



METAL CONSTRUCTION DRAWING 1
5410

JUNE XXXX

INTERMEDIATE LEVEL

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|-------------------------|-----------------------------------|
| Subject Title | METAL CONSTRUCTION DRAWING |
| Subject Code No. | 5410 |
| Paper No. | ONE |

Mobile phones are **NOT** allowed in the examination room.

5410 WELDING FABRICATION 1: MULTIPLE CHOICE QUESTION PAPER

1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the examination begins:

3. Check that this question booklet is headed "Intermediate Level – 5410 METAL CONSTRUCTION DRAWING 1."
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

Candidate Name, Exam Session, Subject Code, Centre Number and Candidate Number.

Take care that you do not erase or fold the answer sheet or make any marks on it other than those asked for in these instructions.

How to answer the questions in this examination:

6. Answer **ALL** the **50** questions in this Examination. All questions carry equal marks.
7. Each question has FOUR suggested answers: **A, B, C** and **D**. Decide which answer is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.
For example, if **C** is your correct answer, mark **C** as shown below:
[A] [B] [C] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
10. Do all rough work in this booklet, using, where necessary, the blank spaces in the question booklet.
11. **You must not take this booklet and the answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination.**

Turn Over

1. Identify the type of circles in figure 1 below.

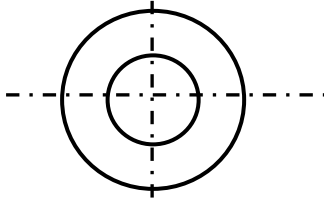


Figure 1

- A Tangent circles
- B Secant circles
- C Concentric circles
- D Axial circles

2. The element which is not a drawing instrument is a/an

- A Paper
- B eraser
- C Divides
- D Compass

3 Identify the line G in figure 2 below.

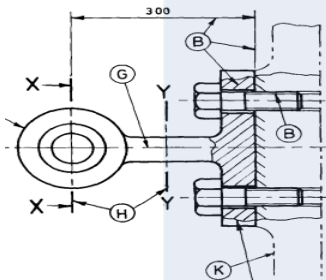


Figure 2

- A Thick long chain
- B Extension line
- C Thick line
- D Thin long chain line

4. The importance of good lettering is to

- A identify the part of a drawing
- B use for finishing of a drawing
- C enhance the appearance of a drawing
- D start a drawing

5. Select from the list below the standard dimensions of an A3 paper.

- A 420×297
- B 297×210
- C 594×420
- D 841×594

6. The use of a tracing paper is to

- A carry out drawing
- B help us finish faster
- C help and increase the speed of drawing
- D reprint drawing from another paper

7. Which type of line is use to draw boarder lines

- A Thin line
- B Thick line
- C Thick wavy line
- D Thick long chain

8. What item is not included on the title block

- A Dimension
- B Scale
- C Method of projection
- D Name

9. Identify among the scale below a reducing scale

- A 2/3
- B 60:3
- C 1:1
- D 4:1

10. Identify the type of projection in figure 3 below

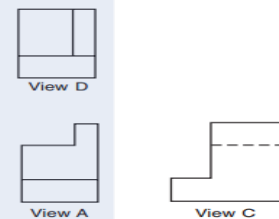


Figure 3

- A First angle projection
- B Second angle projection
- C Third angle projection
- D Fourth angle projection

11. Identify the symbol for first angle projection

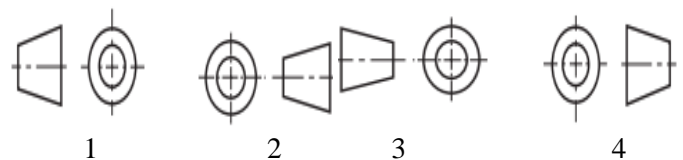


Figure 4

- A 4
- B 1
- C 2
- D 3

12. Identify the nature of the lines below when it on a 16. The lines which radiate from S to the base on the elevation and plan respectively are called

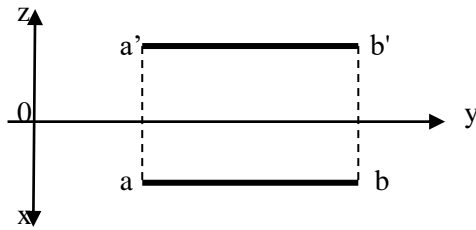


figure 5

- A Fronto-horizontal line
B Horizontal line
C Frontal line
D Vertical line

13. calculate the value of X in the figure 6 below

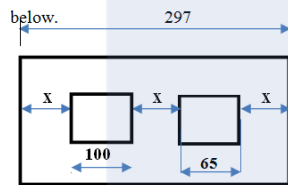


Figure 6

- A 4.4
B 44
C 197
D 232

14. Identify the true length (TL) from figure 7 below

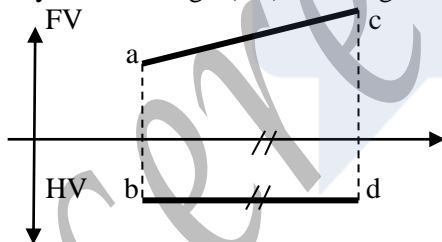


Figure 7

- A Front view
B Horizontal view
C Profile view
D Vertical fronto-horizontal view

