Roll Number		

SET A

INDIAN SCHOOL MUSCAT
FINAL TERM EXAMINATION
ENGINEERING GRAPHICS

CLASS: XI Sub. Code: 046 Time Allotted: 3 Hrs

21.02.2019 Max. Marks: 70

GENERAL INSTRUCTIONS

- Attempt all questions.
- Follow SP-46-1988 Codes. Use First angle projection method.
- Missing and mismatching dimensions should be suitably assumed.
- All dimensions are in millimeters.
- Use both the sides of the drawing sheet.
- Neatness and clarity of constructions will be duly rewarded

1. Construct a square, given the sum of a diagonal and a side = 80 mm. 03

2. Construct a pair of indirect (interior) tangent to two circles of diameter 50 mm and 40 mm which are at a distance of 55 mm. 04

3. Construct a parabola by intersecting lines method. Given base = 80 mm and axis = 70 mm. 07

4.a) 04

I. Point A, 25 mm in front of VP and 15 mm above HP.

II. Point B, in the HP and 25 mm behind VP

III. Point C, 25 mm below HP and 35 mm behind the VP.

IV. Point D, in the VP and 35 mm above the HP

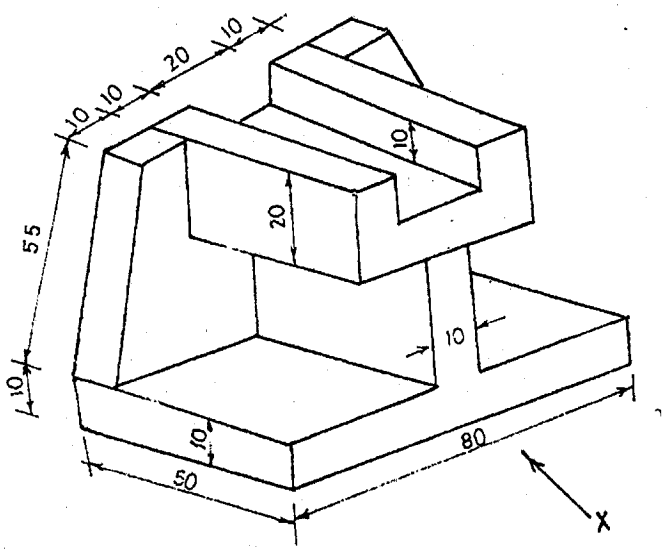
4.b) An Isosceles triangular plate of 50 mm base side and 75 mm altitude appears as an equilateral triangle of 50 mm side in the top view. Draw the projections of the plate. 06

5. A right regular pentagonal pyramid edge of base 30 mm and axis 65 mm long is 10

held on VP on one of its slant edges such that a plane containing the edge and axis of the pyramid is perpendicular to VP and inclined at 45° to HP. Draw the front view and top view of the pyramid when the vertex is kept towards the HP.

6. A right regular pentagonal prism, side of base 25 mm and height 65 mm rests on an edge of its base on the HP, such that a rectangular face containing the base edge is inclined at 30° to the HP. A section plane perpendicular to the HP and inclined at 45° to the VP cuts the prism such that longer edge farthest away from the VP is bisected. Draw the following views of the prism a) Top view b) Sectional front view c) True shape of the section. 12

7. Isometric view of a block is show in the following figure. Draw front view, top view and right side view of a block in first angle projection. 10



8. Construct an Isometric Scale. Construct the isometric projection of a circle of 60 mm diameter, having its surface perpendicular to HP and VP. 8

9. Draw total development surface of a hexagonal prism having its base edges 25mm and height of 50mm. 6

End of the Question Paper

Roll Number		

SET B

INDIAN SCHOOL MUSCAT
FINAL TERM EXAMINATION
ENGINEERING GRAPHICS

CLASS: XI | Sub. Code: 046 | Time Allotted: 3 Hrs

21.02.2019 | Max. Marks: 70

GENERAL INSTRUCTIONS

- Attempt all questions.
- Follow SP-46-1988 Codes. Use First angle projection method.
- Missing and mismatching dimensions should be suitably assumed.
- All dimensions are in millimeters.
- Use both the sides of the drawing sheet.
- Neatness and clarity of constructions will be duly rewarded

