

वार्षिक परीक्षा प्रश्न-पत्र-2016

इंजीनियरिंग ड्राइंग

(ENGINEERING DRAWING)

Code No. A-3/Engg.-1506

Time : 3.00 Hours]

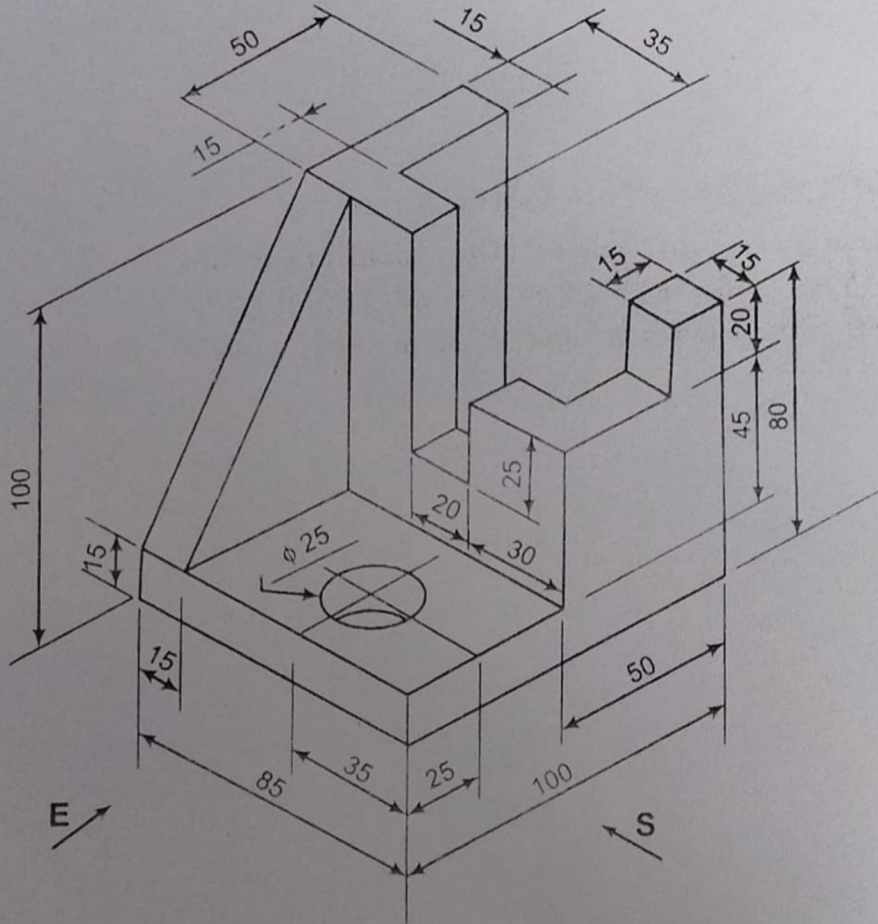
[Maximum Marks : 50

नोट : कुल चार प्रश्न कीजिए। प्रश्न संख्या 1 अनिवार्य है।

Attempt four questions in all. Question No. 1 is compulsory.

1. चित्र-1 में एक वस्तु का सममितीय दृश्य दिखाया गया है। उचित पैमाने में, विमाओं के साथ निम्नलिखित दृश्य तृतीय कोणीय प्रक्षेप में खींचिये :

Fig. 1 shows the isometric view of an object. Draw to a suitable scale, the following views in the third angle projection giving dimensions : [8 + 6 + 6 = 20]



चित्र 1

(अ) तौर 'E' की दिशा में देखते हुए उत्सेध (Elevation)।

Elevation looking in the direction of arrow 'E'.

(ब) पार्श्व दृश्य तौर 'S' की दिशा में।

Side-view in the direction of arrow 'S'.

(स) अनुविक्षेप (plan)।

(नोट : अदृश्य भाग यदि कोई हों तो उन्हें बिन्दुकित रेखाओं से दिखायें)

(Note : Hidden parts if any should be shown with dotted lines.)

