SASTRI COLLEGE

DEPARTMENT OF ENGINEERING SCIENCE AND TECHNOLOGY

GRADE 9

MARCH CONTROL TEST 2020

TECHNOLOGY

EXAMINER: E MUZA **MODERATOR: I RAMKLOWN**

DATE: 16/03/2020 **MARKS:** 80

Instructions

- Answer all the questions using the given number sequence.
- Use a sharp pencil for all drawings.
- Return page 3 and 4 of the question paper.
- This paper consists of 4pages

SECTION A (Multiple choice)

QUESTION 1

- Answer the following questions by selecting the correct the answer from the given responses.
- Write down only the letter of your chosen response.

1.1 Which term correctly defines a tearing force?

A. Torsion
B. Tension
C. compression
D. shearing

1.2 Another name for Iron Oxide is...

A. Ferrous iron
B. Non-ferrous iron
C. Rust
D. corrosion

1.3 A type of force that acts on a stationery structure is known as?

A. Twisting force
B. Bending force
C. Dynamic force
D. Static force

1.4 Which two types of forces act on a Lintel (horizontal beam) with a load on it?

A. Shear force and compression force
B. Torsion and shearing force
C. compression and tension
D. torsion and tension

1.5 A distance of 7mm drawn at a scale of 70:10 will be how many millimetres long on paper?

A. 49mm
B. 4,9mm
C. 490mm
D. None of the above

[5 marks]

QUESTION 2

2.1 Provide a definition of each of the following aspects found on a structure:

2.1.1) density **(3)**

2.1.2) mass **(2)**

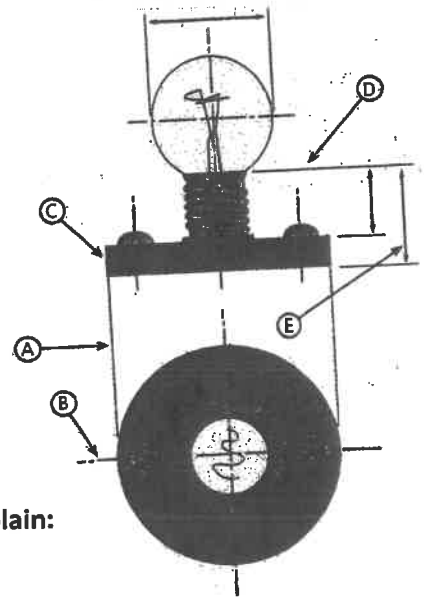
2.1.3) dimension **(2)**

2.1.4) scale **(3)**

[10marks]

QUESTION 3

3.1) The diagram below shows the top view and front view of a bulb holder. Five different types of lines used in the drawing have been labelled A to E.



Name the type of line as shown in each case A -E and explain:

3.1.1) its characteristics **(5)**

3.1.2) its function **(5)**

[10mark]

QUESTION 4

4.1) An unknown substance is stored in a cardboard box with a length of 3 metres, height of 2m and width of 1 metre. The mass of the substance is found to be 108kg. What formula would be used to calculate the density of the unknown substance. **(2)**

4.2) Briefly define volume. **(3)**

4.3) Calculate the volume of the cardboard box. **(4)**

4.4) Write down the unit of measurement for Density. **(1)**

4.5) Using the given information, calculate the density of the unknown substance. Show all calculations.

[15mark]

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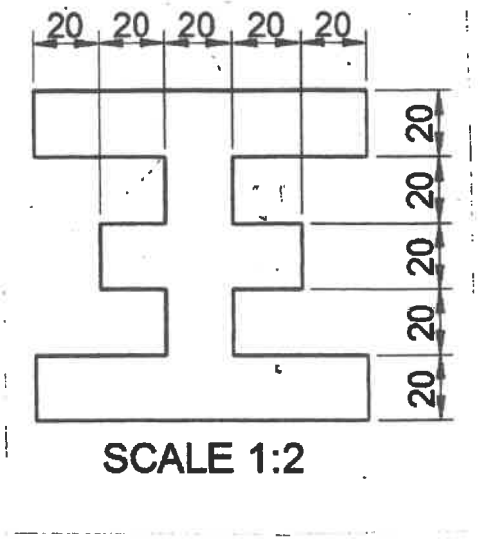
QUESTION 5

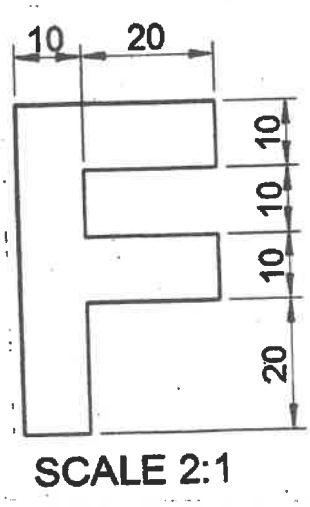
5.1) Draw the letters shown below using the given dimensions and the scale given below each letter.

QN	
1	
2	
3	
4	
5	
TOT	

5.1.1)



5.1.2)



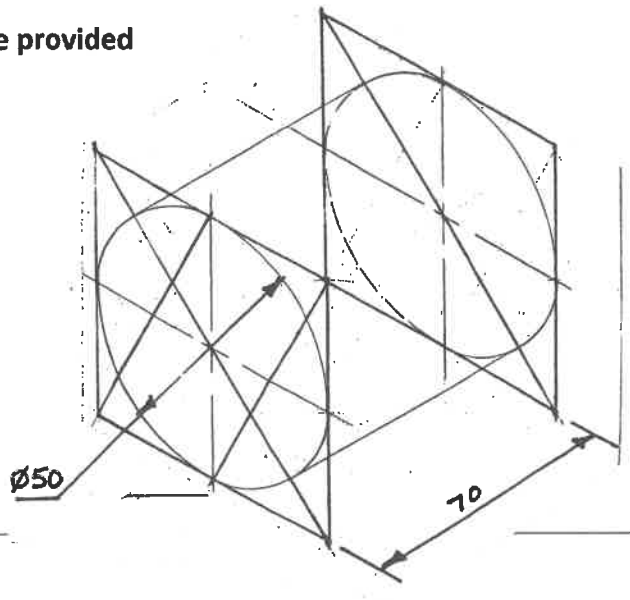
5.1.1	5.1.2
(10)	(10)

[20marks]

5.2 ISOMETRIC PROJECTION

5.2.1) Given the schematic of a cylinder drawn in Isometric projection:

- **Draw the cylinder in the space provided**
- **Show the CENTRE LINES**
- **Show OUTLINES**
- **Show HIDDEN DETAILS**



[30 marks]