15. Identify among the following views below which of the view is the top view of a cone

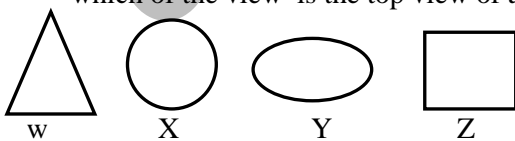


figure 8

- A W
B X
C Y
D Z

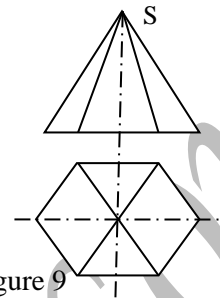


Figure 9

- A Base lines
B Plan lines
C Elevation
D Generator lines

17. Identify among the list of views below a front view

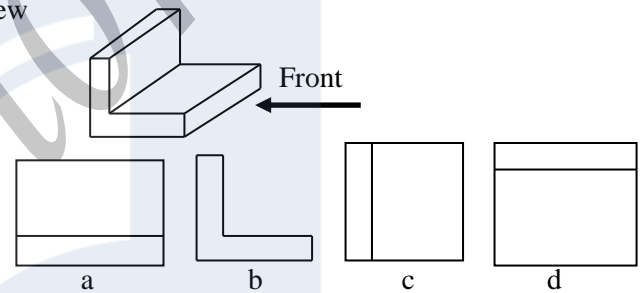


figure 10

- A c
B a
C d
D b

18. In an oblique drawing all of the following angles are commonly used for drawing the depth axis except

- A 45^0
B 90^0
C 30^0
D 15^0

19. Identify an advantage of an oblique projection

- A oblique projection is drawn on an angle of 90^0
B Circle appears on all faces of the drawing as an ellipse
C The drawing are simple to draw
D Curves and circles which appear on the front elevation can be drawn with compass from their true centre

20. A circle appears on an isometric drawing as a/an

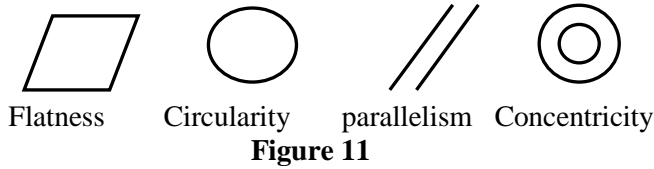
- A Hyperbola
B Parabola

Turn over

- C Ellipse
D Circle

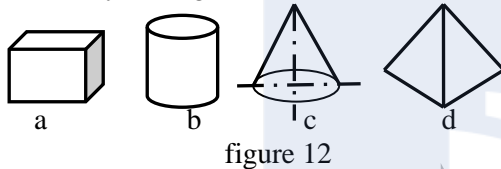
- B d
C a
D c

21. Identify the geometric tolerance of orientation in figure 11 below.



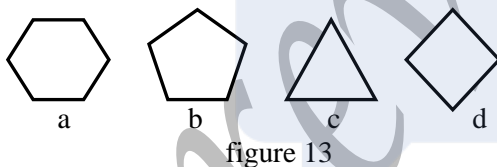
- A parallelism
B Flatness
C Circularity
D Concentricity

22. Identify among the sketches below a cone



- A d
B c
C b
D a

23. Select between the sketches below a pentagon

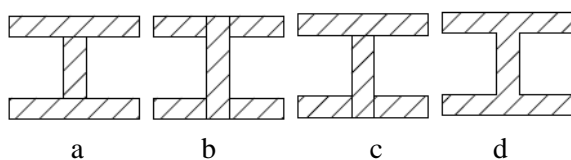


- A c
B a
C d
D b

24. The type of drawing having two or more pieces is a/an

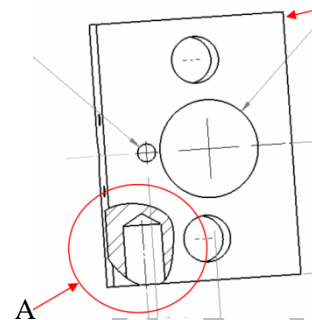
- A Assembly drawing
B Sketch drawing
C Definition drawing
D Free hand drawing

25. Identify the correct cross-section of the materials below



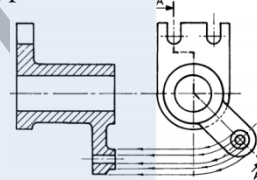
- A b

26. the type of sectional view a detail A is



- A Full section
B Half section
C Broken out section
D Revolved section

27. Identify the type of sectional view obtained from section A-A



- A Aligned section
B Revolved section
C Broken-out section
D Half section

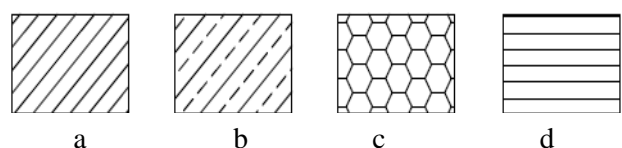
28. The primary unit of measurement in engineering and design in a mechanical industry is the

