

Code : 021102

B.Tech 1st Semester Examination, 2016

Engineering Graphics

Time : 3 hours

Full Marks : 70

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Instructions :

- (i) *There are Nine Questions in this Paper.*
- (ii) *Attempt five questions in all.*
- (iii) *Question No. 1 is Compulsory.*
- (iv) *The marks are indicated in the right-hand margin.*

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1. Choose the correct option of the following (any seven)

2×7=14

(a) Which of the following projection methods does not use projectors perpendicular to the projection plane?

Isometric

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Orthographic

P.T.O.

(iii) Oblique

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(iv) axonometric

(b) In an isometric sketch of a cube:

(i) the frontal face appears in its true shape

(ii) the receding axes are at 45 degrees to the horizon

all faces are equally distorted

(iv) only the depth distances must be reduced

(c) Which type of line is particular to section drawings?

break lines

(ii) phantom lines

(iii) extension lines

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(iv) cutting plane lines

(d) Imagine a "L" shaped face extruded into three dimensions

How many faces does it contain?

(i) Seven

(ii) Eight

Ten

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(iv) Six

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(e) The T-square is used to draw:

(i) vertical line

(ii) curved line

(iii) point

(iv) horizontal line

(f) For drawing small instruments like watches etc, which scale is used?

(i) Reducing

(ii) full-size

(iii) enlarging

(iv) none of the above

(g) The scale of chords is used to set out or measure:

(i) chords

(ii) lines

(iii) angles

(iv) none of the above

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(h) Outlines or principal line are draw as:

(i) thin continuous line

(ii) thick continuous line

(iii) dashed line

(iv) long and thin chain line

(i) The curve generated by a point on the circumference of a circle rolling along a straight line is called:

(i) Cycloid

(ii) Epicycloids

(iii) Parabola

(iv) Ellipse

(j) During operation, the two arms of the drafter remain

(i) 45°

(ii) 90°

(iii) 180°

(iv) 270°

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2. Show by sketches the difference between
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(i) Continuous or chain dimensioning 5
(ii) Progressive or parallel dimensioning 5
What are the advantages of one above the other? 4

3. An area of 144 sq.cm on a map represents an area of 36 sq. km on the field. Find the R.F. of the scale for this map and draw a diagonal scale to show kilometers, hectometers and decameters and to measure up to 10 km. indicate on the scale a distance of 7 kilometers, 5 hectometers and 6 decameters.

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4. A line PQ is 75 mm long and lies in an auxiliary inclined plane (A.I.P.) which makes an angle of 45 deg. with the H.P. The front view of the line measures 55 mm and the end P is in the V.P. and 20 mm above the H.P. Draw the projections of PQ and find (i) its inclination with both the planes and (ii) its traces.

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5. A square pyramid, base 40 mm, side and axis 75 mm long is placed on the ground on one of its slant edges, show that the vertical plane passing through that edges and the axis makes an angle of 30 deg. With the V.P. draw its three views.

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6. A sphere of 75 mm diameter is cut by a section plane, perpendicular to the V.P. and inclined at 30 deg. to the H.P. in such a way that the true shape of the section is a circle of 50 mm diameter. Draw its front view, sectional top view and sectional side view.

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7. A cube of 50 mm long edges is resting on the H.P. with a vertical face inclined at 30 deg. To the V.P. it is cut by a section plane, perpendicular to the V.P., inclined at 30 deg. to the H.P. and passing through a point on the axis, 38 mm above the H.P. Draw the sectional top view and true shape of the section.

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8. A cone, base 65 mm diameter and axis 75 mm long, is laying on the H.P. on one of its generation with the axis parallel to the V.P. A section plane which is parallel to the V.P. cuts cone 6 mm away from the axis. Draw the front view, sectional top view and auxiliary top view on a plane parallel to the axis.

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9. Pictorial presentation of an object is given below:

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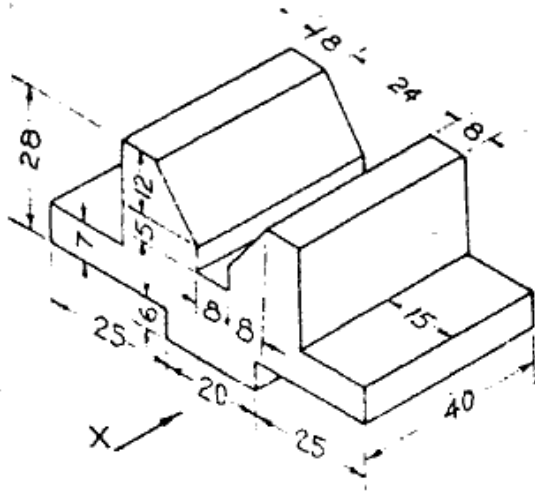


Fig. 1

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Draw three views of this object by first angle projection method.

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