GENERAL CERTIFICATE OF EDUCATION BOARD

Technical and Vocational Education Examination

Engineering Drawing 1
5315

JUNE 2023 **INTERMEDIATE LEVEL**

Specialty Name and Acronym	**Electrical specialties (EPS,ELN & HVAC)**
Centre No	
Centre Name	
Candidate Identification No.	
Candidate Name	

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

5315 ENGINEERING DRAWING 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** – 5315 ENGINEERING 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.**

1. In Technical Drawing, the surfaces, the edges and the contours of objects are represented using

A dots
B lines
C arcs
D arrows

2. A drawing that shows the various parts of a mechanism in the correct working positions is called a/an

A assembly drawing
B exploded drawing
C schematic drawing
D pictorial drawing

3. What name is given to the reference X in the drawing in figure 1 below?

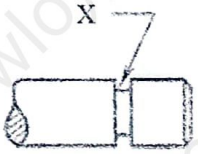

Figure 1

A shoulder
B groove
C chamfer
D key way

4. The drawing instrument shown in figure 2 below is called a

Figure 2

A compass
B protractor
C set square
D dividers

5. Which of the instruments in figure 3 below is **NOT** a drawing instrument?

Figure 3

A T2
B T1
C T4
D T3

6. If V stands for vertical dimension and H for horizontal dimension, which pair of dimensions corresponds to those of A4 V?

A V = 210 mm, H = 297 mm
B V = 420 mm, H = 297 mm
C V = 297 mm, H = 420 mm
D V = 297 mm, H = 210 mm

7. An A4V paper is presented as shown in figure 4 below. The lower part is reserved for

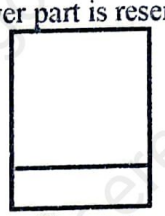

Figure 4

A graphic zone
B nomenclature
C title block
D border line

8. Letters **b** and **p** are written within guide lines as shown in figure 5 below. Letter **b** lies between

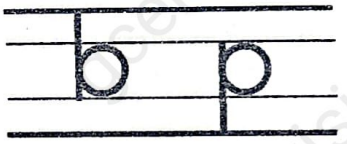

Figure 5

A cap line and waist line
B cap line and base line
C waist line and base line
D cap line and drop line

9. Which of the lettering characteristic interpretation corresponds to the letter h?

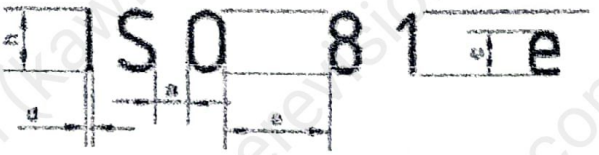

Figure 6

A lettering height
B spacing between characters
C minimum spacing between words
D height of lower case letters

10. The continuous thick line in figure 7 below is used to represent

Figure 7

A hatching line
B visible Outlines
C hidden outlines
D centre lines

11. The lines with arrow heads in figure 8 below are used as

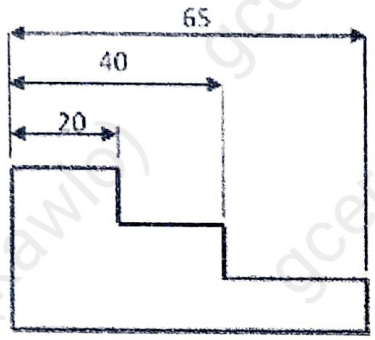

Figure 8

A dimension lines
B extension lines
C leader lines
D reference lines

12. A drawing executed to a scale of 1:2 is described as

A stretched to half its true size
B enlarged twice its true size
C reduced to half its true size
D stretched to twice its true size

13. The drawing in figure 9 below shows that, when viewed from the point P, the plane ABCD is a/an _____ of EFGH.

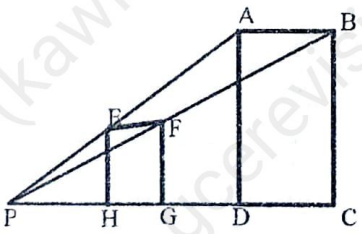

Figure 9

A reduction
B stretch
C shear
D enlargement

14. The advantage of the tolerance dimensions applied to the component in Figure 10 below is to ensure the

Figure 10

A interchangeability of parts
B correct functioning of parts
C production of the component
D nice to know information only

Questions 15 and 16 refer to figure 11 below.

