

8/19/22

ROLL NUMBER				
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SET	A
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**INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022
ENGINEERING GRAPHICS
SUBJECT CODE : 046**



CLASS : XII
DATE: 20.09.2022

TIME ALLOTTED : 3 HRS.
MAXIMUM MARKS: 70

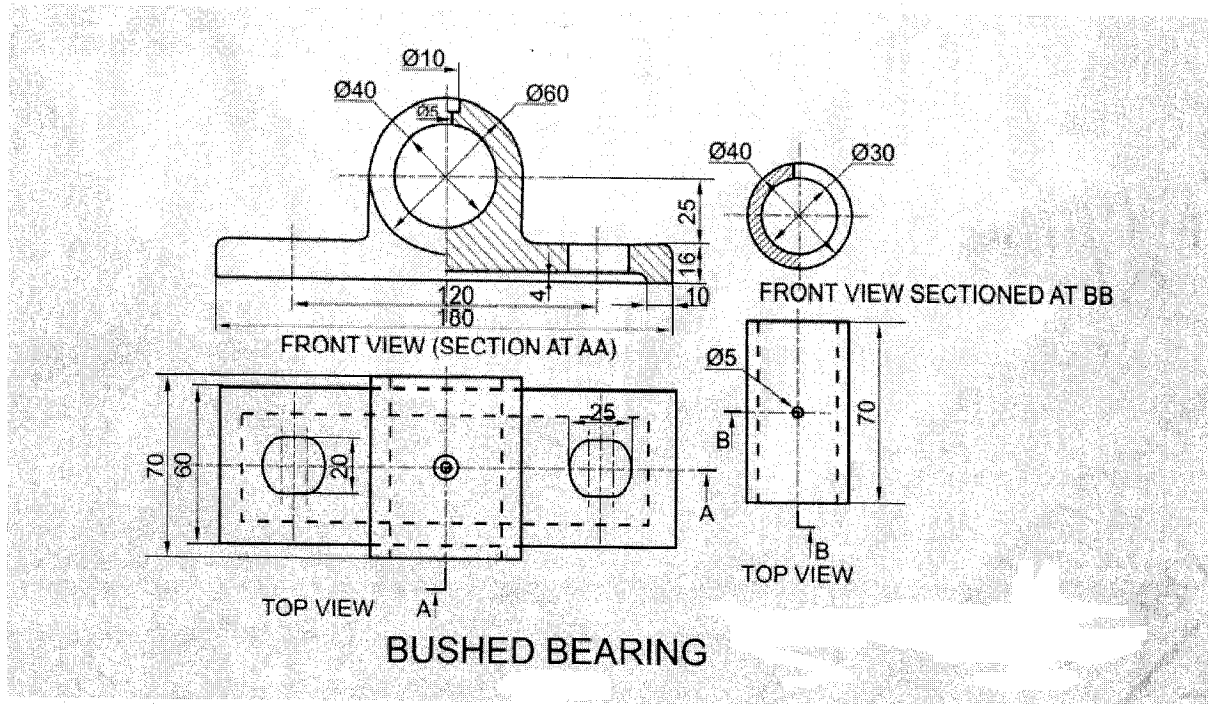
GENERAL INSTRUCTIONS:

- (i) All dimensions are in millimetres.
- (ii) Missing and mismatching dimensions, if any, may be suitably assumed.
- (iii) Follow the SP: 46, 2003 revised codes. (with First angle method of projection)
- (iv) In no view of question 1, are hidden edges or lines required.
- (v) In question 3, hidden edges or lines are to be shown in views without section.