2. (अ) 10 mm ऊँचाई के एकल प्रयास तिरछे कैपिटल अक्षरों में निम्नलिखित वाक्य को स्यच्छतापूर्वक लिखिये :

Write neatly the following sentence in single stroke italic capital letters of height 10 mm : [5]
"HE WHO WOULD SOW WELL, MUST REAP WELL".

- (ब) निम्नलिखित बिन्दुओं का, समान धरातल रेखा पर प्रक्षेप खींचिये :

Draw the projections of the following points on the same ground line : [5]

(i) 'A', H.P. से 36 mm नीचे है तथा V.P. से 15 mm सामने है।

'A', 36 mm below H.P. and 15 mm in front of the V.P.

(ii) 'B' H.P. में है और V.P. से 38 mm पीछे है।

'B' in the H.P. and 38 mm behind the V.P.

3. (अ) षट्भुजाकार ढिबरी सहित एक षट्भुजाकार शीर्ष वाले बोल्ट के समुच्चय (Assembly) का सम्मुख दृश्य एवं पार्श्व दृश्य मुक्तहस्त खींचिये।

Draw free hand the front view and side view of the assembly of a hexagonal headed bolt with hexagonal nut. [5]

- (ब) बढईगिरी में प्रयोग में आने वाले एक कपोत पुच्छ अर्ध चढ़ाव जोड़ का सममितीय दृश्य मुक्तहस्त खींचिये।

Draw free hand the isometric view of a Dovetail half lap joint used in carpentry. [5]

4. 35 mm भुजा तथा 70 mm ऊँची अक्ष का एक वर्गाकार प्रिज्म H.P. में इस प्रकार खड़ा है कि इसके सभी ऊर्ध्वाधर फलक V.P. से बराबर कोण पर अवनत हैं। यदि प्रिज्म की अक्ष H.P. से 50° कोण पर अवनत रहे, तब इसके प्रक्षेप खींचिये।

A square prism of 35 mm side and height of axis 70 mm is standing in H.P. in such a manner that its all vertical faces are inclined at equal angles to V.P. If the axis of the prism is inclined at an angle of 50° to H.P., then draw its projections. [10]

5. $\frac{1}{40}$ नि०भि० (R.F) की एक विकर्ण-मापनी बनाइये जिस पर m, dm तथा cm पढ़े जा सकें तथा जो 6 m तक की दूरी पढ़ने के लिये पर्याप्त हो, इस मापनी पर 4.62 m तथा 5.73 m की दूरियाँ अंकित कीजिये।

Construct a diagonal scale of R.F. = $\frac{1}{40}$ which can read m, dm and cm and is long enough to read upto

6 m. Mark distances of 4.62 m and 5.73 m on this scale. [10]

6. 40 mm व्यास तथा 75 mm लम्बी अक्ष का एक बेलन H.P. में अपने आधार पर खड़ा है। यदि बेलन को उसकी अक्ष के मध्य से, H.P. से 35° कोण पर झुके एक काट समतल द्वारा काट दिया जाये, तब बेलन की कटी स्थिति में वक्र सतह का विकास खींचिये।

A cylinder of dia. 40 mm and length of axis 75 mm is standing on its base in H.P. If the cylinder is cut at its mid-axis by a cutting plane inclined at 35° to H.P., then draw the development of the curved surface of the truncated cylinder. [10]

ENGINEERING DRAWING

[Time : 3:00 Hours]

[Maximum Marks : 50]

Note: Attempt four questions in all. Question No. 1 is compulsory. Assume suitable dimensions wherever not given.

1. Figure-1 shows the isometric view of an object. Draw to a suitable scale, the following views in the third angle projection giving dimensions:

