

GENERAL CERTIFICATE OF EDUCATION BOARD  
Technical and Vocational Education Examination

SHEET METAL WORK 1  
5405

JUNE 2021

INTERMEDIATE LEVEL

Specialty Name (Specialty Acronym)	SHEET METAL WORKS – SM (ME-FE)
Specialty	SHEET METAL - SM
Centre No. & Name	
Candidate identification No	

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

5405 SHEET METAL WORK 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 – 5405 SHEET METAL WORK 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 identification 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. At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet.  
**DO NOT ATTEMPT TO LIVE THE EXAMINATION HALL WITH.**

**Turn Over**

1. In the Company, the terms Hygiene, Safety and Environment are symbolized by:

- A HYSAEN
- B HSE
- C HYSE
- D HSEN

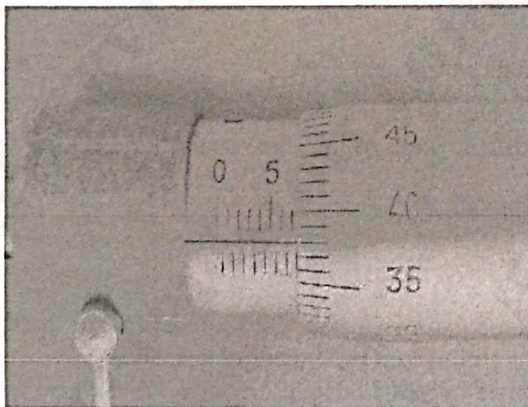
2. Select a Measuring Instrument among the following

- A Thread gauge
- B GO or No GO gauge
- C Micrometre
- D Dial gauge

3. A Vernier Caliper has a precision of  $1/50^{\text{th}}$ , the accuracy is :

- A 0.1mm
- B 0.05mm
- C 0.2mm
- D 0.02mm

4. Give the reading of the instrument below



- A 7.38mm
- B 7.42mm
- C 7.8mm
- D 7.00mm

5. Select among the instruments below that which is suitable for measuring the thickness of sheets and plate.

- A Steel rule
- B Tape
- C Vernier calliper
- D Vernier depth gauge

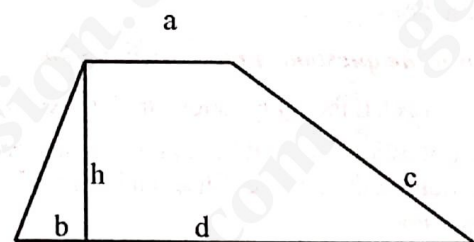
6. The principal measuring unit of weight is.

- A Kg
- B  $\text{Dm}^3$
- C Newton/kg
- D Newton

7. The units below can be used to evaluate the capacity of solids except

- A Meter
- B Kilogram
- C Litter
- D  $\text{Dm}^3$

8. The Area of the trapezium is given by

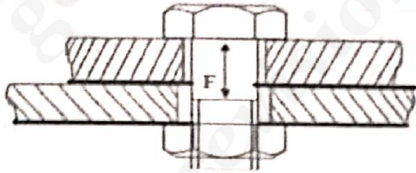


- A  $a \times b \times c \times d \times h$
- B  $a + b + c + d + h$
- C  $\frac{1}{2}(c \times d)$
- D  $\frac{1}{2}(a + d) \times h$

9. The volume of the sheet metal with dimensions  $2000\text{mm} \times 1000\text{mm} \times 1.5\text{mm}$  is.

- A  $30000\text{mm}^3$
- B  $3000\text{mm}^3$
- C  $300000\text{mm}^3$
- D  $3000000\text{mm}^3$

10. Identify in the drawing below the method of assembly

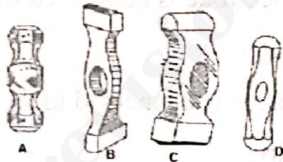


- A Riveting
- B Bolting
- C Screwing
- D welding

11. All the tools below are used in Sheet Metal shop except

- A Stakes and stake holder tools
- B Measuring tools
- C Hand shears or snips
- D Turning tools

12. Which of the hammers below correspond to the appropriate name.

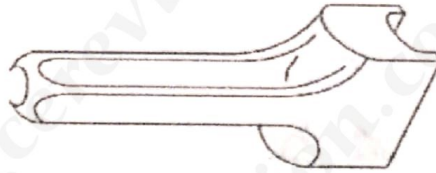


- A Planishing hammer
- B Smoothing Hammer
- C Stretching Hammer
- D Hollowing Hammer