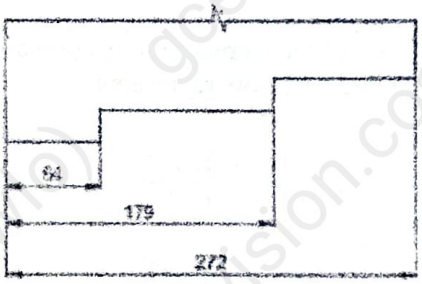

Figure 11

15. Identify the type of dimensioning arrangement on the drawing.

A Chain dimensioning
B Parallel dimensioning
C Combined dimensioning
D Straight dimensioning

16. The surface from where all dimensions are taken is known as

A reference surface
B starting surface
C dimension surface
D datum

17. The pictorial drawing in figure 12 below represents a/an

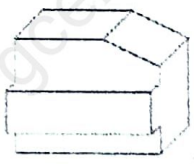

Figure 12

A oblique drawing
B front view drawing
C perspective drawing
D isometric drawing

18. The geometrical shape formed when two planes intersect as shown in figure 13 below is a

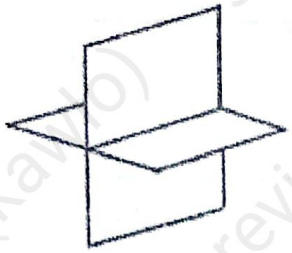

Figure 13

A plane
B line
C dot
D quadrant

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19. A view of the isometric projection as shown in figure 14 below represents

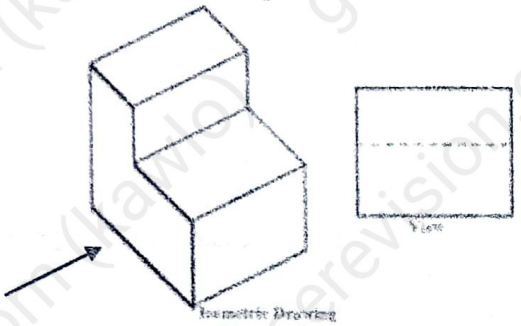

Figure 14

A Left view
B Top view
C Bottom view
D Right view

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20. Identify the type of projection used to draw the box in figure 15 below.

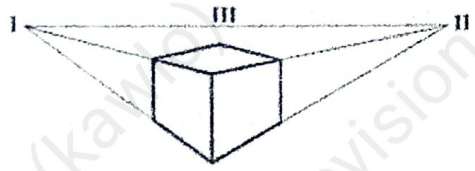

Figure 15

A Oblique
B Isometric
C Perspective
D Planometric

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21. The symbol shown in figure 16 below represents

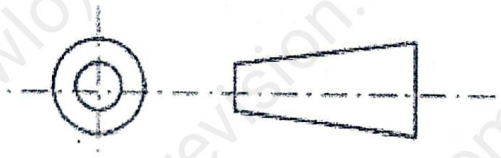

Figure 16

A First angle projection
B Right angle projection
C Second angle projection
D Third angle projection

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22. Select the hatching convention that represents copper alloys in figure 17 below.

Figure 17

A 1
B 2
C 3
D 4

---

23. The piece shown in section in figure 18 below reveals _____ threads

Figure 18

A internal screw
B convention of external
C external screw
D convention of internal

---

24. Which type of section is presented in figure 19 below?

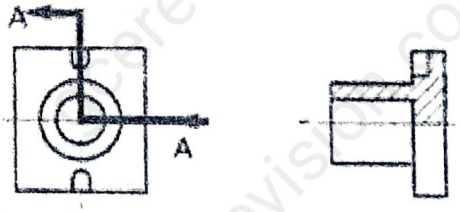

Figure 19

A Removed section
B Offset section
C Half section
D Broken out section

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25. Choose the material represented by the hatching convention in figure 20 below

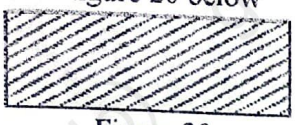

Figure 20

A Steel and ferrous alloys
B Copper and alloys
C Rubber material
D Wood

26. Choose the shape which does not match with the name inscribed in it in figure 21 below.

Figure 21

A 1
B 2
C 3
D 4

27. The shape in figure 22 below is called a

Figure 22

A pyramid
B truncated cone
C conical cone
D cylinder

28. A Nonagon is a polygon with
A 5 sides
B 8 sides
C 9 sides
D 6 sides

29. In figure 23 below, the line OE is called bisector of angle

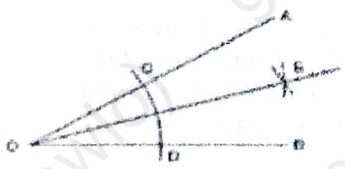

Figure 23

A AOB
B COE
C AOE
D EOB

30. How many right-angled triangles are found inside the circle in figure 24 below?

Figure 24

A 3
B 1
C 6
D 2

31. The symbol in figure 25 below is a line diagram of a _____ link.

Figure 25

A pivot
B sliding
C sliding pivot
D helical

32. The symbol in figure 26 below is a geometrical tolerance for

Figure 26

A Concentricity
B Cylindricity
C Straightness
D Flatness

33. The dotted lines in the drawing in figure 27 below show a

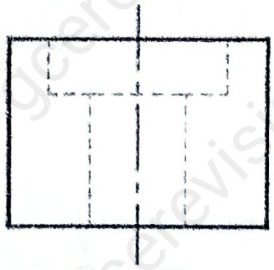

Figure 27

A countersunk hole
B flat key hole
C hexagonal screw hole
D counter bore hole

34. The number and nature of movements permitted by the link between piece 1 and piece 2 in figure 28 below are:

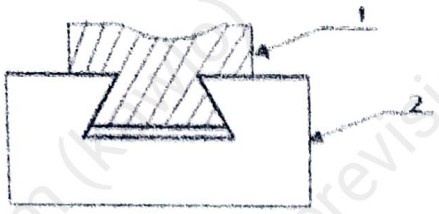

Figure 28

A 1 Translation, 0 Rotation
B 0 Translation, 1 Rotation
C 1 Translation, 1 Rotation
D 0 Translation, 0 Rotation