- Q1. A. Draw an isometric scale. 4
- B. Draw the Isometric projection to isometric scale of a frustum of a pentagonal pyramid, base side 40 mm, top side 50 mm and height 70 mm rests on HP on its smaller side and axis perpendicular to HP. One of the base sides of the pentagon is perpendicular to VP. 7
- C. Draw an Isometric Projection of a vertical regular pentagonal pyramid resting centrally, having one base edge away from the observer parallel to V.P., on top of a vertical cylinder. Side of the pentagon = 32 mm, height of pyramid = 50 mm, diameter of cylinder = 76 mm and height of cylinder = 40 mm 13
- Q2. A. Draw to scale 1:1, the Front View, Top View and right side view of a hexagonal headed bolt of diameter 25mm with hexagonal nut and washer, keeping the axis parallel to V.P and H.P 8
- B. Sketch freehand the Front view and Top view of a Plain stud of diameter = 20mm, keeping its axis vertical. 5
- Q3 The figure shows the details of BUSHED BEARING. Assemble the parts correctly and draw the following views to scale 1:1 28
- a. Front view, left half in section

b. Right side view

Print title, draw projection symbol and scale used. Mark all dimensions



Q4. Answer the following Multiple Choice Questions and Print them on your answer sheet-

5

1. thread is used in railway carriages.

- a. Square
- b. BSW
- c. Triangular
- d. Knuckle

2. The angle between true length and isometric length on isometric scale is.....

- a. 30°
- b. 15°
- c. 25°
- d. 60°

3. The taper in the cotter, keeps the joint alive even after some wear that takes place in the joint as
- a. The gap generated is automatically filled by the self-travel of the cotter.
 - b. The taper prevents the sliding of the cotter when inserted in the rods.
 - c. It connects the two rods rigidly in the direction of their length.
 - d. All of the above
4. fasteners are temporary fasteners.
- a. Threaded
 - b. Welded
 - c. Riveted
 - d. Forged
5. has only one point of contact with the plane of rest.
- a. Cylinder
 - b. Cone
 - c. Sphere
 - d. Pyramid

******END OF THE QUESTION PAPER******

8/19

ROLL NUMBER				
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SET	B
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HALF YEARLY EXAMINATION 2022
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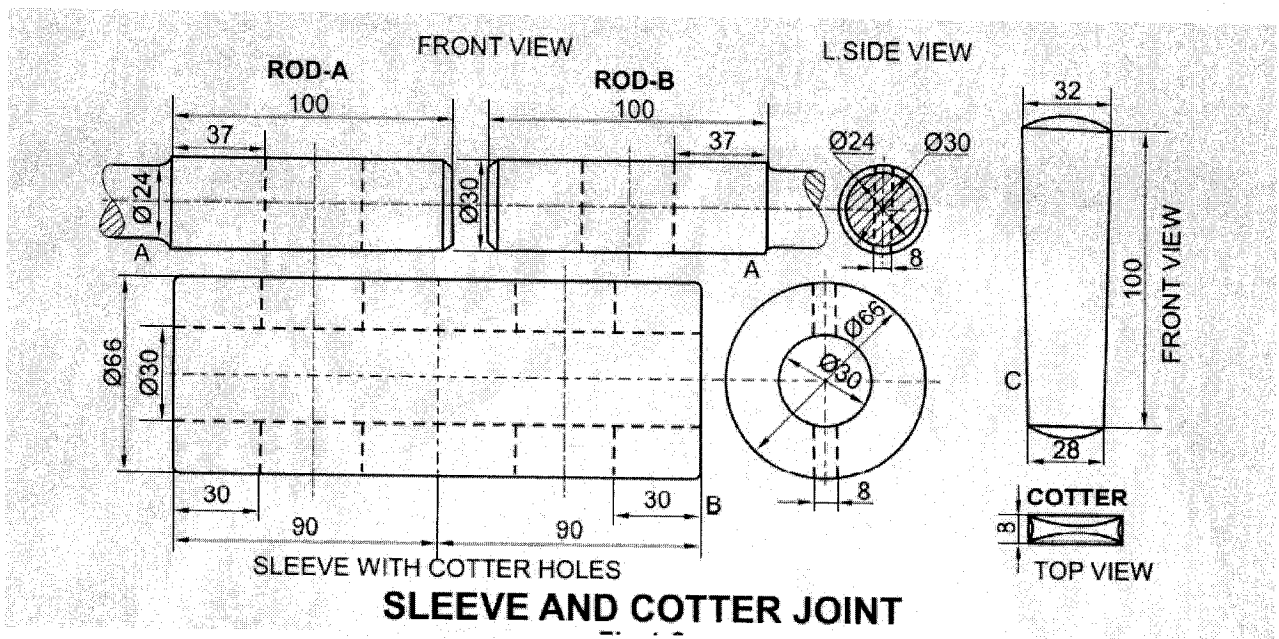
TIME ALLOTTED : 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