13. Identify the cutting tool among the tools below

- A Plier
- B Snip
- C Divider
- D Trammel points

14. What is the name of the tool below.



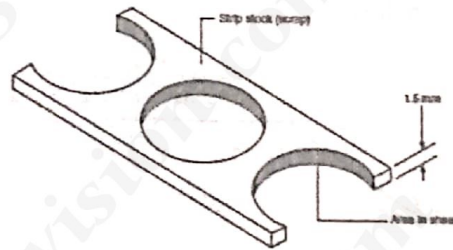
- A Trimming tool
- B Striking tool
- C Hollowing tool
- D Grooving tool

15. Which operation is realized on the sheet below



- A Seam
- B Wired edge
- C Flanged
- D Grooving

16. Select the name of the operation used to obtain the holes below



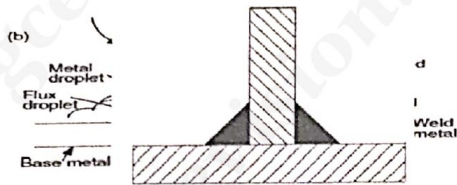
- A Piercing
- B Drilling
- C Punching
- D Perforating

17. Select the operation below that is not a bench work operation

- A Painting
- B Marking out
- C Bending
- D Shearing

Turn over

18. The symbol below represents .



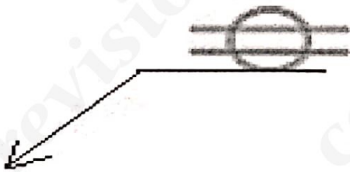
- A Plug weld
- B Fillet weld
- C Square weld
- D Bead weld

19. The weld below is known as .



- A Fillet weld
- B Butt weld
- C Bead weld
- D Slot weld

20. Identify the welding process represented by the symbol below is :



- A Spot welding
- B Seam welding
- C Oxy-fuel welding
- D TIG welding

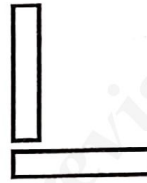
21. Indicate the welding process corresponding to the code 111.

- A Manual metal arc welding
- B Oxy-acetylene welding
- C Manual metal arc welding
- D Metal Inert Gas welding

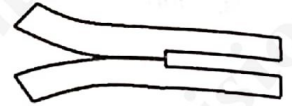
22. Which of the following corresponds to the list of joint below



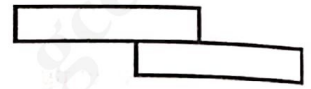
A



C



B



- A Corner joint
- B Butt joint
- C Lap joint
- D Double Lap joint

23. The temperature produced by an electric Arc

Welding is about

- A 500°C to 1500°C
- B 1500°C to 3000°C
- C 3000°C to 4000°C
- D 4000°C to 6000°C

24. In arc welding, the direct current straight polarity (DCSP) is used when

- A The electrode is connected to positive polarity
- B The piece is connected to the positive polarity
- C Both are connected to the positive polarity
- D Both are connected to the negative polarity

25. The welding symbol MAGW represents.

- A Metal active gas Welding
- B Metal arc gas welding
- C Metal Arc Shielded gas Welding
- D Flux Core Arc Welding

26. A non-shielded gas is

- A Argon
- B Helium
- C Carbon dioxide
- D Acetylene

27. The welding which uses shielding gases and non-consumable electrode is known as.

- A TIG welding
- B MIG welding
- C Manual arc welding
- D MAG welding

28. Identify the welding gas given by the code below  $\text{CO}_2$

- A Helium
- B Carbondioxide
- C Acetylene
- D Argon

29. Select the appropriate name of the flame below



- A Neutral flame
- B Reducing Flame
- C Oxidizing flame
- D Carburizing flame

30. Oxidizing flame is good for welding of

- A Brass
- B Aluminium
- C Steel
- D Cast iron

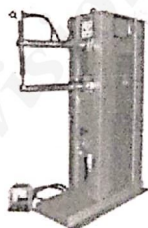
31. The oxy-acetylene welding produces a flame of temperature up to.