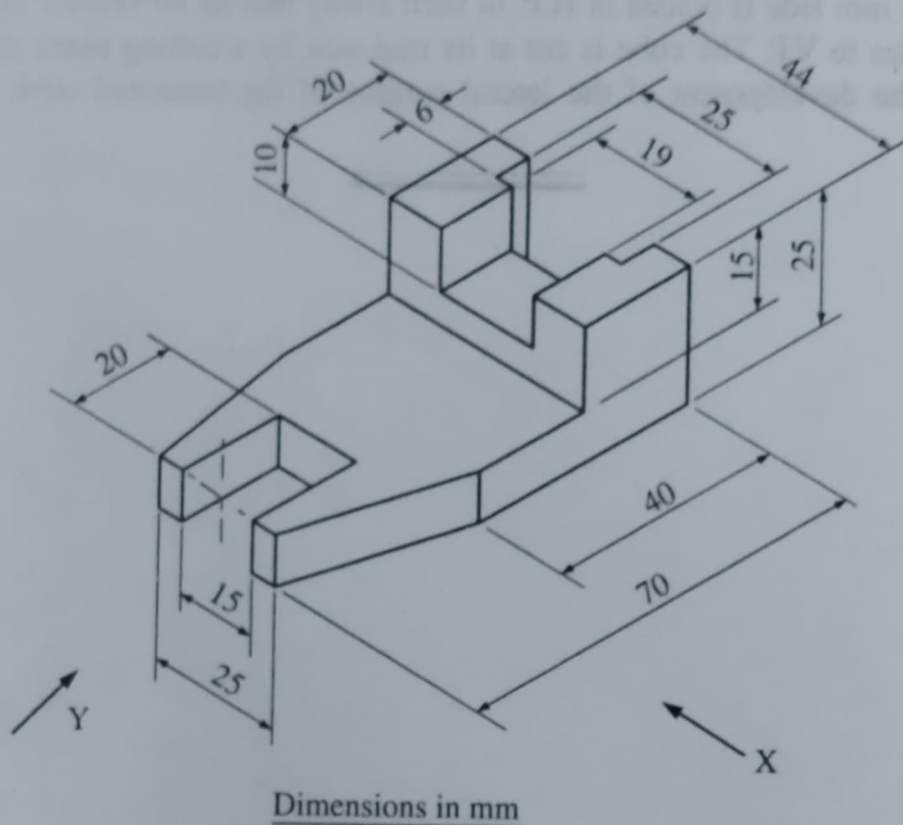


Fig. 1

- (a) Elevation looking in the direction of arrow 'Y'.
- (b) Side-View in the direction of arrow 'X'.
- (c) Plan.

[8 + 6 + 6 = 20]

(Note: Hidden parts if any should be shown with dotted lines.)

2. (a) Write neatly the following sentence in single stroke vertical capital letters of 10 mm height:

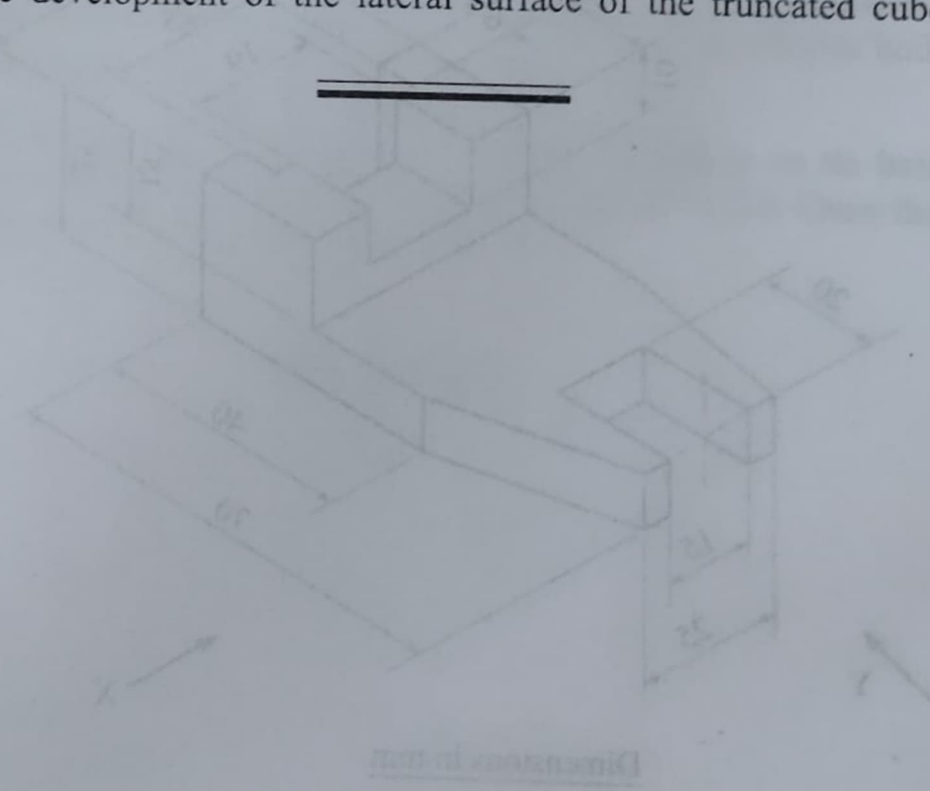
"A FOG CAN NOT BE DISPELLED BY A FAN"

