ROLL NO. _____

Code: AE02 **Subject: ENGINEERING GRAPHICS**

AMIETE – ET (OLD SCHEME)

Time: 4 Hours **JUNE 2012** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE:

1. (a) There are SEVEN questions in all and these are arranged in three Sections A, B and C.

(b) Sections A and B are compulsory and carry 20 marks and 32 marks respectively.

(c) Out of remaining 5 questions (of 16 marks each) in Section C students are required to answer any 3 questions.

2. Detach this sheet from the question paper and write answers on this sheet only on Pages 1 & 2. Attach it to the main drawing sheet. Remaining questions are to be answered on the main drawing sheet.

3. All dimensions given are in mm. Use suitable values of any missing and mismatching dimensions.

4. Use BIS Code: SP: 46-1988 for all drawings and do not rub off construction lines.

SECTION A (Compulsory) – Marks – 20

Note : - Answer this on question paper itself and annex with the drawing sheet.

Q1. Choose the correct or best alternative in the following: **(2 × 10 = 20)**

QUESTIONS **ANSWER HERE**

a. Centre lines, locus lines and pitch circles are drawn as

(A) Long and short chain lines **(B)** Thick and long chain lines
(C) Thick continuous lines **(D)** Thin continuous lines

_____

b When measurements are required in three units, the scale is used

(A) diagonal **(B)** plain
(C) comparative **(D)** vernier _____

CENTRE STAMP

Signature of Suptd/invigilator

c. The curve generated by a point on circumference of a circle rolling along a straight line is called

(A) Involutes **(B)** cycloid
(C) cycloidal **(D)** Epicycloid _____

d. If an octagonal plane is inclined to H.P and perpendicular to V.P, its front view is a

(A) line **(B)** regular octagon
(C) irregular octagon **(D)** none _____

e. A pentagonal pyramid is cut by a section plane parallel to its base, the sectioned surface will be

(A) Square **(B)** pentagon
(C) Trapezium **(D)** Hexagon
_____

f The length of scale with R.F 1/50 to measure up to 6 meters will be

(A) 10 cm **(B)** 12 cm
(C) 15 cm **(D)** 20 cm _____

g Which type of thread is used for power transmission or load lifting

(A) Square threads **(B)** Acme threads
(C) Buttress threads **(D)** Knuckle threads _____

h A key which goes partly in the key seat and partly in the keyway is called

(A) Feather key **(B)** Woodruftf key
(C) Sunk key **(D)** Spilines _____

i. When the axes of two shafts are in a single line, but they intersect each other at a large angle, the coupling used is

(A) Oldham's coupling **(B)** Muff coupling
(C) Flange coupling **(D)** Universal coupling _____

j In which type of bearing, the bearing pressure is perpendicular to the axes of shafts?

(A) Journal bearing **(B)** Footstep bearing
(C) Collar bearing **(D)** None _____

SECTION B (Compulsory)

Q.2 Details of an open bearing are shown in Fig.1. Draw the following views of the assembly
(i) half sectional front view
(ii) right side view and
(iii) top view **(14+8+10)**

