DipIETE – ET (OLD SCHEME)

Code: DE03   Subject: ENGINEERING DR...
Time: 3 Hours   Max. Mark...

DECEMBER 2010
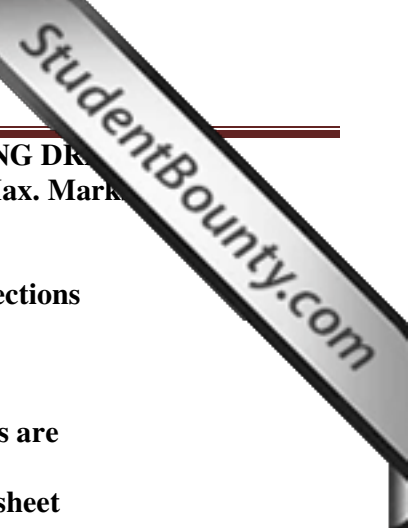
NOTE:
1. (a) There are SEVEN questions in all and these are arranged in three Sections
         A, B and C.
   (b) Sections A and B are compulsory and carry 20 marks and 32 marks
         respectively.
   (c) Out of remaining 5 questions (of 16 marks each) in Section C students are
         required 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.

ROLL NO……………………

SECTION A (Compulsory)

Note :1. Attach this sheet to the main drawing sheet.
      2. Write Answers To Question No. 1 In This Sheet Only.

Q.1   Write the correct or best alternative in the following: **(10×2=20)**

   a. The Actual size of a component Refer to

       (A) Drawing size
       (B)   Design size
       (C) Size after manufacturing
       (D) Basic size.

   b. Which amongst the following is not a journal bearing?

       (A) Pivot Bearing   **(B)** Bush Bearing
   **(C)** Hanger Bearing   **(D)** Plummer Block

CENTRE STAMP

Signature of Suptd / invigilator

DE03 / DEC. - 2010   1   DipIETE - ET (OLD SCHEME)

c. Suggest the pipe joint used in pipes carrying fluid at high pressure

(A) Socket joint **(B)** Expansion joint
(C) Hydraulic pipe joint **(D)** Spigot & Socket joint

d. For buckling in a plane perpendicular to the plane of motion (about y-axis) , the connecting rod is treated as a strut with

(A) Both ends hinged
(B) Both ends fixed
(C) one end fixed & other end hinged
(D) one end fixed & other end free.

e. In lettering, the spacing between words is equal to

(A) Height of letters
(B) Width of letters
(C) Twice the height of letters
(D) Twice the width of letters

f. When the section plane makes the same angle with the axis of the cone as the elements, the section obtained is a

(A) Hyperbola **(B)** Circle
(C) Parabola **(D)** Ellipse

g. The curve generated by a fixed point on the circumference of a rolling or generating circle which rolls without slipping along the inside of a base or directing circle is

(A) Epicycloid **(B)** Hypocycloid
(C) Cycloid **(D)** Trochoid

h. If x is the thickness of the arrowhead then its length will be equal to

(A) 2x **(B)** 2.5x
(C) 3x **(D)** 3.5x

i. In A_o designation, the trimmed size (length x width) of the drawing sheet as per BIS is

(A) 1230×880 **(B)** 1189×880
(C) 1189×841 **(D)** 1230×841

j. The rivet head used for structural work such as roof trusses is usually

(A) Pan head **(B)** Snap head
(C) Conical head **(D)** Counter sunk head

SECTION B (Compulsory)

Q.2   Fig.1 shows the pictorial view of a **CAST** IRON CAP. Draw to a full size scale, the following views in 1st angle projection :—
(i)   Front view,
(ii)   Top view,
(iii) Side view   **(32)**
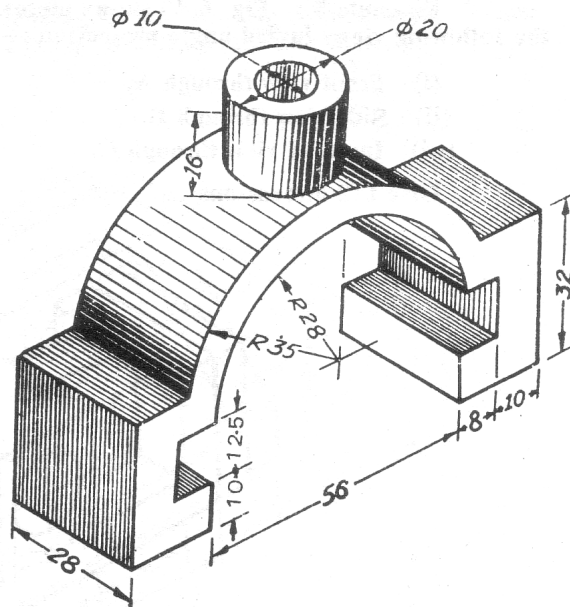
CAST IRON CAP
Fig.1

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

Q.3   A circular plate of negligible thickness 40 mm diameter, having its plane vertical and inclined at 30° to the V.P. Its centre is 25 mm above the H.P. and 15 mm infront of V.P. Draw its projections and also show the traces.   **(16)**

Q.4   A right regular pentagonal pyramid, edge of base 20 mm and height 40 mm is resting on its base in HP with axis perpendicular to HP and parallel to VP. Two of its base edges are equally inclined to the VP. The pyramid is cut by an AIP(Auxiliary Inclined Plane) at an angle of 45° leaving direct (vertical) distance taken from base on the edge of the corner equal to 7 mm. Draw the front view, top view and development of its lateral surfaces.   **(16)**

Q.5 a. Draw form or profile of Knuckle thread along with their proportion having pitch,P**(6)**

    b. Construct a diagonal scale to measure 1/25 and 1/5 of centimetre. The length of scale is 10 cm. Show on it, length 8.42 cm. only. The R.F. of scale is 1/1.   **(10)**

Q.6   The detail of parts of Gib and Cotter joint are given below in Fig.2. Assemble the parts together and draw   **(16)**
(i)   Front view upper half in section
(ii) Side view or
(iii) Top view. Adopt suitable scale. Use first angle projection system

DE03 / DEC. - 2010   3   DipIETE - ET (OLD SCHEME)

Detail of Fork End, Rod End, Gib and Cotter in Isometric Projection

Fig.2

Q.7 Pictorial views of two shaft ends, sleeve or muff (box) and a gib head key is shown in Fig.3. Assemble the parts together and draw **(16)**
(i) Front views showing muff upper half in section
(ii) Side view. Adopt first angle projection and suitable scale.

Pictorial views of shaft ends, Sleeve or Muff and Gib Head Key

Fig.3