1. Construct a rhomboid given the diagonals = 80 mm and 50 mm. Angle between the diagonals = 60°. 03

2. Draw an arc of radius 70 mm tangentially externally to a circle of radius 20 mm and internally to another circle of radius 30 mm. The centers of two circles are 60 mm apart. Also mark the point of tangency. 04

3. A circle of diameter 50 mm rolls along a straight line without slipping. Draw the curve traced by a point 'P' on the circumference for one complete revolution of the circle 07

4.a) I. Point D, in the VP and 35 mm above the HP. 04

II. Point E, 15 mm behind the VP and 25 mm above the HP.

III. Point F, 25 mm in front of the VP and 25 mm below the HP.

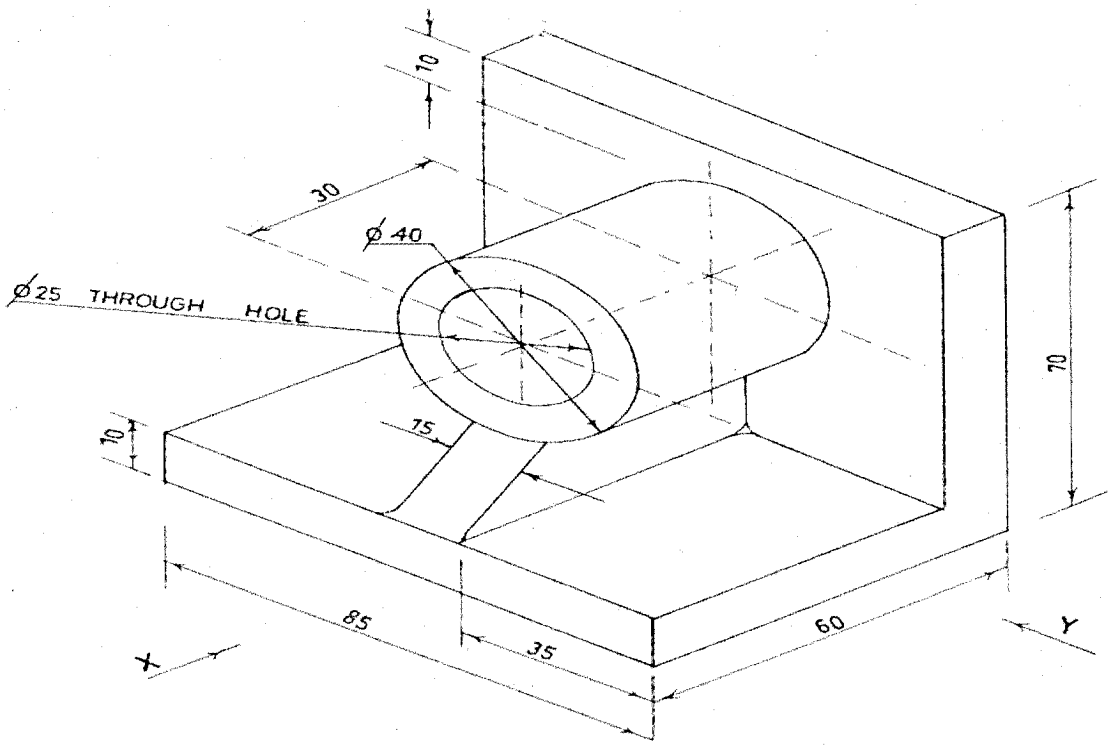
IV. Point G, in the both HP and VP.

4.b) Draw the projections of a regular pentagon of 40 mm side, having its surface inclined at 30° to the HP and a side parallel to the HP. 06

5. A square pyramid, side of base 30 mm and length of axis 56 mm is held such that its vertex is in HP and is 48 mm in front of VP. One of its slant edges is vertical and triangular face bounded by the slant edge is perpendicular to the VP. Draw the projections of the pyramid. 10

6. A cylinder, 50 mm diameter and 70 mm long, has the axis parallel to both the HP and VP. A Section plane, perpendicular to the HP and inclined at 45° to the VP cuts the axis at a distance of 52 mm from its base. Draw the following views a) Top view b) Sectional Front view c) True shape of the section. 12

