

JUNE 2005
A-02
Time: 4 Hours

Subject: ENGINEERING GRAPHICS
Max. Marks: 100

NOTE:

- (a) This question paper contains SEVEN questions. These are arranged in three Sections A, B and C.
- (b) Sections A and B are compulsory and contain one question each. Answer any THREE questions from Section C.
- (c) Section A carries 16 marks and Section B carries 42 marks. All other questions carry 14 marks each.
- (d) 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.
- (e) All dimensions given are in mm. Use suitable values of any missing and mismatching dimensions.
- (f) Use BIS Code: SP: 46-1988 for all drawings and do not rub off construction lines.

Roll No.....

SECTION A (Compulsory) – Marks – 16

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

Q1. Choose the correct or best alternative in the following:
16)

(2 x 8 =

QUESTIONS

ANSWER

HERE

- a A line is parallel to H.P. and inclined to V.P., which view of the line will be inclined to xy?
(A) front view
(B) top view
(C) both front view and top view
(D) side view

- b A cylinder of height equal to its radius, is cut by a plane parallel to its axis and passing through the axis, the section surface will be a
(A) circle.
(B) ellipse.

- (C) square.
(D) rectangle.
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CENTRE STAMP

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A curve generated by a point which moves in such a way that at any position, the difference of its distance from two fixed points is always constant, is called

- (A) spiral
(B) hyperbola
(C) ellipse
(D) parabola
-

d Which shape of thread is used for threaded fasteners?

- (A) V-thread
(B) Square thread
(C) Acme thread
(D) Buttress thread
-

e A flexible coupling is used for connecting two shafts having

- (A) Axes inclined to each other
(B) axes which are offset slightly
(C) Both (A) and (B)
(D) Aligned axes
-

- f Two cylinders of same diameter intersect each other at right angles with their axes also intersecting, the curve of penetration is
- (A) circular arcs.
(B) parabolic curves.
(C) straight line.
(D) two crossed straight lines.
-
- g If 'd' is the diameter of rivets used for connecting two plates by a riveted joint, the minimum pitch between the rivets is
- (A) 2 d.

(B) 3 d.
(C) 4 d.

(D) 4.5 d.
-
- h Which type of solid surfaces cannot be accurately developed?
- (A) Prisms
(B) Pyramids
(C) Cylinders
(D) Spheres
-

SECTION B

- Q.2** Fig.1 on page 4 shows the details of a compression coupling. Draw the following views of the assembly to a suitable scale
- (i) Front elevation right half in section.
(ii) Side view looking from left.

Show the major dimensions, print the title and draw the projection symbol.
(25+10+5+1+1=42)

(10)

SECTION C

Answer any **THREE** Questions. Each question carries **14** marks.

- Q.3** The top view of a 60 mm straight line measures 40 mm while the length of its front view is 50 mm. Its one end A is in H.P. and other end B in V.P. Draw its projections and determine its inclination with H.P. and V.P. Show the traces and measure the distances of the traces from the reference planes. (14)
- Q.4** A hexagonal pyramid having base side 30 mm and axis 70 mm long has a corner of its base in the H.P. such that two of the base edges passing through the corner on which it rests are equally inclined to H.P. Its axis is inclined at 45° to the H.P. and parallel to V.P. Draw its projections. (14)
- Q.5** Trace the locus of a point such that the difference between the distances of the point from two fixed points 40 mm apart is constant and is equal to 30mm. (14)
- Q.6** A cone having diameter of base 60 mm and axis 70 mm long is lying in H.P. on one of its generators with the axis parallel to V.P. It is cut by a horizontal section plane 12 mm above the H.P. Draw the development of the lateral surface of the remaining portion of the cone. (14)
- Q.7** Draw the following keys in position for a shaft and hub. Take the diameter of shaft to be 35 mm.
(i) Gib head key.
(ii) Feather key. (14)

