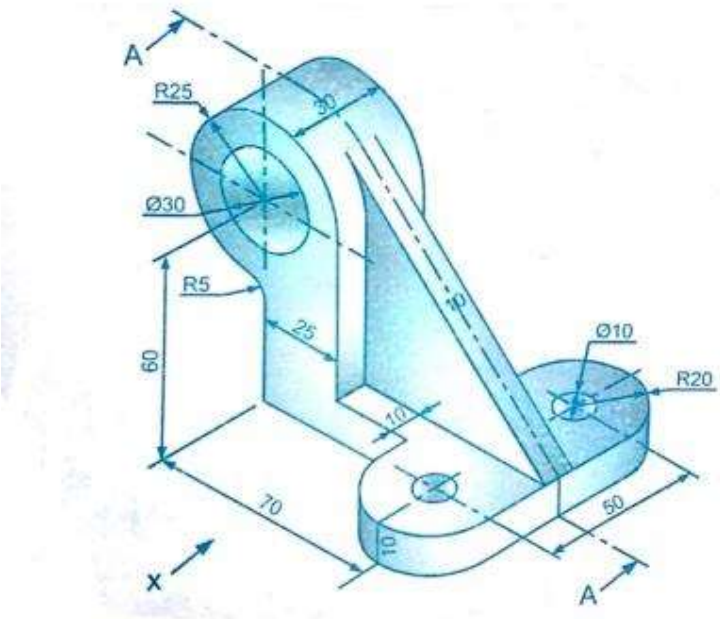
| | | | MARKS |
|---|---|---|---|
| **Q.1** | **(a)** | Draw the conventional representation for indicating the oil, steel, concrete and tin? | **03** |
| | **(b)** | Explain with neat sketches the hole basis and shaft basis systems. | **04** |
| | **(c)** | Explain the full section and half section with suitable examples. | **07** |
| **Q.2** | **(a)** | Explain aligned system with use of neat sketch. | **03** |
| | **(b)** | Differentiate between first angle drawing and third angle drawing. | **04** |
| | **(c)** | Explain Gib and Cotter Joint with neat sketch. | **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 is a T-bolt and how is it used? | **03** |
| | **(b)** | Define the following terms in context of screw threads: Flank, Lead, Minor Diameter, Pitch. | **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 of the solids, showing lines of intersection. (Assume suitable lengths for the prisms.) | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Mention various forms of nuts. | **03** |
| | **(b)** | Draw the conventions for the following: Straightness , Flatness , Perpendicularity and Circularity | **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** |
| **Q.4** | **(a)** | Classify various types of keys. | **03** |
| | **(b)** | With a schematic diagram explain socket and spigot joint. | **04** |
| | **(c)** | Explain Bush – Pin Coupling with neat sketch. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Explain the use of buttress thread with suitable example. | **03** |
| | **(b)** | Why geometrical tolerances are required during assembly process? Explain it with suitable drawing. | **04** |
| | **(c)** | Explain with the aid of sketches, the use of 1. Flat saddle key | **07** |

2. Spline shaft

| | | | |
|---|---|---|---|
| **Q.5** | **(a)** | Explain types of Fits. | **03** |
| | **(b)** | What is woodruff key? Explain its application with diagram. | **04** |
| | **(c)** | Explain the various commands in the draw tool box of AUTO CAD. | **07** |

**OR**

| | | | |
|---|---|---|---|
| **Q.5** | **(a)** | Enlist various locking arrangements of nut. | **03** |
| | **(b)** | Justify the need of dimensional and geometrical tolerances with suitable example. | **04** |
| | **(c)** | Figure shows the pictorial view of object. Draw the following views: Sectional Front view, LHSV. | **07** |




**********