

Code : 021102

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B.Tech 1st Semester Exam., 2015

ENGINEERING GRAPHICS

Time : 3 hours

Full Marks : 70

Instructions :

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

1. Choose the correct option (any seven) : $2 \times 7 = 14$

- (a) The size of B2 drawing board recommended by Bureau of Indian Standard is
 - (i) 500 mm \times 700 mm
 - (ii) 400 mm \times 300 mm
 - (iii) 200 mm \times 100 mm
 - (iv) 50 mm \times 25 mm
- (b) Projection of an object shown by three views is known as
 - (i) perspective
 - (ii) isometric
 - (iii) oblique
 - (iv) orthographic

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- (c) In third angle projection method, what are the relative positions of the object, plane and observer?
 - (i) Object is placed in between
 - (ii) Plane is placed in between
 - (iii) Observer is placed in between
 - (iv) May be placed in any order
- (d) Top view is projected on the
 - (i) vertical plane
 - (ii) corner plane
 - (iii) side plane
 - (iv) horizontal plane
- (e) Section lines are generally inclined with the base at an angle of
 - (i) 30°
 - (ii) 45°
 - (iii) 60°
 - (iv) 90°
- (f) If a plane is parallel to the plane of projection, it appears
 - (i) true size
 - (ii) as a line or edge
 - (iii) foreshortened
 - (iv) as an oblique surface

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(g) The FV of a straight line will be a point, if the line lies on

- (i) VP and perpendicular to HP
- (ii) HP and parallel to VP
- (iii) VP and parallel to HP
- (iv) HP and perpendicular to VP

(h) Which one is the reduce scale?

- (i) 1 : 1
- (ii) 5 : 1
- (iii) 10 : 1
- (iv) 1 : 2

(i) In isometric projection the three edges of an object are inclined to each other at

- (i) 60°
- (ii) 120°
- (iii) 100°
- (iv) 90°

(j) Which software is generally used in the computer for drafting?

- (i) ANSYS
- (ii) Pro/Engineer
- (iii) AutoCad
- (iv) CATIA

2. A ball thrown in air attains 100 m height and covers a horizontal distance of 150 m on ground. Draw the path of the ball (projectile). 14

3. Line AB, 100 mm long, is 30° and 45° inclined to HP and VP respectively. End A is 10 mm above HP and its VT is 20 mm below HP. Draw projections of the line and its HT. 14

4. A circle of 50 mm diameter is resting on HP on end A of its diameter AC which is 30° inclined to HP while it makes 45° inclined to VP. Draw its projections. 14

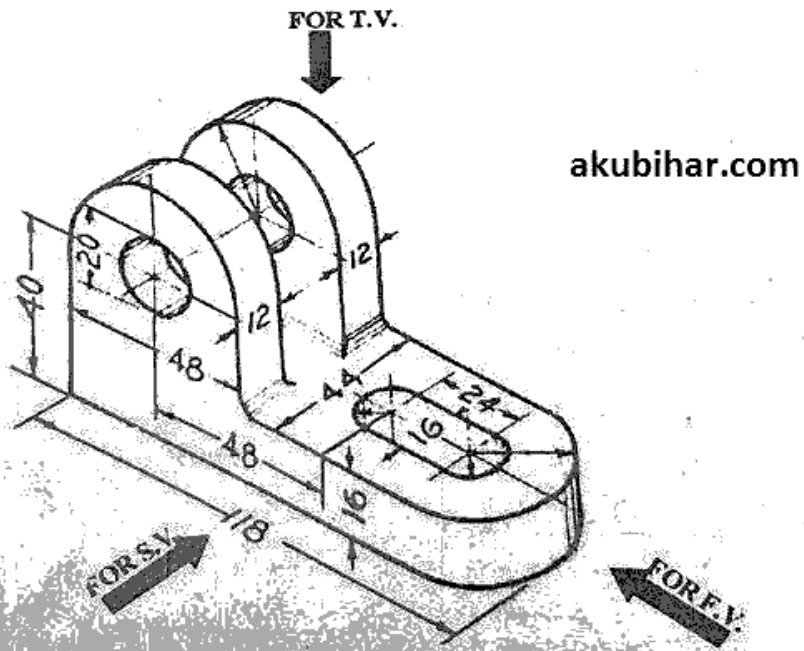
5. A cube of 50 mm long edges is so placed on HP on one corner that a body diagonal is parallel to HP and perpendicular to VP. Draw its projections. 14

6. A cone, 50 mm base diameter and 70 mm axis, is standing on its base on HP. It is cut by a section plane 45° inclined to HP through base end of end generator. Draw projections, sectional views and true shape of the section. 14

7. A hexagonal prism, 30 mm base side and 55 mm axis, is lying on HP on its rectangular face with axis being parallel to VP. It is cut by a section plane normal to HP and 30° inclined to VP bisecting axis. Draw projections and development of surfaces of the remaining solid. 14

8. A square pyramid of 40 mm base sides and 60 mm axis is cut by an inclined section plane (at 45° with respect to the base) through the midpoint of the axis. Draw isometric view of the section of the pyramid. 14

9. Pictorial presentation of an object is given below :



Draw three views of this object by first angle projection method. 14
