Total No. of Questions : 12] [Total No. of Printed Pages : 4

[3561]-20

F. E. Examination - 2009

ENGINEERING GRAPHIC - II

(2003 Course)

Time : 4 Hours] [Max. Marks : 100

Instructions :

*(1) Answer **any one** question from each unit.*

*(2) Answer to the **two sections** should be drawn on **separate drawing sheet,** use back side of sheet.*

(3) Figures to the right indicate full marks.

(4) Use of Log Table/Electronic Pocket Calculator is allowed.

(5) Assume suitable data, if necessary.

*(6) **Retain construction lines;** marks are reserved for dimensioning and good presentation.*

SECTION - I

UNIT - I

Q.1) The end A of a straight line AB is 10 mm above HP and end B is 15 mm in front of VP. The distance between end projectors is 70 mm. The line AB makes an angle of 30° with HP. The distance between the projectors through A and HT is 15 mm. Draw the projections of a straight line AB and find inclination with VP, True Length and Locate HT; VT. [16]

OR

Q.2) A small object is placed in a room at a distance of 6 meters from the side wall 8 meters from the End wall and 11 meters above the floor level. A thin wire is stretched to this object from the corner of the room where the floor meets the two walls. Find the length of the wire and its slope. [16]

UNIT - II

Q.3) A composite plane made up of semicircle of diameters 80 mm and an isosceles triangle with base equal to diameter of semicircle. The other two sides of triangles measures 50 mm each. This composite plane is placed in such a way that elevation of the two equal sides appeared as 42 mm each, the corner between them is on HP and common joint is parallel to both the reference planes. Draw projections and determine its inclination with HP. [17]

OR

Q.4) A regular pentagon ABCDE of side 50 mm has central rectangular hole of size 40 × 30 mm with breadth parallel to side AB of pentagon is kept on this side in HP and plane makes an angle 40° to HP. The side AB which is resting on ground makes an angle 35° with VP. Draw projections of pentagon and measure inclination with VP. [17]

UNIT - III

Q.5) A right circular cone, diameter of base 60 mm and height 80 mm is resting on a point of its base circle rim on HP with the apex 55 mm above the HP. The axis of cone makes an angle of 40° with the VP draw the projections of the cone when the apex is in VP. [17]

OR

Q.6) On a frustum of a cone (base 60 mm diameter, top 40 mm diameter and height 40 mm) stands a cylinder of 40 mm diameter and 20 mm height, with its axis in line with that of the frustum of cone. A sphere, 50 mm diameter rests centrally on the top of cylinder. Draw the projections of this combination of solid when the common axis is inclined to HP at 30° and is parallel to VP. [17]

SECTION - II

UNIT - IV

Q.7) A hexagonal prism side of base 25 mm and axis 70 mm long has a circular hole of diameter 32 mm. cut centrally through it. The prism is resting on one of its rectangular surface on the HP and the axis of prism perpendicular to VP. A cutting plane perpendicular to HP and inclined at 30° to the VP cuts the prism at a point 12 mm from front end of the axis. Draw the top view sectional plan and True shape of a section. [16]

OR

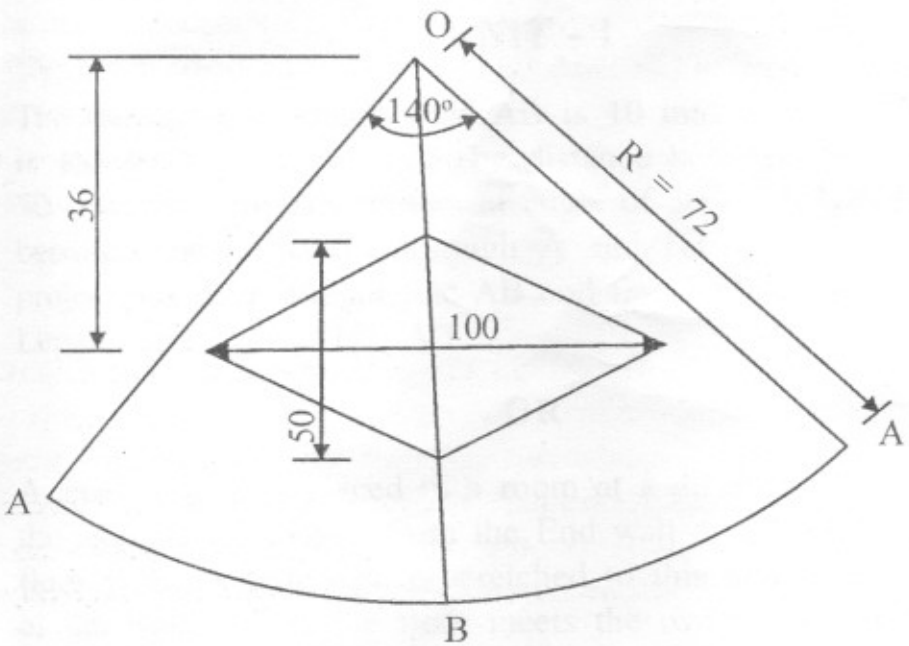
Q.8) A semi-cylinder of 80 mm diameter and length of axis 100 mm is resting on its flat rectangular surface on the HP such that its axis is parallel to VP. This solid is cut by a sectional plane normal to VP and inclined at 30° to HP. If the section plane passes through a point on the axis 20 mm from one face of the semi-cylinder. Draw the front view sectional plan and true shape of the section. **[16]**

UNIT - V

Q.9) A cylinder of 70 mm diameter of base and axis 90 mm long rests on its base with axis perpendicular to HP. A square hole of 30 mm sides is cut through the cylinder. The axis of hole is perpendicular to the VP, 10 mm away from and towards right of the axis of the cylinder and 45 mm above the base of the cylinder. The two side of faces of the hole are inclined at 30° to the HP. Draw the development of the lateral surface of the cylinder with square hole. **[17]**

OR

Q.10) Figure shows the development of cone (R = 72, θ = 140°). A rhombus having major diagonal 100 mm and minor diagonal 50 mm is placed centrally. Draw elevation and plan of cone showing the rhombus on it. The diameter AB is parallel to VP. **[17]**



UNIT - VI

Q.11) A cylinder of 80 mm diameter and 120 mm length of axis has its axis parallel to both HP and VP. A vertical equilateral triangular prism 80 mm sides penetrates the cylinder with the axis intersecting the axis of the cylinder. Show the curves of intersection in the elevation, if one face of the triangular prism away from the observer and is parallel to VP. **[17]**

OR

Q.12) A vertical cone base 90 mm an axis 100 mm long penetrated by horizontal cylinder of 44 mm diameter. The axis of horizontal cylinder is 30 mm above the base of the cone and parallel to VP. The axis of cylinder is 5 mm away from the axis of the cone. Draw the projections of solids showing curves of intersection. **[17]**