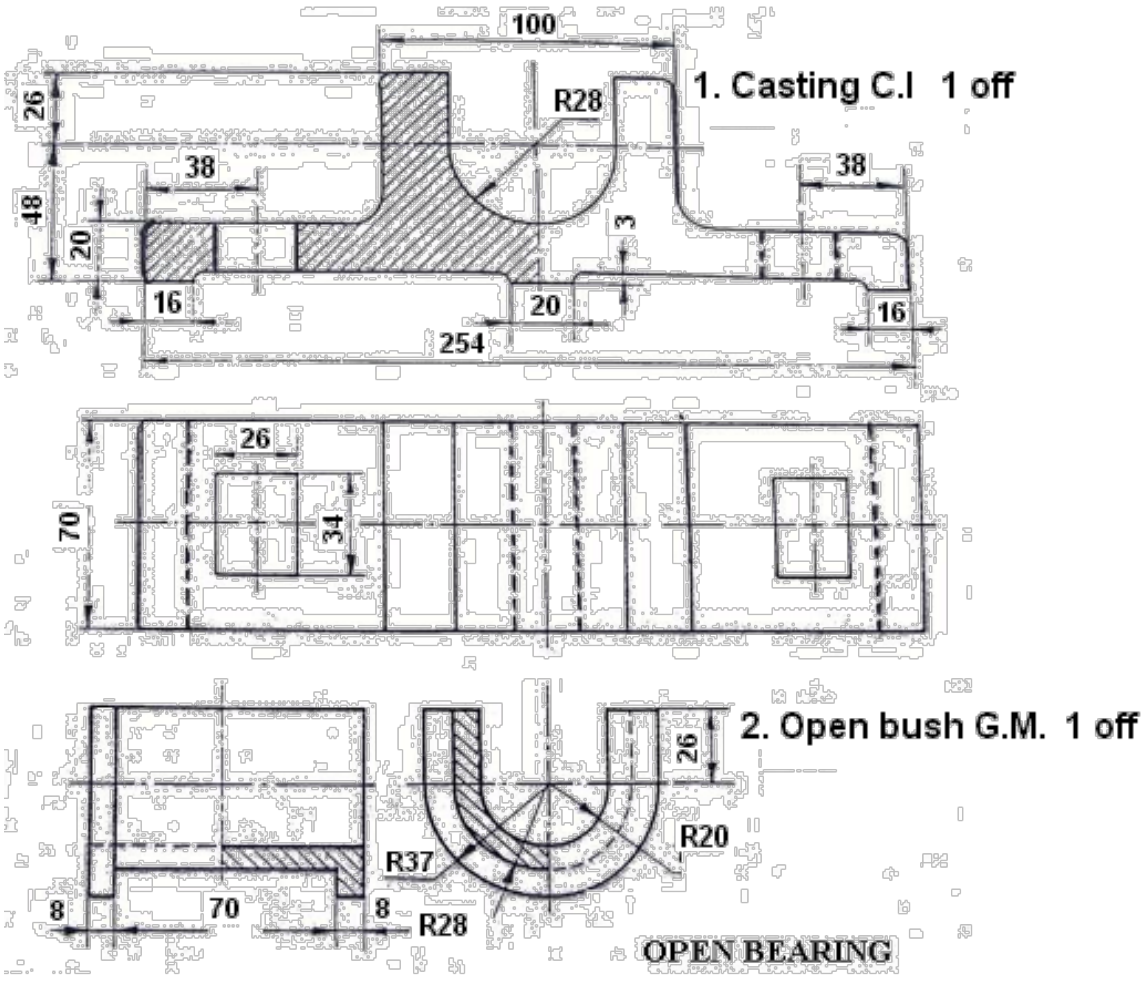

Fig.1

SECTION C
Answer any THREE Questions. Each question carries 16 marks.

Q.3 A Straight line AB 60 mm long has its end A in both H.P and V.P. The straight line is inclined at 30° to V.P and 45° to H.P. Draw its projections. **(16)**

Q.4 Draw a cycloid for a given diameter of a rolling circle as d=30 mm. Also draw a normal and tangent at any point on the curve. **(16)**

Q.5 a. Construct a diagonal scale to show meters, decimeters and centimeters and long enough to measure up to 6 meters where 1 meter is represented by 2.5 centimeters. Find R.F and indicate on the scale a distance of 4 meters, 5 decimeters and 4 centimeters. **(8)**

b. Sketch neatly a sectional front view and top view of a single riveted butt joint for two 10mm thick plates, using two butt-straps. **(8)**

Q.6 Draw the isometric projection of the object shown in Fig.2. **(16)**

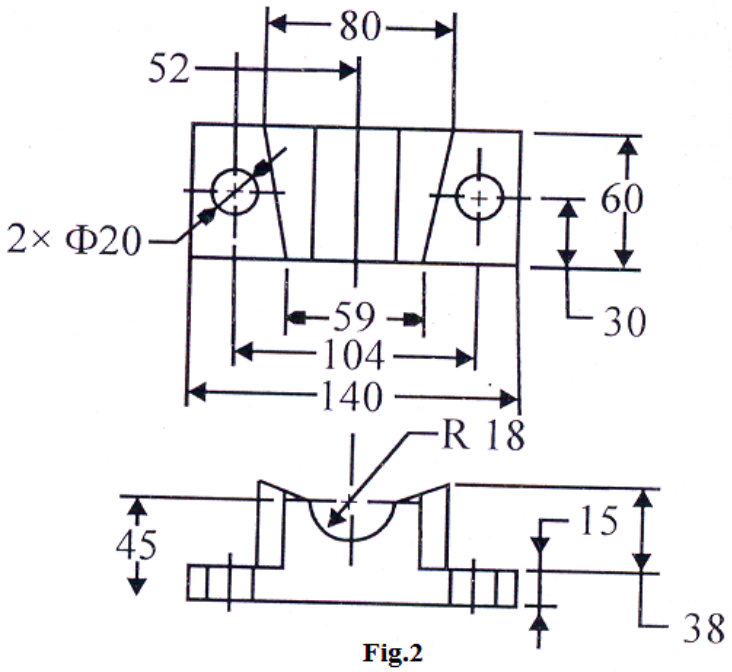

Fig.2

Q.7 Draw sectional front view and top view of a Knuckle joint for connecting two 40 mm diameter rods. Give all important dimensions. **(16)**