7. Isometric view of a block is show in the following figure. Draw front view, top view and right side view of a block in first angle projection. 10



8. Construct an Isometric Scale. Construct the isometric projection of a circle of 60 mm diameter, having its surface parallel to HP. 8

9. Draw total development surface of a pentagonal prism having its base edges 25mm and height of 50mm. 6

End of the Question Paper

Roll Number		

SET C

INDIAN SCHOOL MUSCAT
FINAL TERM EXAMINATION
ENGINEERING GRAPHICS

CLASS: XI | Sub. Code: 046 | Time Allotted: 3 Hrs

21.02.2019 | Max. Marks: 70

GENERAL INSTRUCTIONS

- Attempt all questions.
- Follow SP-46-1988 Codes. Use First angle projection method.
- Missing and mismatching dimensions should be suitably assumed.
- All dimensions are in millimeters.
- Use both the sides of the drawing sheet.
- Neatness and clarity of constructions will be duly rewarded

1. Construct a rhomboid given the diagonals = 80 mm and 50 mm. Angle between the diagonals = 60°. 03

2. Construct a pair of indirect (interior) tangent to two circles of diameter 50 mm and 40 mm which are at a distance of 55 mm. 04

3. A circle of diameter 50 mm rolls along a straight line without slipping. Draw the curve traced by a point 'P' on the circumference for one complete revolution of the circle 07

4.a) I. Point A, 25 mm in front of VP and 15 mm above HP. 04

II. Point B, in the HP and 25 mm behind VP

III. Point C, 25 mm below HP and 35 mm behind the VP.

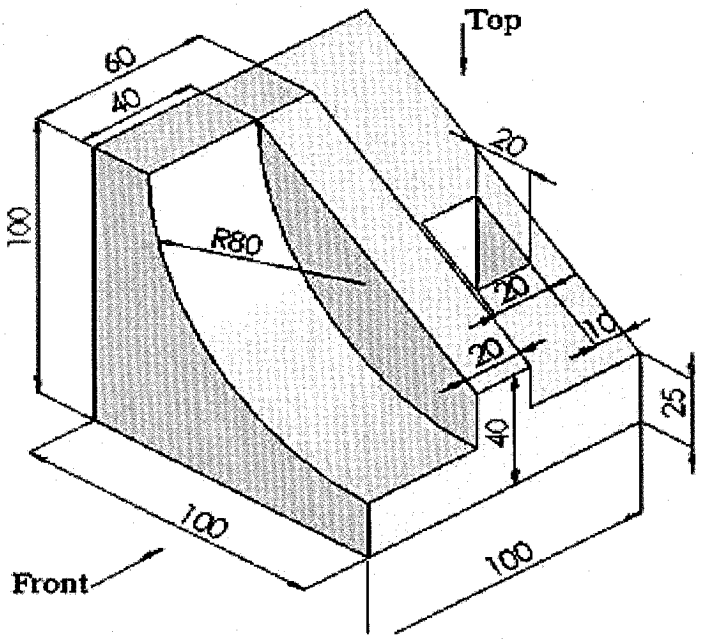
IV. Point D, in the VP and 35 mm above the HP

4.b) Draw the projections of a regular pentagon of 40 mm side, having its surface inclined at 30° to the HP and a side parallel to the HP. 06

5. A right regular pentagonal pyramid edge of base 30 mm and axis 65 mm long is held on VP on one of its slant edges such that a plane containing the edge and axis of the pyramid is perpendicular to VP and inclined at 45° to HP. Draw the front view and top view of the pyramid when the vertex is kept towards the HP. 10

6. A cylinder, 50 mm diameter and 70 mm long, has the axis parallel to both the HP and VP. A Section plane, perpendicular to the HP and inclined at 45° to the VP cuts the axis at a distance of 52 mm from its base. Draw the following views a) Top view b) Sectional Front view c) True shape of the section. 12

7. Isometric view of a block is show in the following figure. Draw front view, top view and right side view of a block in first angle projection. 10



8. Construct an Isometric Scale. Construct the isometric projection of a circle of 60 mm diameter, having its surface parallel to VP. 8

9. Draw total development surface of a Hexagonal pyramid having its base edges 25mm and height of 50mm. 6

End of the Question Paper