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Uni. Roll No. ...............

Program/ Course: B.Tech. (Sem. 1st)
Name of Subject: **Engineering Graphics and Design**
Subject Code: **ESC-103**
Paper ID: 15931

Time Allowed: **03 Hours**

Max. Marks: 60

**NOTE:**

1) **All sections are compulsory**
2) **Section- A** and **Section-B** are based on Part-I (Theory) of syllabus [both Traditional Engineering Graphics (TEG) and Computer Graphics (CG)
3) **Section-C** is out of Part-II [**Practice (Drawing)**] portion of syllabus (Traditional Engineering Graphics ONLY).
4) Any missing data may be assumed appropriately

## Section – A

**Q1.**                                                                                   [Marks: 02 each]

a) Why the projections of an object not drawn in 2nd and 4th quadrants?
b) Name the various dimensioning techniques.
c) What is the trace of a straight line?
d) Draw the trace of a line when it is kept parallel to HP and inclined to VP.
e) What are oblique solids?
f) What do you mean by development of surfaces?

## Section – B

[Marks: 04 each]

### Section-B1

Q2.    Write "**HEALTH IS WEALTH**" using 7:5 in single stroke vertical capital letters.
Q3.    A point A is 30mm above the HP and 25mm infront of the VP. Determine its least distance from xy-line.

### Section-B2

Q4.    What is the difference between absolute and incremental mode of drawing?
Q5.    What is the use of fillet, chamfer, array and trim in computer graphics?

## Section – C

[Marks: 08 each]

**P.T.O**

Q6. Draw the projection of a pentagonal pyramid base 30 mm edge and axis 40 mm long is resting on HP with one of its base edge inclined at angle of 30° with VP.

**Or**

Plan and elevation of a line AB, 60mm long, measure 50mm and 40mm respectively. End A is 15 mm above HP and 20mm in front of the VP. Draw its projections and determine the true inclination with HP and VP respectively.

Q7. A right regular pentagonal pyramid, edge of base 30mm and height 55mm, rests on its base on HP, such that one of its base edges is perpendicular to the VP. A section plane parallel to the VP cuts the pyramid at a distance of 10mm from the axis. Draw its top view and sectional front view.

**Or**

A pentagonal prism of 25mm base edge and 50mm long is resting on its base with an edge of base at 45° to VP. The prism is cut by a sectional plane inclined at 30° to HP and passes through a point 25mm from the base along its axis. Develop the truncated prism.

Q8. A cube of 30mm side rests on the top of a cylindrical slab of 60mm diameter and 25mm thick. The axis of the solids are in the same straight line. Draw an isometric projection of the solid.

**Or**

A regular hexagonal lamina ABCDEF 25mm side is normal to both HP and VP. It is lying with one of its edges(say AB) parallel to HP and perpendicular to VP. Draw its projections and locate its traces.

Q9. A right circular cone, diameter of base 60mm and height 70mm, lies on HP on one of its elements, such that its axis is parallel to VP. Draw its projections.

**Or**

A square pyramid edge of base 35mm, height 50mm and rests on its base on HP with its base edges equally inclined to VP. A section plane perpendicular to the VP and inclined to the HP at 30°, cuts the pyramid bisecting its axis. Draw its front view, sectional top view and true shape of the section.

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