Bharatiya Vidya Bhavan's

Sardar Patel College of Engineering

(A Government Aided Autonomous Institute)

Munshi Nagar, Andheri (West), Mumbai – 400058.

End Semester Exam

November 2017

Max. Marks: 100 Duration: 03 hr

Class: F Y B.Tech Semester: I Program: M/ E Engineering

Name of the Course: Engineering Graphics I Course Code : BT 103

Instructions:

File No. 1.

1. Attempt any five questions
2. Draw neat diagrams
3. Assume suitable data if necessary
4. Use first angle method of projection only.

Question No	Questions	Maximum Marks	Course Outcome Number	Module No
Q1 (a)	Draw the projection of a line AB 90 mm long. Its midpoint M being 50 mm above the HP and 40 mm infront of VP. The end A is 20 mm above the HP and 10 mm infront of the VP. Show the inclination of a line with the HP and VP.	10	I,II	2
Q1 (b)	Construct an Archemedian spiral of one convolution, the greatest radii is 100 mm and shortest radii is 25 mm. Draw normal and tangent to the curve.	10	I,II	1
Q2 (a)	The plan of 100 mm line PQ measures 80 mm. point P is 30 mm in front of V.P. and end Q 50 mm above H.P. the end P is in fourth quadrant and end Q is in second quadrant. The line is inclined at 30^0 to V.P. Draw its projections, find its inclination with H.P. also locate its traces	10	I,II, III	3
Q2 (b)	Draw a helix of one revolution around the cone, given the pitch=75 mm, the diameter = 60 mm and the length of a cone = 80 mm.	10	I,III	1
Q3 (a)	Circular lamina of diameter 60 mm is resting with one of its circumference point on V.P. Surface of the lamina is tilted to V.P. in such way that the front view is perfect ellipse of major and minor axis are 60 mm and 30 mm respectively. Draw the projection of lamina if the surface of the lamina having inclination 35^0 to H.P. also find the true inclination of the surface to the V.P.	10	I, III	4
Q3 (b)	Pentagonal plane lamina of sides 30 mm is resting on the H.P. on one of its corner so that the surface makes an angle	10	I, III	4

	of 60^0 with the H.P. if the side opposite to this corner makes an angle of 30^0 with the V.P. and is parallel to the H.P. draw the front and top views of a pentagon.			
Q4 (a)	A hexagonal pyramid , side of base 30mm and axis 70 mm long has its triangular slant surface on H.P. with its axis at 50^0 to V.P.draw its projections. Assume the apex of hexagonal pyramid toward the observer.	10	I, III	5
Q4 (b)	A hexagonal prism of base 25 mm side and axis 45 long, is positioned with one of its base edges on HP such that, the axis is inclined at 30^0 to hp and 45^0 to VP. Draw its projections.	10	I, III	5
Q5	A cone of base 70 mm diameter and axis 90 mm long is resting on its base on H.P. it is cut by section plane perpendicular to V.P. and parallel to and 15 mm away from one of its end generators. Draw the sectional T.V. , F.V., sectional S.V. and true shape of section	20	I , II, III, IV	6
Q6	A cone with base diameter 60mm , axis height 68 mm stands vertically on its base in H.P. a circular hole of 30 mm diameter is drilled through the cone such that its axis is perpendicular to V.P. , parallel to H.P. and 20 mm above the base of cone. Draw the D.L.S showing effect of hole if axis of hole is 10 mm on right side of axis of cone.	20	I , II, III, IV	7
Q7 (a)	A pentagonal pyramid side of base 35 mm and height 70mm rests on its base on the HP with one side of base perpendicular to the VP, such that the true shape of the section in an isosceles triangle of maximum possible base and maximum height. Draw its FV, sectional TV and true shape of section.	10	I, III, IV	6
Q7 (b)	A tetrahedron PQRS of 50 mm long edges has edge PQ in the HP. The edge RS is inclined at 30 degree and 45 degree to the HP and the VP respectively. Draw its projections.	10	I, III	5