University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

Roll No. -

THEORY EXAMINATION – MAY 2019	
B.TECH – ALL BRAMCHES	SEMESTER - II

TIME – 3 Hrs.

M.M. - 75

COURSE NO. - ES 109

COURSE TITLE - Engineering Graphics and Designs

Note: All questions in Part-A and Part-B are compulsory. Attempt any four questions from Part-C selecting at least one from each unit.

PART-A (15 Marks)

Q. No. – 1 Answer the following questions. **15x1=15**

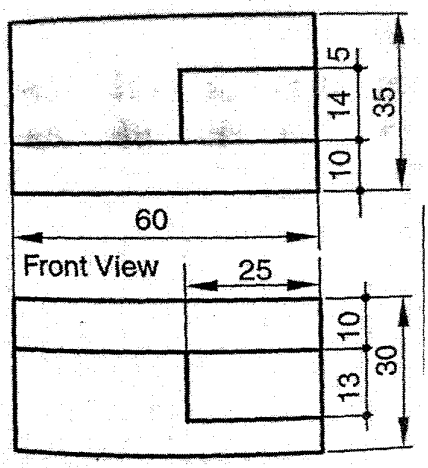
(i)	Draw a circle of 60mm diameter and divide it into six equal parts.
(ii)	What are the main requirements of lettering?
(iii)	What is the difference between an enlarging scale and a reducing scale?
(iv)	What is the principle of a vernier?
(v)	What is perspective projection?
(vi)	Define vertical trace?
(vii)	What is an auxiliary view and when an auxiliary view become necessary to be drawn?
(viii)	How are primary auxiliary views classified?
(ix)	Define true section.
(x)	Explain the term section plane perpendicular to HP and parallel to VP.
(xi)	Explain a single curved surface.
(xii)	Define the term a Warped surface.
(xiii)	Define oblique projection.
(xiv)	What is a pictorial drawing?
(xv)	Why it is necessary to drawn an isometric scale to draw an isometric view?

PART-B (20 Marks)

	UNIT-I	
2	Construct a diagonal scale of 1:50, to show meters, decimetres, and centimetres and long Enough to measure up to 6 meters. Also indicate on this scale a distance of 4 m, 5 dm, and 4cm.	5
	UNIT-II	
3	A regular hexagonal lamina, side 20mm rests on HP on one of its side such that it is Perpendicular to the HP on one of its sides such that it is perpendicular to the HP and Inclined to VP at 30°. Draw its projections in first angle, when corner nearest to the VP is 15 mm away from it.	5
	UNIT-III	
4	A right regular hexagonal pyramid, side of base 30 mm and height 70 mm, rests on its base In HP, with one of its base edges parallel to VP. An auxiliary horizontal plane parallel to the VP cuts the pyramid at a height of 34 mm from the base. Draw its front view and sectional Top view.	5
	UNIT-IV	
5	Sketch the methods to represent a circle in isometric view and name the method which is More correct?	5

PART-C (40 Marks)

	UNIT-I	
6	Draw a hypocycloid when radius of the directing circle, R=60 mm and the radius of the Rolling circle, r = 30mm.	10
7	Draw an epicycloid for dia 60mm rolling circle and dia 180mm base circle.	10
	UNIT-II	
8	The front view of line AB makes an angle of 30° with XY line. The HT of the line is 45 mm In front of the VP and its VT is 30mm below the HP. End A is 12 mm above the HP and end B is 105mm in front of the VP. Draw the projections of the line and find its TL.	10
9	The front view of a line PQ measures 52 mm and it makes an angle of 45° with XY. End P Is in HP and VT of the line is 12 mm below the HP. The line is inclined at 30° to VP. Draw its projections and find its TL.	10
	UNIT-III	
10	A right circular cone, diameter of base 56 mm and height 65mm, rests on its base on HP. A sectional plane perpendicular to VP and inclined to HP at 45 °, cuts the cone meeting Its axis at a distance of 36 mm from its base. Draw its front view, Sectional top view and True shape of the section.	10
11	A right circular cone, diameter of base 40 mm and height 50 mm, rests on its base on HP. A section plane perpendicular to VP and inclined to HP at 45° Cuts the cone bisecting its Axis. Draw projections of the truncated cone and develop its lateral surface.	10
	UNIT-IV	
12	A right regular hexagonal prism, edge of base 20 mm and height 50 mm, has a circular Hole of dia 20mm, drilled centrally through it, along its axis. Draw its isometric projection.	10
13	Draw the isometric view.	10



(a) Given Views