- (i) All dimensions are in millimetres.
- (ii) Missing and mismatching dimensions, if any, may be suitably assumed.
- (iii) Follow the SP: 46, 2003 revised codes. (with First angle method of projection)
- (iv) In no view of question 1, are hidden edges or lines required.
- (v) In question 3, hidden edges or lines are to be shown in views without section.

1. A. Draw an isometric scale. 4
 B. Draw the isometric projection of a frustum of a cone of diameter 30 mm at smaller end, 7
 diameter 50 mm at bigger end and the axial height is 70 mm. It is resting on its bigger end
 on H.P. keeping its axis vertical
 C. Draw an Isometric Projection of an equilateral triangular pyramid resting vertically and
 centrally with one base edge, at the back, parallel to V.P. on the top face of a hexagonal 13
 prism having two of its rectangular faces parallel to V.P. Side of the triangle = 34 mm,
 height of pyramid = 50 mm, side of the hexogen = 30 mm and height of the prism = 60 mm.
2. A. Draw to scale 1:1, the Front View, Top View and side view of a hexagonal headed bolt of 8
 diameter 25mm with hexagonal nut and washer, keeping the axis parallel to V.P and H.P
 B. Sketch freehand the Front view and Top view of a Plain stud of diameter = 20mm, keeping 5
 its axis vertical
3. The figure shows the details of SLEEVE AND COTTER ROD JOINT. Assemble the parts 28
 correctly and draw the following views to scale 1:1
 a. Front view, lower half in section
 b. Right side view

Print title, draw projection symbol and scale used. Mark all dimensions



4. Answer the following Multiple Choice Questions and Print them on your answer sheet-

5

1. thread is used in railway carriages.
 - a. Square
 - b. BSW
 - c. Triangular
 - d. Knuckle
2. The angle between true length and isometric length on isometric scale is.....
 - a. 30°
 - b. 15°
 - c. 25°
 - d. 60°
3. The taper in the cotter, keeps the joint alive even after some wear that takes place in the joint as
 - a. The gap generated is automatically filled by the self-travel of the cotter.
 - b. The taper prevents the sliding of the cotter when inserted in the rods.
 - c. It connects the two rods rigidly in the direction of their length.
 - d. All of the above

4. fasteners are temporary fasteners.
- a. Threaded
 - b. Welded
 - c. Riveted
 - d. Forged
5. has only one point of contact with the plane of rest.
- a. Cylinder
 - b. Cone
 - c. Sphere
 - d. Pyramid

******END OF THE QUESTION PAPER******

8/199

ROLL NUMBER				
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SET	C
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**INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022
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SUBJECT CODE : 046**