[5]

- (b) Draw freehand the isometric view of a Tee half joint used in carpentry.

[5]

3. A line AB 80 mm long makes angles of 30° and 45° from H.P. and V.P. respectively. The end 'A' of the line is 10 mm below H.P. and 20 mm behind V.P. If the end 'B' is in the first quadrant, then draw the projections of this line. [10]
4. A line 9 cm long represents a distance of 360 m on a map. Draw a diagonal scale for the map which can read upto 600 m and can show one metre on the diagonal divisions. Find R.F. of the scale and indicate distances of 264 m and 457 m on this scale. [10]
5. A cylinder of 40 mm dia. and length of axis 70 mm is placed on any one point of its circumference in V.P. in such a manner that the axis is inclined at an angle of 40° to V.P. If the axis is to remain parallel to H.P., then draw the projections of this cylinder. [10]
6. A cube of 45 mm side is placed in H.P. in such a way that its all vertical faces are inclined at equal angles to V.P. The cube is cut at its mid-axis by a cutting plane inclined at 30° to H.P. Draw the development of the lateral surface of the truncated cube. [10]



Dimensions in mm

Fig. 1

(a) Elevation looking in the direction of arrow 'Y'
 (b) Side-View in the direction of arrow 'X'
 (c) Plan
 (Note: Hidden parts if any should be shown with dotted lines)

SEMESTER EXAMINATION 2016

ENGINEERING DRAWING

[Maximum Marks : 50]

Time : 3:00 Hours]

Note: Attempt **four** questions in all. Question No. 1 is compulsory. Assume suitable dimensions wherever not given.

1. Figure 1 shows the isometric view of an object. Draw to a suitable scale, the following views in the third angle projection giving dimensions:

