

EXS-88

B. Tech. IInd Semester (CSE.IT. & Elect.)

Examination, 2023

Paper - BE - 205

Engineering Graphics & CAD

Time : 3 Hours]

[Maximum Marks : 60

- Note : -**
- (i) Attempt all the questions. Part (a) of each question is compulsory and Part (b) has an internal choice.
 - (ii) All questions carry equal marks. Part (a) of each question carry FOUR marks and Part (b) carries EIGHT marks.

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(1)

P.T.O.

(iii) Construct neat & clean, well labeled diagram.

1. (a) Differentiate between cycloid, epicycloid and hypocycloid. 4

(b) The distance between two stations by rail is 50 km and it is represented on a certain map by a 1 cm long line. Find the RF and construct a diagonal scale showing single km and long enough to measure up to 700 km. Indicate a distance of 538 km on this scale. 8

OR

The focus of a hyperbola is 60 mm from its directrix. Draw the curve when eccentricity is $5/3$. Draw a tangent and a normal to the curve at a point 45 mm from the directrix.

2. (a) What do you mean by orthographic projection? 4

(b) Draw the projections of the following points on a common reference line keeping their projectors 25 mm apart. 8

(i) Point A is 20 mm above the HP and 25 mm in

front of VP.

- (ii) Point B is 30 mm below the HP and 15 mm in front of the VP.

OR

Determine the true shape of the figure, the top view of which is a regular pentagon of 35 mm side having one side inclined at 30° to the reference line and whose front view is a straight line making an angle of 45° with the reference line.

3. (a) Explain the following:

4

(i) Pyramid

(ii) Cylinder

- (b) A cylinder of 50 mm base diameter and 60 mm long axis is resting on its base on HP. A section plane parallel to VP cut the cylinder at a distance 17 mm from the axis.

Draw its sectional front view and top view.

8

OR

A cone of base diameter 50 mm and axis 60 mm has a generator

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(3)

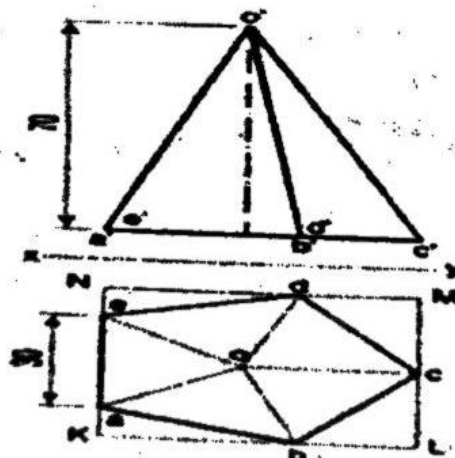
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in the HP and the axis parallel to the VP. Draw its projections.

4. (a) Explain principle of isometric projection. 4
- (b) A square prism of base side 30 mm and axis 60 mm is resting on its base on the horizontal plane (HP) with a rectangular face parallel to the vertical plane (VP). Draw the development of prism. 8

OR

The projection of a pentagonal pyramid is shown in fig. Draw its isometric View.



5. (a) What are the advantages of CAD as compared to conventional drawing? 4

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(4)

(b) Explain any five commands used in CAD. What are the CAD applications?

8

OR

Write the CAD steps for drawing a cylinder of 30 mm base diameter and 60 mm height.
