| 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.**

## Section A

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

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

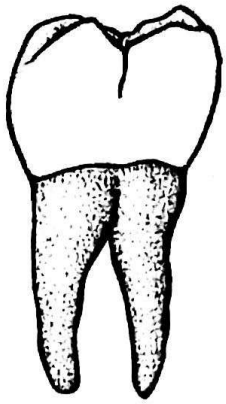

**Fig. 1.1**

**(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.

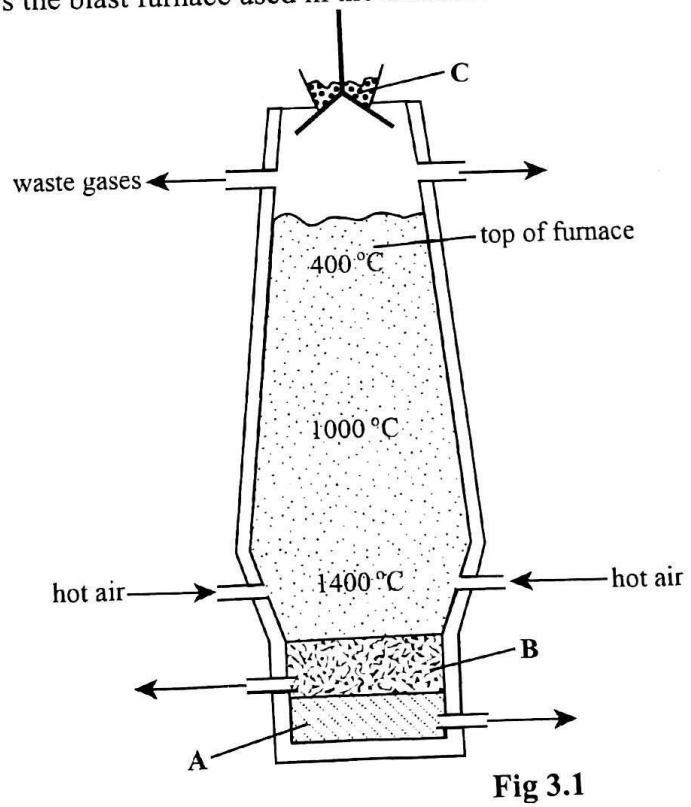


**Fig 3.1**

(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.

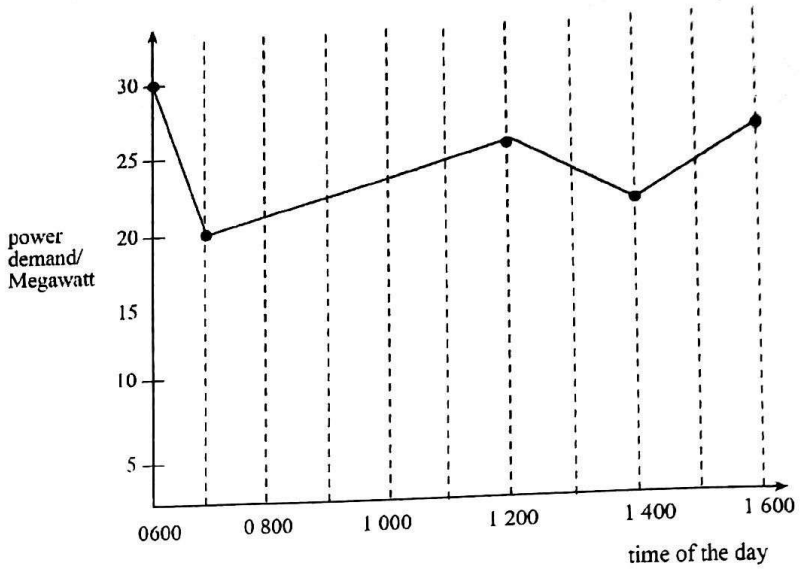


**Fig.6.1**

(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]