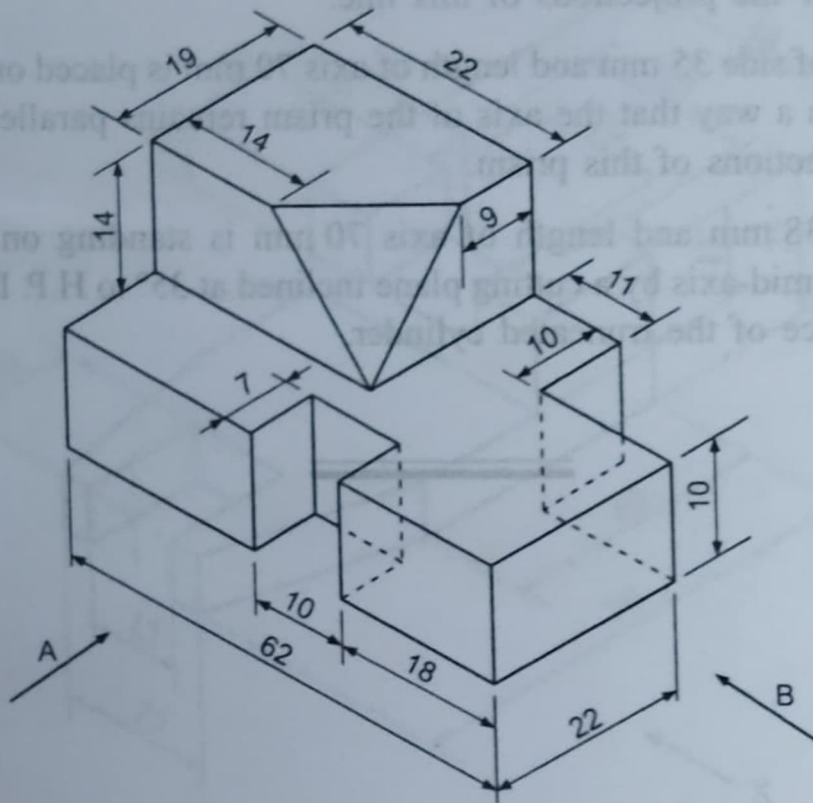


Fig. 1

ALL DIMENSIONS IN mm

- (a) Elevation looking in the direction of arrow 'A'
- (b) Side-view in the direction of arrow 'B'
- (c) Plan

(Note: Hidden parts if any should be shown with dotted lines.)

[10 + 6 + 4 = 20]

2. (a) Write neatly the following sentence in single stroke upright capital letters of height 10 mm.

"STRIKE THE IRON WHILE IT IS HOT".

[5]

(b) Give the symbols of the following as per Indian standards:

[5]

(i) Section line

(ii) Internal threads

(iii) Seam weld

(iv) Spur gear

(v) Zinc

3. Construct a diagonal scale which can read in metres and long enough to read up to 900 m when its R.F. = $\frac{1}{6000}$ mark distances of 327 m and 845 m on the scale. [10]
4. A line 'PQ' 75 mm long makes angles of 40° and 55° from H.P. and V.P. respectively. The end 'P' of the line is 20 mm below H.P. and 30 mm behind V.P. If the end 'Q' is in the first quadrant, then draw the projections of this line. [10]
5. A triangular prism of side 35 mm and length of axis 70 mm is placed on one of its rectangular face in H.P. in such a way that the axis of the prism remains parallel to both the H.P. and V.P. Draw the projections of this prism. [10]
6. A cylinder of dia 38 mm and length of axis 70 mm is standing on its base in H.P. The cylinder is cut at its mid-axis by a cutting plane inclined at 35° to H.P. Draw the development of the curved surface of the truncated cylinder. [10]

ODD SEMESTER EXAMINATION (U.P.), DECEMBER-2019

Engineering Drawing-I

Code : 2044

First Semester

Time : 3.00 Hours]

[Maximum Marks : 60

Notes :

- (i) Solve any five questions only.
 - (ii) Students are advised to specially check the Numerical Data of question paper in both versions. If there is any difference in Hindi translation of any question, the students should answer the question according to the English version.
 - (iii) Use of Pager and Mobile Phone by the students is not allowed.
1. (a) Enlist the drawing instrument required. [4]
(b) Write the following sentence using single stroke vertical capital letters of 10 mm height.
BUREAU OF INDIAN STANDARD [8]
 2. (a) Draw a regular pentagon having 40 mm long sides, using general method. [6]
(b) Differentiate between aligned and unidirectional system of linear dimensioning. [6]
 3. (a) Define Representative Fraction (R.F.) and principle of diagonal scale. [4]
(b) Construct a plain scale of 1 cm = 1m to read metres and decimetres and long enough to measure upto 14 metres. Show on this a distance equal to 12.4 m. [8]
 4. (a) Define orthographic projection and differentiate between first angle and third angle projections. [6]
(b) Draw the projection of point when : [6]
(i) A point P is 80 mm above the H.P. and 50 mm in front of the V.P.
(ii) A point Q is 70 mm below the H.P. and 50 mm in front of the V.P.
 5. A square plane PQRS of 30 mm side has its surface parallel to H.P. and 20 mm away from it. Draw its projection of plane when two of its sides are inclined at 45° to V.P. [12]
 6. (a) Define cylinder and cone in terms of surface of revolution. [6]
(b) Explain the method to draw isometric scale. [6]
 7. A square prism side of base 25 mm and height 40 mm, is having its axis perpendicular to V.P. and 30 mm above H.P. and parallel to it. One of the base nearer to V.P. is 10 mm in front of V.P. Draw its projections. [12]

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