- A Millimetre
B Centimetre
C Meter
D Kilometre

29. At what distance should dimension lines be drawn away from out lines in a design

- A 5mm
B 6mm
C 7mm
D 8mm

30. Identify among the cross-section which one of them is cast iron



- A a
B c

C d
D b

D Position of shaft

31. Identify the section materials below which of them is aluminum.

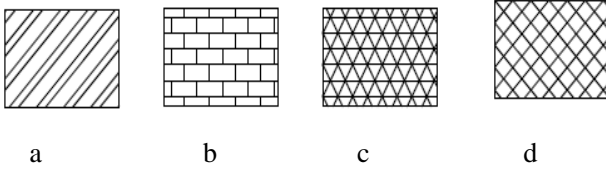


figure 18

A c
B a
C d
D b

32. What do you understand as complete link

- A This when there is a relative movement between the pieces held together
- B a joint where there is no relative movement between the pieces held together
- C The joint is characterise by partial and dismantable
- D Its character is by partial joint permanent

33. A dismantable link can

- A be separated by a spanner
- B not be separated by a chisel
- C be separated by a hacksaw
- D be separated by a hammer

34. A Metric thread of 10mm diameter is represented by

- A 10m
- B M10
- C m×10
- D 10m

35. The symbol of the screw in Figure 19 below

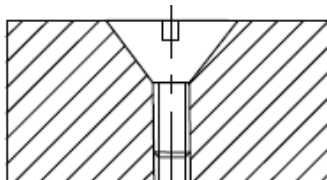


figure 19

- A F/90
- B FB/90
- C FHC/90
- D HM

36. Given an adjustment $\phi 30H7/p6$, the meaning of H is

- A Shaft limit
- B Hole limits
- C Position of hole

37. Calculate the minimum clearance of the adjustment $\phi 35H7/g6$ where $\phi 35H7 = 35^{+0.025}_0$ and $\phi 35g6 = 35^{+0.009}_{-0.025}$

- A +0.005
- B -0.009
- C +0.009
- D -0.005

38. choose the symbol for flatness from figure 20 Below.

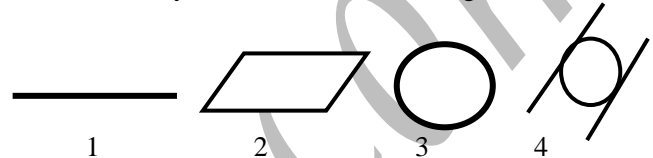


figure 20

- A 1
- B 3
- C 2
- D 4

39. choose the symbol of concentricity of the figure 21

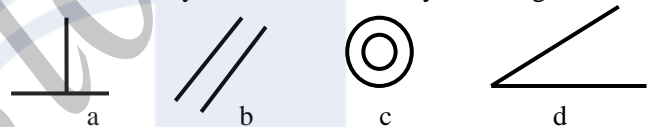


figure 21

- A a
- B b
- C c
- D d

40. Select among the symbols of fasteners, which one symbolizes hexagonal head screw.

- A F/90
- B Q
- C H
- D Q

41. The following are solids of revolution except

- A cylinder
- B Sphere
- C Cone
- D Prism

42. The section formed when a cone is cut with a plane parallel to its base

- A hyperbola
- B circle
- C ellipse
- D parabola

43. The method which can be used to develop the right cylinder in figure 22 below is

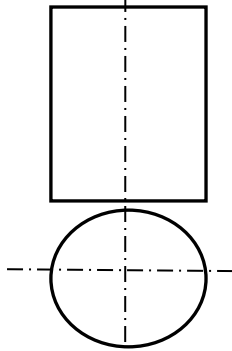


figure 22

- A Radial line
- B Triangulation
- C Parallel lines
- D Projection lines

44. The method used to develop composite pieces is

- A Approximation
- B Triangulation
- C Radial lines
- D Parallel lines

45. Identify the method used for development of cones

- A Radial lines method
- B Triangulation method
- C Square method
- D Parallel lines method

46. Cylinder when cut by a plane perpendicular to its base the section will be

- A parabola
- B Circle
- C Ellipse
- D Rectangle

47. Explain the welding symbol placed on figure 23 below

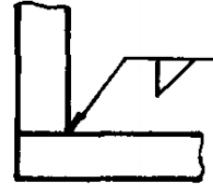


figure 23

- A Fillet weld be done on the arrow side
- B Fillet weld be done opposite the arrow
- C Fillet weld be done on both sides
- D Fillet weld be done out of the workshop

48. The method that will be used to complete the elevation of the intersection of a revolutionary cone and a cylinder is

- A Rotational
- B Radial
- C Triangular
- D parallel

49. Identify the geometric figure in which the generator lines are parallel

- A Cylinder
- B Cone
- C Torus
- D Pyramid

50. Indicate the formula for calculating the hypotenuse of the triangle in figure 24 below.



Figure 24

- A $AB = AC^2 + CB^2$
- B $AB^2 = AC^2 + BC^2$
- C $AB^2 = AC - BC$
- D $AB^2 = AC^2 - BC^2$