FE115

Total No. of Printed Pages:4

F.E. Semester-I (Revised Course 2007-2008)
EXAMINATION MAY/JUNE 2019
Engineering Graphics

[Duration : 4 Hours] **[Max. Marks : 100]**

Instructions:-

1. **Attempt in all FIVE questions.**
2. **At least ONE question must be attempted from EACH MODULE.**
3. **ASSUME MISSING DIMENSION /DATA IF ANY.**
4. **ALL DIMENSIONS are in mm unless otherwise specified.**
5. **Figures to RIGHT indicate FULL marks.**

Module-I

Q.1 A) A circle of 40 mm diameter rolls on a straight line without slipping. Trace the path of point P on the circumference of the circle, for one and a half a revolutions. Name the curve. **10**

B) M is the midpoint of a line AB. Point A is 20mm above HP and 15mm in front of VP. M is 40mm above HP and 30mm in front of VP. The distance between the projectors of A and M is 40mm. draw the projections of line AB and find its true length and its inclination with HP and VP. **10**

Q.2 A) Draw the involute of an equilateral triangle of side 40 mm. **10**

B) The distance between the end projectors of a line AB is 50 mm. Point A is 25 mm above the HP and 20 mm in front of VP. The point B is 45 mm above HP and 40 mm in front of VP. Draw the projections of the line and determine True Length and True Inclinations with HP and VP. **10**

Module-II

Q.3 A) An equilateral triangular lamina of side 30 mm has a corner point on the HP. Its surface is inclined to HP at 45 deg. Draw its projections when a side opposite to that corner point makes an angle of 30^0 to VP. **10**

B) Draw the projections of a hexagonal of prism side of base 25mm and axis 60mm long standing on an edge of the base on the ground making an angle of 30 deg with VP and the axis inclined at 45 deg to HP. **10**

Q.4 A) A thin 30-60 set square has its longest edge in the HP and inclined at 30 deg to VP. Its surface makes an angle of 45 deg with HP. Draw its projections. **10**

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B) Draw the projections of a right circular cone, base circle diameter 40mm and axis 60mm long, when it is resting on the ground on a point on its base circle with the axis making an angle of 30 deg with the HP and its top view of the axis making an angle of 45 deg with the VP. **10**

Module-III

Q.5 A) A right regular hexagonal pyramid, side of base 30 mm and axis 65 mm long, is resting on HP on one of its edges of the base with the axis parallel to VP and inclined to HP by 60 deg. It is cut by a horizontal section plane passing through the highest corner of the base. Draw the front view and sectional top view of the pyramid. **10**

B) A cylinder, base circle diameter 60 mm and axis 80 mm is standing on its base on ground. A hole of diameter 35 mm is drilled in the cylinder in such a way that the axis of the hole is perpendicular to VP and intersects the axis of the cylinder at 40 mm from the base. Draw the development of the lateral surface of the cylinder with the hole. **10**

Q.6 A right regular equilateral triangular pyramid is having base 45 mm side and axis 80 mm long. It is resting on its base on the HP with one of its edges parallel to the VP. It is cut by a section plane, perpendicular to the VP and inclined at 45 deg to the HP bisecting the axis above the base. Draw the FV, sectional TV, and true shape of the section and development of the lateral portion of remaining part of the pyramid. **20**

Module-IV

Q.7 A) Figure FIG. 7A shows pictorial view. Draw the following views using first angle projection method. **10**

i) Front view looking in direction of arrow

ii) Top view.

