(See Unit-VI, Page 236, Q.4)
(See Unit-II, Page 51, Q.2)

RGPV

BT-105 (CBGS)
B.Tech., I Semester
EXAMINATION, November 2018
Choice Based Grading System (CBGS)
ENGINEERING GRAPHICS

Note : (i) Attempt any five questions.
(ii) All questions carry equal marks.

1. (a) What is the difference between an enlarging scale and a reducing scale ?
(See Unit-I, Page 37, Q.29)

(b) Construct a diagonal scale to measure kilometres, hectometres and

** Now, according to new revised syllabus of R.G.P.V., it is not included in syllabus

decimetre to a scale of RF = 1/50,000 and measure on it a length of 6 km, 4 hectometres and 3 decimetres. (See Unit-I, Page 46, Prob.41)

2. (a) Draw a parabola given it's base side and axis as 80 mm each. (See Unit-I, Page 22, Prob.13)

   (b) A line CD, 45 mm long, has it's end C 15 mm above H.P. and 10 mm infront of V.P. End D is 40 mm above H.P. and 45 mm infront of V.P. Draw it's projections and find it's inclinations. (See Unit-II, Page 68, Prob.13)

3. (a) A right regular pentagonal prism edge of base 30 mm and height 75 mm is resting on one of it's base edge in HP and inclined at 30° to VP and the face containing that edge inclined at 45° to the HP. Draw the projections of the solid. (See Unit-III, Page 138, Prob.33)

4. A cone diameter of base 60 mm and axis 70 mm long is lying on HP on one of it's generators with the axis parallel to V.P. A vertical section plane parallel to the generator, which is tangent to the ellipse for the base in the top view, cuts the cone bisecting the axis and removing the portion containing the apex. Draw it's sectional top view and true shape of the section. (See Unit-IV, Page 171, Prob.21)

5. (a) What is the difference between Isometric projection Isometric view ? (See Unit-V, Page 211, Q.5)

   (b) A right circular cone diameter of base 52 mm and height 56 mm is resting on it's base in HP. A section plane perpendicular to VP and inclined at 30° to the H.P. cuts the cone such that it passes through a point P on the axis and 26 mm above the base of the cone. Draw the isometric drawing of the Truncated cone. (See Unit-V, Page 219, Prob.10)

6. (a) What are the advantages of using CAD ? (See Unit-VI, Page 236, Q.4)

   (b) Name and explain five editing commands used in CAD. (See Unit-VI, Page 251, Q.22)

7. (a) Explain the co-ordinate system used in CAD. (See Unit-VI, Page 255, Q.31)

   (b) Explain methods of drawing circle in CAD. (See Unit-VII, Page 273, Q.13)

8. Write short notes on any two –
   (a) Dimensioning in CAD (See Unit-VI, Page 252, Q.27)
   (b) Geometrical modelling (See Unit-VIII, Page 293, Q.24)
   (c) Wireframe models (See Unit-VIII, Page 294, Q.26)
   (d) ISO and ANSI standards for drawing. (See Unit-VII, Page 267, Q.6)

BT-105 (CBGS)
B.Tech., I & II Semester

RGPV

BT-105 (CBGS)
B.Tech., I & II Semester
EXAMINATION, May 2019
Choice Based Grading System (CBGS)
ENGINEERING GRAPHICS

Note : **(i)** Attempt any five questions.
(ii) All questions carry equal marks.

1. (a) In a map, a distance of 2 km is shown as 1 cm in the drawing. Draw a plain scale to read 30 kilometres and mark a distance of 18 km in the scale. **(See Unit-I, Page 39, Prob.30)**

(b) A circle of 5 cm diameter is rolling on a straight line without slipping. Draw the locus of a point on the circle and name the curve.

(See Unit-I, Page 27, Prob.18)

2. (a) Draw the following lines used in projection –
   (i) Extension line
   (ii) Leader line
   (iii) Construction line

(See Unit-I, Page 8, Q.8)

(b) Draw the projection of a line AB, whose end A is in H.P. and 10 mm in front of V.P. The line makes an angle of 30° with V.P. and 60° with H.P. The line is 50 mm long. (See Unit-II, Page 71, Prob.18)

3. A right regular pentagonal prism side of base 25 mm and axis 50 mm long lies on HP on one of it's rectangular faces such that the axis is parallel to HP and inclined at 30° to VP. Draw the projections of the solid.

(See Unit-III, Page 125, Prob.12)

4. Draw the floor plan of a single BHK house showing all details like windows, doors and other fixtures. Assume suitable dimension for plan.

(See Unit-III, Page 148, Q.12)

5. A cone diameter of base 60 mm and axis 70 mm long is lying on HP on one of it's generators with its axis parallel to VP. A vertical cutting plane parallel to generator which is tangent to the ellipse for the base in top view, cuts the cone bisecting the axis and removing the portion containing apex. Draw its sectional front view and true shape of section.

(See Unit-IV, Page 171, Prob.21)

6. A right regular pentagonal pyramid edge of base 30 mm and axis 60 mm long, has its base in HP such that base edge towards the VP is parallel to it. A section plane prependicular to the H.P. and inclined at 45° to VP cuts the pyramid at a distance 7 mm from the axis. Draw its top view, sectional front view and development of lateral surface.

(See Unit-IV, Page 185, Prob.33)

7. (a) What is isometric projection ? Name various methods of isometric projection. (See Unit-V, Page 209, Q.2)

   (b) Draw the isometric view of a 25 mm side cube.

(See Unit-V, Page 215, Prob.2)

8. (a) Define the following –
   (i) Tool bar
   (ii) Edit commands
   (iii) 2D and 3D models

(See Unit-VI, Page 247, Q.20)

(b) List advantages of using computer aided drafting.

