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(Pages : 2)

Name.....

Reg. No.....

COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2006

EN 04-106—ENGINEERING GRAPHICS (A)

(2004 admissions)

[For AI, CS, EE, EC, IT, IC, PT, BM, BT]

Time : Three Hours

Maximum : 100 Marks

Answer ***all*** questions.
All questions carry equal marks.
Neatness carries weigatage.
Assume missing data, if any.

I. (a) A line AB 120 mm. long, has it's end 'A' in the third quadrant and end B in the first quadrant, while its midpoint M is in VP and 20 mm. above HP. If the line is inclined at 45° to HP and 60° to VP draw its projections.

Or

(b) Line AB has the end A, 50 mm. above HP and 24 mm. in front of VP, while the other end B is 20 mm. below. HP and 60 mm. behind. V.P. If the distance between the end projector is 90 mm. draw the projections and locate the traces.

II. (a) A circular lamina of diameter 80 mm. has the end M. of the diameter of MN in the HP and the lamina is inclined at 30° to the HP. Draw its projections when :

(i) The diameter MN appears to be inclined at 40° to the V.P. in the top view.

(ii) The diameter MN makes 40° with the V.P.

Or

(b) A solid hexagonal pyramid of base side 25 mm. and height 60 mm. is suspended freely by means of a string attached to one corner of the base of the pyramid. The axis of the pyramid is parallel to the V.P. Draw the projections of the pyramid.

III. (a) A solid is half pyramidal and half conical. The pyramidal portion has a base of three sides of size 30 mm. each. The axis length is 50 mm. The solid rests on the H.P. on its base with a side of the pyramidal base perpendicular to the V.P. It is cut by a plane perpendicular to the V.P. and inclined at 40° to the H.P. The plane bisects the axis. Draw the elevation, sectional plan and the true shape of the section.

Or

(b) The development of the lateral surface of a right circular cone is a sector of a circle of radius 75 mm. subtending an angle of 120° at the centre. Draw the top and front view of the cone.

IV. (a) A hemisphere of 50 mm. diameter is nailed to the top of a frustum of a hexagonal pyramid sides of top and bottom ends being 20 mm. and 35 mm. respectively. The height of the frustum is 50 mm. The axes of the solids coincide. Draw the isometric projections of the combination of solids.

Or

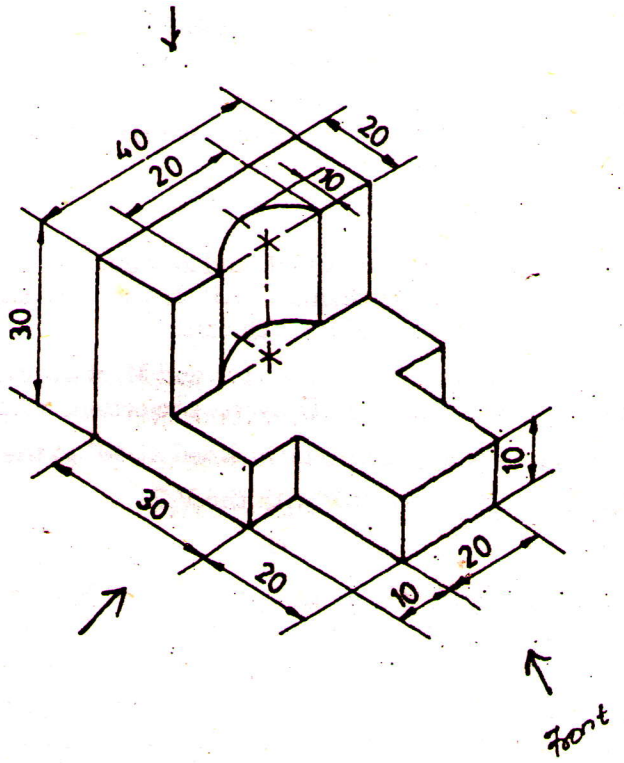
Turn over

(b) A rectangular prism of base 50 × 30 mm. and height 50 mm. lies on its base on the ground plane. A vertical edge touches the picture plane and one of the longer edges of its base is inclined at 45° to PP and behind it. The station point is 50 mm. in front of PP. 75 mm. above the ground plane and lies in a central plane that passes through the centre of the prism. Draw the perspective view of the prism.

V. (a) A square headed bolt of side 50 mm. and thickness 20 mm. has cylindrical portion of diameter 30 mm. and length 50 mm. The bolt is resting on the HP on a base edge of the head with the axis inclined at 30° to the HP and parallel to the V.P. Draw its projections.

Or

(b) Draw the three views of the block shown in the figure below :



(5 × 20 = 100 marks)