35. The function of piece 1 in figure 29 below is to enable the shaft and the hub to rotate together by

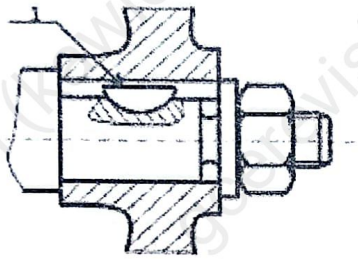

Figure 29

A friction
B obstacle
C adhesion
D cohesion

36. Choose the name of the type of bearing labeled F in figure 30 below

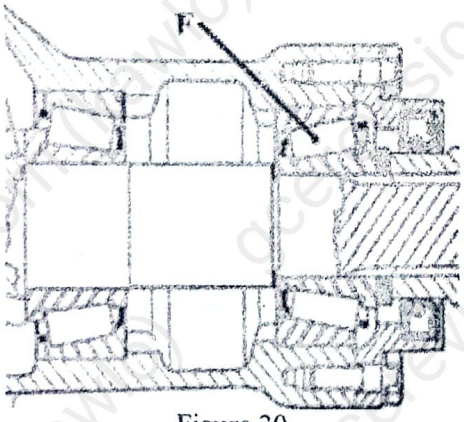

Figure 30

A Ball bearing
B Tapered roller bearing
C Needle bearing
D Self-aligning ball bearing

Questions 38 and 39 refer to figure 31 below

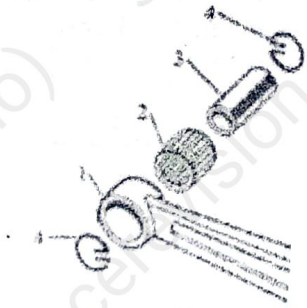

Figure 31

37. Which of the parts represents a circlip (retaining ring)?

A 4
B 2
C 1
D 3

38. A needle sleeve bearing is denoted by number

A 1
B 2
C 3
D 4

39. Identify the characteristic that is not true of the link between pieces 3 and 2 in figure 32 below.

Figure 32

A Dismountable
B Elastic
C Indirect
D Complete

40. The Maximum allowance between a Hole and a Shaft is calculated by

A Upper limit Hole - Lower limit Shaft
B Lower limit Shaft - Upper limit Hole
C Lower limit Shaft + Upper limit Hole
D Upper limit Hole + Lower limit Shaft

41. The Minimum allowance between a hole and a shaft is calculated by

A Lower limit Shaft + Upper limit Hole
B Lower limit Hole + Upper limit Shaft
C Lower limit Hole - Upper limit Shaft
D Lower limit of Shaft - Upper limit Hole

42. Select the most appropriate name for the screw represented in figure 33 below

Figure 33

A Pan head screw
B Round head screw
C Cheese head screw
D Counter sunk head screw

43. The nut in figure 34 below is called a

Figure 34

A slotted hex nut
B Wing nut
C Castle nut
D hexagon nut

44. Identify the mechanical device presented in figure 35 below

Figure 35

A Woodruff key
B Square-end parallel key
C Gib -head key
D Round-end parallel key

45. Determine the carbon content of an unalloyed steel whose designation is C45

A 45%
B 0.45%
C 4%
D 5%

46. The type of fit in a hole and shaft system given by 40 H7/g6 is

A line
B clearance
C interference
D transition

47. Which of the following indicate nominal diameter of hole and shaft fit given by **40H7/g6** ?

A 40
B H7
C G6
D H7/g6

48. Which of the following parts of the screw shown in figure 36 below is not dimensioned?

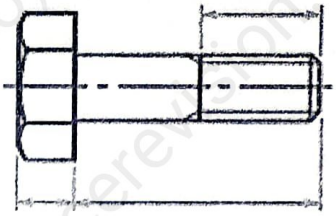

Figure 36

A Head thickness
B Shank
C Total length
D Threaded length

49. Identify a double split washer among the washers shown in figure 37 below

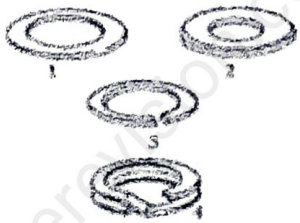

Figure 37

A 1
B 2
C 3
D 4

50. The type of gear assembly shown in figure 38 below is

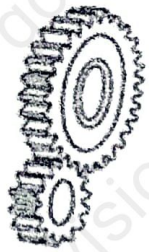

Figure 38

A bevel gears
B helical gears
C spur gears
D worm gear

STOP

GO BACK AND CHECK YOUR WORK.