CLASS : XII
DATE: 20.09.2022

TIME ALLOTTED : 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

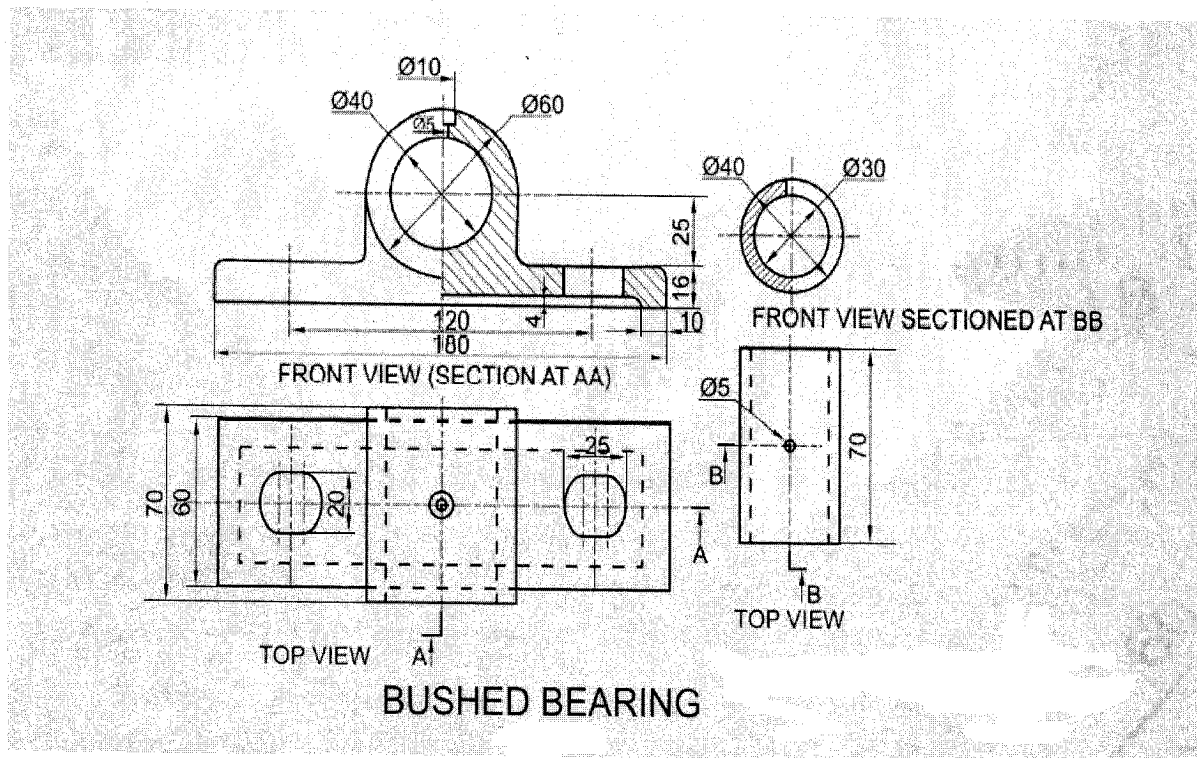
- (i) *All dimensions are in millimetres.*
- (ii) *Missing and mismatching dimensions, if any, may be suitably assumed.*
- (iii) *Follow the SP: 46, 2003 revised codes. (with First angle method of projection)*
- (iv) *In no view of question 1, are hidden edges or lines required.*
- (v) *In question 3, hidden edges or lines are to be shown in views without section*

1. A. Draw an isometric scale. 4
B. Draw the Isometric projection to isometric scale of a frustum of a pentagonal pyramid, base side 40 mm, top side 50 mm and height 70 mm rests on HP on its smaller side and axis perpendicular to HP. One of the base sides of the pentagon is perpendicular to VP. 7
C. Draw an Isometric Projection of a vertical regular pentagonal pyramid resting centrally, having one base edge away from the observer parallel to V.P., on top of a vertical cylinder. Side of the pentagon = 32 mm, height of pyramid = 50 mm, diameter of cylinder = 76 mm and height of cylinder = 40 mm 13
2. A. Draw to scale 1:1, the Front View, Top View and right side view of a hexagonal headed bolt of diameter 25mm with hexagonal nut and washer, keeping the axis parallel to V.P and H.P. 8
B. Sketch freehand the Front view and Top view of a Plain stud of diameter = 20mm, keeping its axis vertical. 5

3. The figure shows the details of BUSHED BEARING. Assemble the parts correctly and draw the following views to scale 1:1 28

- Front view, left half in section
- Right side view

Print title, draw projection symbol and scale used. Mark all dimensions



4. Answer the following Multiple Choice Questions and Print them on your answer sheet- 5

1. thread is used in railway carriages.

- Square
- BSW
- Triangular
- Knuckle

2. The angle between true length and isometric length on isometric scale is.....

- 30°
- 15°
- 25°
- 60°

3. The taper in the cotter, keeps the joint alive even after some wear that takes place in the joint as
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 - d. Forged
5. has only one point of contact with the plane of rest.
- a. Cylinder
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 - c. Sphere
 - d. Pyramid

******END OF THE QUESTION PAPER******