- A  $1000^\circ\text{C}$
- B  $2500^\circ\text{C}$
- C  $2800^\circ\text{C}$
- D  $3500^\circ\text{C}$

32. In gas welding process, when the amount of oxygen is equal to the amount of acetylene, the flame is called.

- A Reducing Flame
- B Neutral flame
- C Oxidizing flame
- D Carburizing flame

33. Identify the type of welding machine in the figure below.



- A Electric Arc welding machine

- B MIG welding machine
- C Seam welding machine
- D Spot welding machine

34. Give the chemical formulae of acetylene gas

- A  $\text{C}_2\text{H}_1$
- B  $\text{C}_2\text{H}_2$
- C  $\text{C}_2\text{H}_3$
- D  $\text{C}_2\text{H}_4$

34. Identify among the welding processes below a

welding process that uses non consumable electrode

- A Tungsten inert gas welding
- B Manual metal arc welding
- C Gas welding
- D Resistance spot welding

36. The heat  $H$  generated during resistance welding is

- A  $R^2.I^2.T$
- B  $R^2.I.T$
- C  $R.I^2.T$
- D  $2.R.I.T$

37. The Heat  $H$  generated by a current  $I=120$  amperes under a resistance  $R=1.5\Omega$  for a period of time

$T=0.5\text{sec}$  is:

- A 10800 joules
- B 3436.2 joules
- C 4278.069 joules
- D 51 336 828 joules

38. Give the welding process used to join thin mild steel with the use of copper electrode:

- A Seam welding
- B Flash butt welding
- C Upset butt welding
- D Spot welding

39. Select the welding current I for arc welding using an electrode of Ø3.5mm

- A 125 A
- B 175 A
- C 75 A
- D 50 A

40. The pieces of thickness 1.2mm below are to be joint by welding. Indicate the type of weld joint suitable for it

- A Fillet weld
- B Groove bevel
- C Butt weld
- D Plug weld

41. Identify the welding edge preparation below:

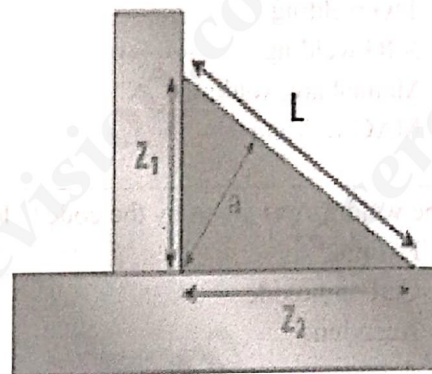


- A V-groove joint
- B Square groove joint
- C Single bevel groove joint
- D Double V-groove joint

42. The Density of Steel is:

- A 7.94 kg/dm<sup>3</sup>
- B 8.94 kg/dm<sup>3</sup>
- C 2.70 kg/dm<sup>3</sup>
- D 7.8 kg/dm<sup>3</sup>

43. The formula for the calculation of the welding area below is given by:



- A  $Z_1 \times Z_2$
- B  $\frac{(Z_1 + Z_2) \times a}{2}$
- C  $\frac{(Z_1 \times Z_2)}{2}$
- D  $Z_1 + Z_2 + L$

44. The symbol below represents:



- A Electrical hazard
- B Explosive
- C Exposure
- D Fire due to flammable liquids

45. Recognize the safety equipment that is not used in welding  
1-Safety shoes 2-gloves 3- painting brush 4- helmet

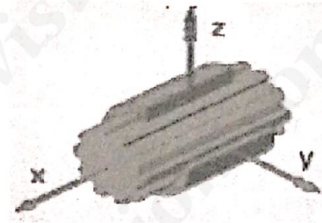


- A Safety shoes
- B Gloves
- C Painting brush
- D Helmet

46. Identify the measuring instrument below.



- A Vernier caliper
- B Micrometre
- C Dial gauge
- D Thread gauge

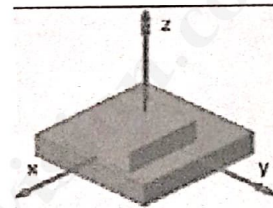


- A 2 degrees of liberty
- B 0 degree of liberty
- C 3 degrees of liberty
- D 1 degree of liberty

47. Among the processes below, State a thermal forming process

- A Milling
- B Cutting
- C Cold rolling
- D Casting

50. The link below is called plane link, select the table corresponding to the different degree of liberty eliminated



	T	R
x	1	0
y	0	0
z	0	0

	T	R
x	0	0
y	0	0
z	0	0

	T	R
x	1	0
y	1	0
z	0	1

	T	R
x	0	1
y	0	1
z	0	1

a                      b                      c                      d

48. The mechanical joint below is known as:



- A Pivot joint
- B Embedded joint
- C Sliding joint
- D Helicoidal joint

49. Identify the number of degree of freedom of the link below.

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

**GO BACK AND CHECK YUOUR WORK**