Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Engineering

End Sem (Odd) Examination Dec-2017

EN2ES01 Engineering Graphics-I

Programme: Diploma Branch/Specialisation: All

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. Which of the following pencil leads is hardest **1**

(a) HB (b) H (c) B (d) 2B

ii. The length-to-height ratio of a closed filled arrow head is **1**

(a) 1:3 (b) 3:1 (c) 1:2 (d) 2:1

iii. The Unit of R.F. is **1**

(a) cm^3 (b) cm^2 (c) cm (d) None of this

iv. When a right circular cone is cut by a plane parallel to its generator, the curve obtained is **1**

(a) Ellipse (b) Parabola (c) Hyperbola (d) Circle

v. If a line is parallel to both H.P. and V.P., its true length will be seen in **1**

(a) Front view (b) Top view

(c) Side view (d) Both (a) and (b)

vi. The number of faces in a pentagonal prism **1**

(a) 6 (b) 4 (c) 5 (d) 7

vii. A cone is cut by a section plane parallel to the V.P. Its true shape of the section is seen in **1**

(a) Front view (b) Top view (c) Side view (d) None of these

viii. The method by which the development of surface of an cone is obtained is **1**

(a) Radial line (b) Parallel line

(c) Approximation (d) None of this

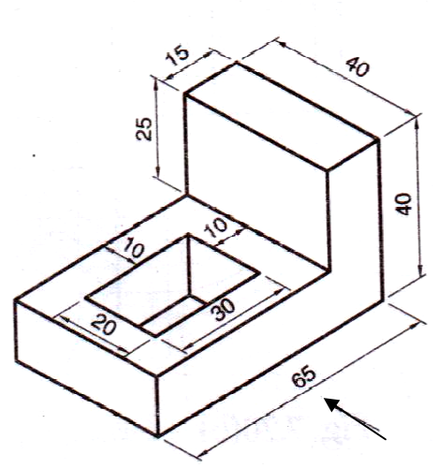
ix. The angle that isometric lines make with each other is **1**

(a) 45^o (b) 60^o (c) 90^o (d) 120^o

P.T.O.

	x.	Projection of an object shown by three view is known as (a) Perspective (b) Isometric (c) Oblique (d) Orthographic	**1**
Q.2	i.	Explain: (a) Chain dimensioning, (b) Parallel dimensioning.	**2**
	ii.	Name the different types of drawing instruments. (Any Six)	**3**
	iii.	Mark a sketch of an A2 size drawing sheet showing in it, the border lines, margin line, folding marks, zones and title block.	**5**
OR	iv.	Why it is necessary to draw title block? Draw a standard title block with dimension and also specify various fields on it.	**5**
Q.3	i.	Construct a scale of 1:40 to read metres and decimetres and long enough to measure up to 6m. Mark on it a distance of 4.7m.	**3**
	ii.	Draw a hyperbola when the distance between its focus and directrix is 50mm and eccentricity is 3/2. Also draw the tangent and normal at a point distance 25 from the directrix.	**7**
OR	iii.	Draw an involute of a circle of 50mm diameter. Also draw tangent and normal at a point distant 100mm from the centre of the circle.	**7**
Q.4	i.	An 80mm long line AB, has the end A at a distance of 20mm above the H.P. and 40mm in front of the V.P. The line is incline at 30^o to the H.P. and parallel to V.P. Draw the projection of the line and determine its traces	**3**
	ii.	A pentagonal plane with a 30mm side has an edge on the H.P. The surface of the plane is incline at 45^o to the H.P. and perpendicular to the V.P. Draw its projection	**7**
OR	iii.	A pentagonal pyramid having a 30mm edge of base and a 70mm long axis has an edge of its base on the H.P. The axis is incline at 60^o to the H.P. and parallel to the V.P. Draw its projections.	**7**
Q.5	i.	Draw the projection of a cone resting on its base on HP and having base dia. 50mm, axis 70mm long. Also draw development of its lateral surface.	**4**

	ii.	Draw the development of lateral surface of a square prism with a 40mm base side and a 60mm long axis which is resting on its base in the H.P. when all the sides of the base are equally inclined to the V.P.	**6**
OR	iii.	A pentagonal pyramid, having a base with a 30mm side and a 70mm long axis is resting on its base in the H.P. with an edge of the base parallel to the V.P. A horizontal section plane cuts the pyramid at a distance of 30mm from the base. Draw its front view and sectional top view.	**6**
Q.6		Attempt any two:	
	i.	Draw an isometric view of a hexagonal prism having a base with a 30mm side and a 70mm long axis resting on its base on the H.P.	**5**
	ii.	Draw the isometric view of a pentagonal pyramid having a base with a 30mm side and a 50mm long axis when its axis is vertical.	**5**
	iii.	The pictorial view of an object is shown in fig. Using the first angle projection draw its: (a) The front view and (b) Top view	**5**



******

EN2ES01 Engineering Graphics-I

Marking Scheme

Q.1	i.	Which of the following pencil leads is hardest (b) H	**1**
	ii.	The length-to-height ratio of a closed filled arrow head is (b) 3:1	**1**
	iii.	The Unit of R.F. is (d) None of these	**1**
	iv.	When a right circular cone is cut by a plane parallel to its generator, the curve obtained is (b) Parabola	**1**
	v.	If a line is parallel to both H.P. and V.P., its true length will be seen in (d) Both (a) and (b)	**1**
	vi.	The no of faces in a pentagonal prism (d) 5	**1**
	vii.	A cone is cut by a section plane parallel to the V.P. Its true shape of the section is seen in (a) Front view	**1**
	viii.	The method by which the development of surface of an cone is obtained is (a) Radial line	**1**
	ix.	The angle that isometric lines make with each other is (d) 120^o	**1**
	x.	Projection of an object shown by three view is known as (d) Orthographic	**1**
Q.2	i.	1 marks for each	**2**
	ii.	0.5 marks for each	**3**
	iii.	1 mark for each (1 * 5 = 5 marks)	**5**
OR	iv.	2 marks for definition, 3 marks for dimension and specification	**5**
Q.3	i.	1 marks for RF&LOS, 1.5 marks for scale, 0.5 marks for showing distance	**2**
	ii.	5 marks for drawing , 2 marks for tangent and normal	**8**
OR	iii.	5 marks for drawing , 2 marks for tangent and normal	**8**
Q.4	i.	1 marks for FV 1 marks for TV and 1 marks for angle	**3**
	ii.	2 marks for first step 2 marks for FFV 3 marks for FTV	**7**
OR	iii.	2 marks for first step 2 marks for FFV 3 marks for FTV	**7**
Q.5	i.	1 marks for initial view , 3 marks for developed surface	**4**
	ii.	2 marks for initial view , 1 marks for each developed surface	**6**
OR	iii.	3 marks for front view , 3 marks for sectional top view	**6**
Q.6		Attempt any two:	
	i.	1 marks for initial figure 4 marks for drawing	**5**
	ii.	1 marks for initial figure 4 marks for drawing	**5**
	iii.	2 marks for FV , 3 marks for TV	**5**

******