

# 2005A(15) AND 2005B(15)

TED (15) 2005-A  
(Revision-2015/19)

A21-04060

Reg.No.....

Signature.....

## DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL-2021

### ENGINEERING GRAPHICS

[Maximum marks: 75]

(Time: 2.15 Hours)

- (Note: 1. Any missing data may suitably assumed  
2. Sketches are accompanied  
3. All drawings should be in first angle projection)

#### PART – A

I (Answer any *three* questions in one or two sentences. Each question carries 2 marks)

1. What is the necessity of dimensioning?
2. Define eccentricity of conic section.
3. What is meant by profile plane of projection?
4. What is meant by development of surface?
5. Write any four commands used in Auto Cad.

(3 x 2 = 6)

#### PART – B

(Answer any *four* of the following questions. Each question carries 11 marks)

- II. Redraw the drawing shown in figure-1 and dimension it as per BIS code of dimensioning.
- III. Draw a regular pentagon of side 40mm using two circles and an arc method.
- IV. Draw a conic section whose eccentricity is equal to one and distance between focus and directrix is equal to 50mm. Also draw a tangent and normal to any point on curve.
- V. Draw the orthographic projections of following points about a reference line XY. Distance between projectors is 30mm.  
Point P is 30mm above HP and 40mm in front of VP  
Point Q is 25mm above HP and 35mm behind VP.  
Point R is 32mm below HP and 38mm behind of VP.  
Point S is 36mm below HP and 15mm in front of VP.
- VI. A line AB 60mm long has its end A in HP and 20mm in front of VP. If line is  $45^{\circ}$  inclined to HP and  $30^{\circ}$  to VP draw its projections and find the apparent inclinations to HP and VP.

VII. A circular lamina of 60mm diameter is  $30^{\circ}$  inclined to HP and perpendicular to VP so that centre of lamina is 40mm in front of VP and lowest circular edge is 14mm above HP. Draw its projections.

VIII. A square pyramid of 50 mm base and 70 mm height is resting on one of its base edges on HP. If axis is parallel to VP and  $45^{\circ}$  inclined to HP, draw its projections. (4x11=44)

### PART – C

(Answer *any one* question from the following. Each question carries 25 marks)

IX. Figure II shows the pictorial view of a shaft support. Draw its front view in the direction of F, top view left side view.

X. Figure III shows orthographic views of an object. Draw its isometric view to full scale.

XI. Develop the lateral surface of 90 degree pipe elbow. Each pipe of elbow is 400mm and length of one leg is 600 mm. (1x25=25)

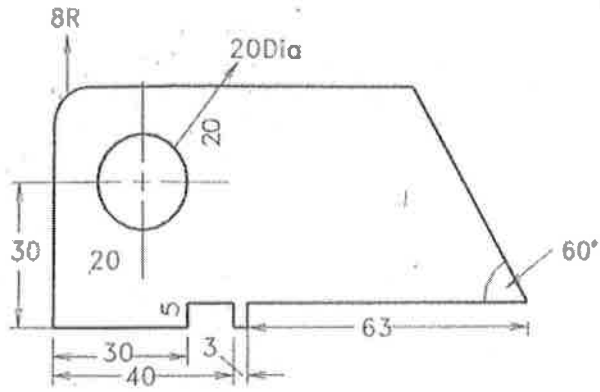


FIG-I

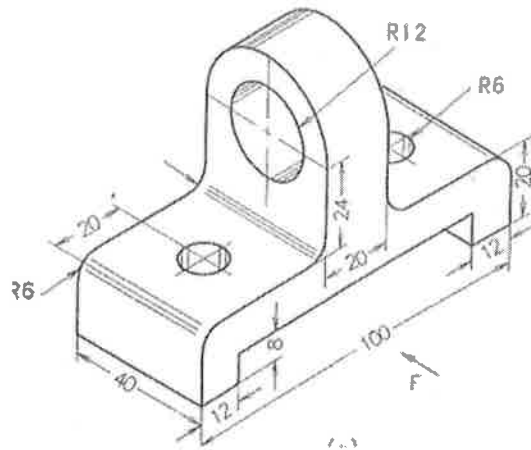


FIG-II

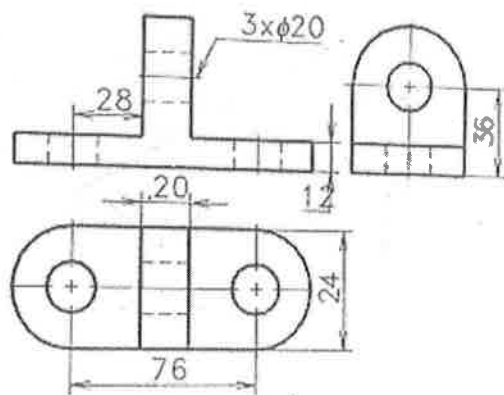


FIG-III

\*\*\*\*\*

TED (15) 2005-B  
(Revision-2015/19)

A21-00757

Reg.No.....

Signature.....

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, APRIL-2021**

**ENGINEERING GRAPHICS**

[Maximum marks: 75]

(Time: 2.15 Hours)

(Note: 1. Missing data if any suitably assumed  
2. Sketches to be accompanied)

**PART – A**

I (Answer any **three** questions in one or two sentences. Each question carries 2 marks)

1. What are the elements of dimensioning?
2. Define eccentricity of conic sections
3. What is meant by development of surfaces?
4. What is the use of auxiliary view?
5. List any four CAD software (packages)

(3 x 2 = 6)

**PART – B**

(Answer any **four** of the following questions. Each question carries 11 marks)

- II. Redraw the given figure-1 and mark dimensions as per BIS.
- III. Inscribe a regular pentagon in a circle of diameter 100mm.
- IV. Draw the involute of a square of side 25mm.
- V. Draw a parabola, if the distance of focus from the directrix is 60mm. Draw a tangent and normal to the curve at any point on it
- VI. Draw the projections of the following points on a common reference line, keeping the distance between projectors as 25mm apart.
  - (a) Point 'P' is 12mm above HP and 20mm in front of VP
  - (b) Point 'Q' is 24mm below HP and 30mm behind VP.
  - (c) Point 'R' is in HP and 32mm behind VP.
  - (d) Point 'S' is 15mm below HP and 40mm in front of VP.
  - (e) Point 'T' is lying on both HP and VP
- VII. The end A of a line AB of length 80mm is in the HP and 20mm in front of VP. If the

line is inclined  $45^{\circ}$  to HP and  $30^{\circ}$  to VP. Draw its projections.

VIII. Draw the development of the funnel shown in figure 2.

(4x11=44)

### PART – C

(Answer *any one* question from the following. Each question carries 25 marks)

IX. Draw the front view in the direction 'F' top view in the direction 'T' and the side view in the direction 'S' of the object shown in figure 3.

X. Draw the full sectional elevation in the direction 'F' and the plan of the object shown in figure 4.

XI. The orthographic views of an object is shown in figure 5. Draw the isometric view.

(1x25=25)

