

ASSESSMENT COVER PAGE : TEST 2

CORE

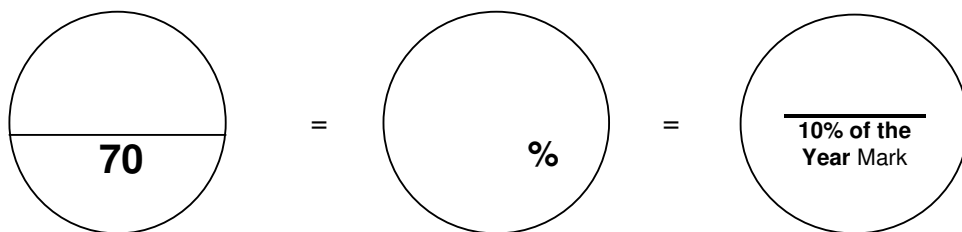
SUBJECT: Material Technology
FOCUS GROUP EXAMINER: J. Bester
COLLEGE MODERATOR:

LEVEL: 3

DATE: June 2018
FOCUS GROUP MODERATOR: F. le Roux

Student Surname		Name	
ID. Number		Group	

Topic and outcomes	Topics 1 - 3
Duration	2 hours
Evidence Required	Answer sheet
Instrument	Question paper



Paper 1	
Question	Mark obtained
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
Total	

Rating Scale	Remark	Rating
7	Outstanding	80 - 100
6	Meritorious	70 - 79
5	Substantial	60 - 69
4	Adequate	50 - 59
3	Moderate	40 - 49
2	Elementary	30 - 39
1	Not achieved	0 - 29

SIGNATURES:

Student declaration: I declare that the evidence provided is my own work.

STUDENT: _____ **DATE:** _____
(Signature)

FEEDBACK: _____

(Indicate which questions you found difficult (tick ✓))

1	2	3	4	5	6	7	8	9	10
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LECTURER: _____ **DATE:** _____
(Print Name and Sign)

COMMENT: _____

MODERATOR: _____ **DATE:** _____
(Print Name and Sign)

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. Number the answers correctly according to the numbering system used in the question paper.
4. Questions may be answered in any order, but the subsections of questions must be kept together.
5. This test paper consists of 5 pages.
6. All formulae used must be written down.
7. Questions must be answered in BLUE or BLACK ink.
8. Write neatly and legibly.

QUESTION 1 METALS

- 1.1 Define the following properties:
- 1.1.1 Ductility (1)
 - 1.1.2 Malleability (1)
 - 1.1.3 Brittleness (1)
 - 1.1.4 Hardness (1)
- 1.2 The following is a description of a specific non-ferrous metal alloy- CuZn43Pb2.
- 1.2.1 What is the percentage of Copper in this alloy? (2)
 - 1.2.2 What do the numbers 43 and 2 refer to? (1)
- 1.3 Name 2 forms of Carbon particles in Steel that exists. (2)
- 1.4 What is an Alloy? (2)
- 1.5 What are the symbols of the following alloy elements?
- 1.5.1 Carbon (1)
 - 1.5.2 Nickel (1)
- 1.6 Name 2 properties of Copper. (2)
- 1.7 Name 2 uses of Aluminium. (2)
- 1.8 Name the 3 groups in which ferrous metals are normally grouped. (3)
- [20]**
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QUESTION 2 NON-METALS

- 2.1 Name 2 properties and 2 uses of asbestos. (4)
- 2.2 What is glass reinforced plastic? (2)
- 2.3 Name 3 properties of glass reinforced plastic. (3)
- 2.4 Name 3 advantages and 3 disadvantages of plastic. (6)

- 2.5 Figure 1 below shows the stages in the THERMOSETTING plastic cycle. Write only the

Question number (2.5.1 – 2.5.3) and the answer in your ANSWER BOOK.

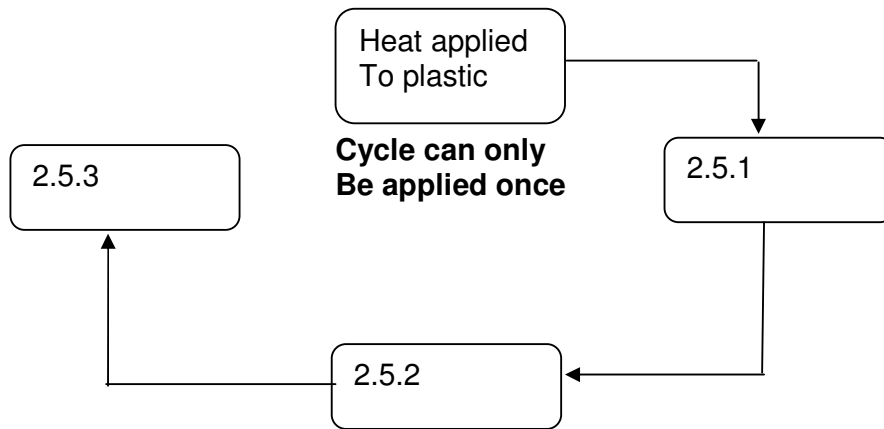


FIGURE 1

(3)

2.6 Name 3 characteristics of PVC.

(3)

2.7 Name 2 uses of PVC.

(2)

2.8 What are composites?

(2)

[25]

**QUESTION 3
METAL PROCESSING**

Choose a word from **COLUMN B** that matches a description in **COLUMN A**. Write only the Letter (A – E) next to the question number (3.1 – 3.5) in the ANSWER BOOK.

	COLUMN A		COLUMN B
3.1	A substance used to join two metals together.	A	Annealing
3.2	Naturally occurring minerals which contain minerals.	B	Carburising
3.3	Softening of metal by strong heating and controlled cooling.	C	Flux
3.4	A method of adding carbon to the outer surface of mild steel- the first step of case hardening	D	Quench
3.5	To soak in or dip into a liquid.	E	Ore

(5)

3.6 Describe the different stages of the Arc Furnace.

(8)

- 3.7 What does the charge in a typical Cupola Furnace composed of? (5)
- 3.8 Name the advantages and disadvantages of a Bessemer Converter. (3)
- 3.9 What are soaking in the Annealing and Normalizing Processes? (1)
- 3.10 Name 3 characteristics of quenching oils. (3)
- [25]**

TOTAL MARKS 70