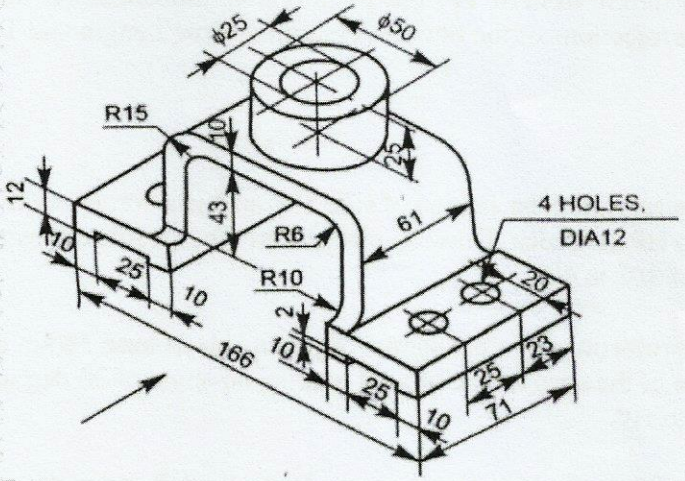


FIG.7A

B) Two orthographic views are given in FIG. 7B below. Draw an isometric view. **10**

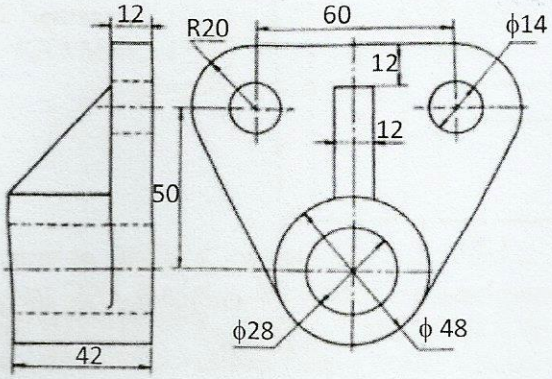


FIG. 7B

Q.8 A) FIG.8A shows the pictorial view. Draw the following views using first angle projection method. **10**

i) Sectional Front view taking section along A-A

ii) Top view

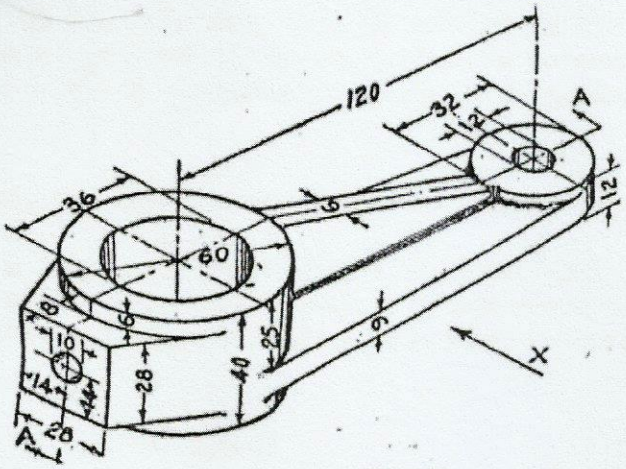
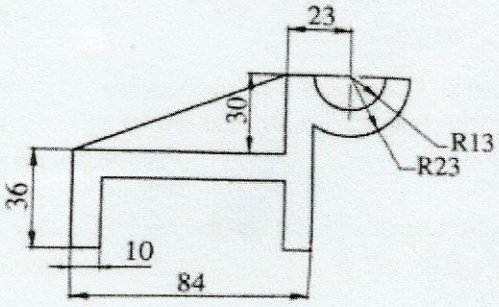
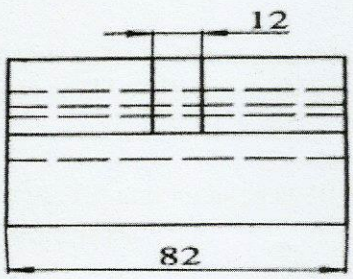


FIG. 8A

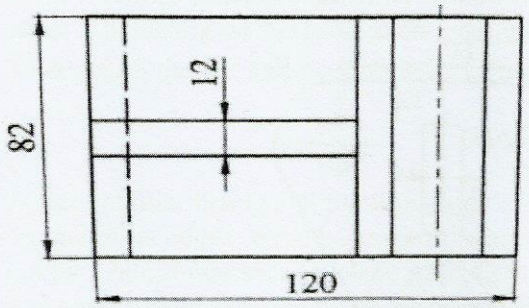
B) FIG. 8B shows orthographic views. Draw an isometric view. **10**



(a) Front view



(c) Left-side view



(b) Top view

All dimensions are in mm

FIG.8B