Surname	Forename(s)	Centre Number	Candidate Number

For Performance Measurement

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

COMBINED SCIENCE 4003/2

PAPER 2 Theory

JUNE 2020 SESSION 2 hours

Candidates answer on the question paper

Additional materials: Calculator (Optional)

Allow candidates 5 minutes to count pages before the examination.

The Periodic Table is provided on page 16.

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top.
Ask the invigilator for a replacement if there are missing pages.
Write your answers in the spaces provided on the question paper.

Section A
Answer **all** questions.

Section B
Answer any **two** questions.

Section C
Answer any **two** questions.

Section D
Answer any **two** questions.

FOR EXAMINER USE	
SECTION A	
B7	
B8	
B9	
C10	
C11	
C12	
D13	
D14	
D15	
TOTAL	

INFORMATION FOR CANDIDATES
The number of marks is given in brackets [ ] at the end of each question.

This question paper consists of 16 printed pages.

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Section A

*Answer **all** the questions in this section in the spaces provided.*

1. **(a)** **Fig. 1.1** shows a human tooth.

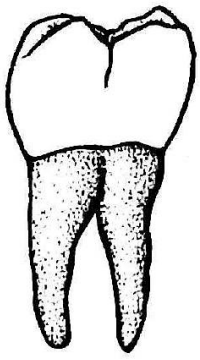


Fig. 1.1

(i) Name the tooth shown.

.....

[1]

ii) State the function of the tooth.

.....

.....

[1]

(b) Explain the importance of mechanical digestion.

.....

.....

.....

[2]

(c) State the end product(s) of the digestion of

(i) proteins,

.....

[1]

(ii) fats.

1 .....

2 .....

[2]

2. (a) State any **one** natural method of contraception.

.....

.....

..... [1]

(b) Describe how the pill prevents pregnancy.

.....

.....

.....

..... [3]

(c) State any **two** signs/symptoms of chancroid in males.

.....

.....

..... [2]

3. **Fig 3.1** shows the blast furnace used in the extraction of iron.

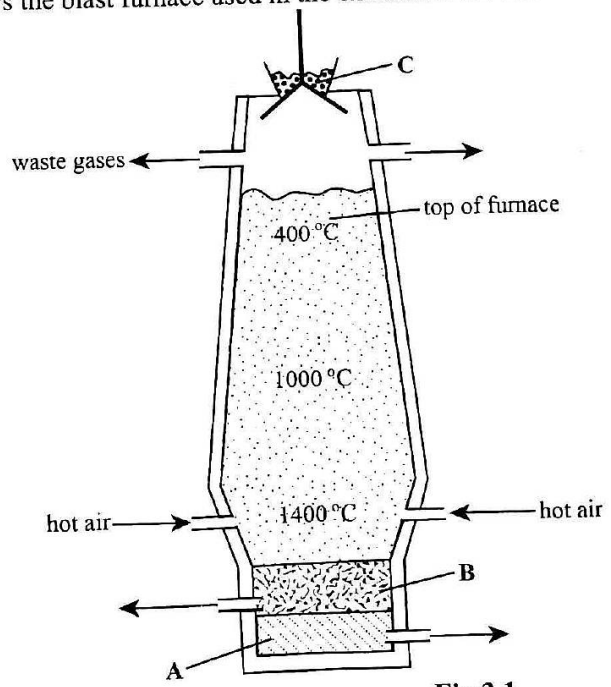


Fig 3.1

(a) (i) Identify substances **A** and **B**.

A .....

.....

B ..... [2]

(ii) **C** is a mixture of three raw materials.

State any **one** raw material in the mixture.

.....

[1]

(b) Describe the reaction which occurs near the top of the furnace.

.....

.....

.....

.....

[3]

4. Nitrogen gas and hydrogen gas react in a reversible reaction to produce ammonia gas.

(a) Define the term *reversible reaction*.

.....

.....

.....

[2]

(b) Write a balanced chemical equation for the production of ammonia gas.

[2]

(c) **(i)** State the **three** conditions needed for the maximum yield of ammonia.

1 .....

2 .....

3 .....

[3]

(ii) Explain how any **one** of the conditions named in **(i)** leads to an increase in the yield of ammonia.

.....

.....

.....

[1]

5. **(a)** Define the term

(i) *momentum,*

.....

.....

[1]

(ii) *inertia.*

.....

.....

[1]

(b) State the difference between mass and weight.

.....

.....

[1]

(c) State Newton's first law of motion.

.....

.....

.....

[1]

(d) A ball of mass 0.4 kg accelerates uniformly at 2 m/s^2.

Calculate the force of the ball.

[3]

6. (a) **Fig.6.1** shows power demand between 6 am and 4 pm at a boarding school which uses only electricity as its source of energy.

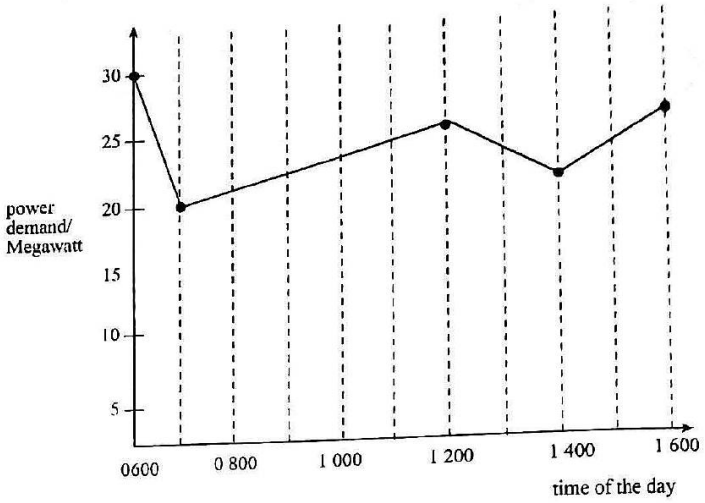


Fig.6.1

(i) Use **Fig.6.1** to identify the time of the day with the highest power demand.

.....

[1]

(ii) The meal times for the boarding school are:

breakfast at 0700
lunch at 1300
supper at 1700

Explain why there is a high power demand at 1200.

.....

.....

.....

.....

[2]

(iii) Describe how the school may reduce the amount of electricity they use per day.

.....

.....

[1]

(b) State the SI unit of mass and power.

mass .....

power .....

[2]