(See Unit-VI, Page 236, Q.4)

RGPV

BT-105 (CBGS)
B.Tech., I & II Semester
EXAMINATION, November 2019
Choice Based Grading System (CBGS)
ENGINEERING GRAPHICS

Note : (i) Attempt any five questions.
(ii) All questions carry equal marks.

1. (a) A rectangular plot of land area 0.45 hectare is represented on a certain map by a similar rectangle of 5 square centimeters. Calculate the R.F. of the scale of the map. Also draw a scale to read upto single meter and long enough to measure upto 400 meters. 1 hectare = 10,000 square meters. **(See Unit-I, Page 44, Prob.37)**

   (b) A cycle wheel of 50 cm diameter rolls over a culvert of 175 cm diameter. Draw the path traced out by a point on the circumference of the cycle wheel for one complete revolution. **(See Unit-I, Page 30, Prob.21)**

2. (a) A line CD 80 mm long is inclined at an angle of 30° to the H.P. and 45° to the V.P. The point C is 20 mm above H.P. and 30 mm in front of V.P. Draw the projections of the straight line. **(See Unit-II, Page 71, Prob.17)**

   (b) A rectangular thin plate of side 60 × 30 mm is resting on its shorter side on H.P. and inclined at 30° to V.P. Its surface is inclined at 60° to H.P. Draw its projections. **(See Unit-II, Page 100, Prob.53)**

3. A right pentagonal prism 90 mm high with each side of the base 30 mm is resting on one of the edges on the horizontal plane and inclined at 30° to the V.P. and the face containing that edge is inclined at 45° to the H.P. Draw the projections of the pentagonal prism. **(See Unit-III, Page 139, Prob.34)**

4. A hexagonal prism of base side 25 mm and axis 50 mm is resting on H.P. on its base with two of its vertical faces perpendicular to V.P. It is cut by a plane inclined at 50° to H.P. and perpendicular to V.P. and meets the axis of the prism at a distance 10 mm from the top end. Draw the development of the lateral surface of the prism. **(See Unit-IV, Page 179, Prob.27)**

5. Draw an isometric view of the frustum of a hexagonal pyramid having 35 mm base side and 20 mm top side and 80 mm long axis, resting on its base on the H.P. with an edge of the base parallel to the V.P. **(See Unit-V, Page 219, Prob.9)**

6. (a) What is CAD ? Explain the benefits. **(See Unit-VI, Page 238, Q.5)**
   (b) What are the different editing commands ? Discuss the different methods of zoom as used in CAD. **(See Unit-VI, Page 251, 258, Q.23, Q.36)**

7. (a) Explain the use of various coordinate systems in CAD.

(See Unit-VI, Page 255, Q.31)

(b) What is layering in CAD ? Explain with uses and applications.

(See Unit-VIII, Page 277, Q.5)

8. Write short note on –

(i) Hypocycloid (See Unit-I, Page 25, Q.23)

(ii) Orthographic projection (See Unit-II, Page 53, Q.5)

(iii) Isometric drawing vs isometric projection (See Unit-V, Page 211, Q.5)

(iv) Wire frame modeling. (See Unit-VIII, Page 294, Q.26)

RGPV

BT-105 (CBGS)
B.Tech., I & II Semester
EXAMINATION, June 2020
Choice Based Grading System (CBGS)
ENGINEERING GRAPHICS

Note : (i) Attempt any five questions.

(ii) All questions carry equal marks.

1. Construct an ellipse having a major axis 80 mm and minor axis 60 mm using any of method known to you. (See Unit-I, Page 16, Prob.3)

2. In a map of Bhopal, a distance of 36 km between two localities is shown by a line of 45 cm long. Calculate the R.F. and construct a plain scale to read kilometres and hectometre. Show a length of 9.3 km if maximum length is 10 km. (See Unit-I, Page 40, Prob.31)

3. A line AB, 60 mm long has its end A 15 mm above H.P. and 10 mm in front of V.P. It is inclined at 45° to the H.P. and 30° to V.P. Draw it's projections.

(See Unit-II, Page 70, Prob.15)

4. A regular hexagonal lamina of side 20 mm rests on it's sides on H.P. such that it is perpendicular to V.P. and inclined to the H.P. at 45°. It's corner nearest to V.P. is 15 mm away from V.P. Draw its projection.

(See Unit-II, Page 98, Prob.50)

5. A right circular cone of axis height 80 mm is resting on one of it's generators in H.P. Draw it's projections. The base is 40 mm dia.

(See Unit-III, Page 123, Prob.8)

6. Answer in True or False for the statements given below –

(a) For an enlarging scale, R.F. value is more than 1.

(See Unit-I, Page 37, Q.30)

(b) An angle can be measured by diagonal scale.

(See Unit-I, Page 39, Q.33)

(c) The curve traced by a point on a circle which rolls on a straight line is called cycloid. (See Unit-I, Page 24, Q.20)

(d) A point whose elevation is above XY may be situated in third quadrant.

(See Unit-II, Page 59, Q.14)

(e) Horizontal trace of a line exists when the line is inclined to horizontal plane. (See Unit-II, Page 63, Q.23)

(f) When a cone is cut by a section plane which is parallel to it's base, the true shape of section will be a circle.

(See Unit-IV, Page 154, Q.6)

(g) On isometric plane, a circle appears like a square.

(See Unit-V, Page 214, Q.10)

7. What is CAD ? Name two CAD softwares. Give advantages and disadvantages of using CAD. (See Unit-VI, Page 239, Q.9)

8. Name and explain five edit commands used in CAD.

(See Unit-VI, Page 251, Q.22)

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