Candidate's Name		**Assessment Number**	
School Name		**School Code**	
Candidate's Signature		**Date**	

THE KENYA NATIONAL EXAMINATIONS COUNCIL
KENYA JUNIOR SCHOOL EDUCATION ASSESSMENT

KJSEA
905/1
INTEGRATED SCIENCE (*Theory*)
JANUARY 2025
PAPER 1
SAMPLE PAPER
TIME:1 hour 40 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your **name** and **assessment number** in the spaces provided above.
2. Write the **name** and **code of your school** in the spaces provided above.
3. **Sign** and write the **date** of the assessment in the spaces provided above.
4. This paper consists of **two** sections: **A** and **B**.
5. **Section A** comprises Multiple Choice Questions numbered **1** to **30.**
6. **Section B** comprises short, structured questions number **31** to **40.**
7. Answer **ALL** the questions in section **A** on the separate **ANSWER SHEET** provided.
8. Answer **ALL** the questions in section **B** in the spaces provided in this **QUESTION PAPER**.
9. Do **NOT** remove any page from this question paper.
10. Answer **ALL** the questions in English**.**

For official use only

SECTION B

Task	**Task 1**	**Task 2**			**Task 3**				**Task 4**	
Question	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
Score per question										
Maximum score	03	13			16				08	
Candidate's score per task										

This paper consists of 18 printed pages.
Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

© 2025 The Kenya National Examinations Council **Turn over**

SECTION A

Read all the instructions carefully

1. You have been given this question paper and a separate answer sheet. This section consists of **30** multiple choice questions.
2. Answer **ALL** questions on the **ANSWER SHEET** provided, **NOT** on the question paper.
3. Do all the necessary rough work on the question paper.

HOW TO USE THE ANSWER SHEET

4. Use an ordinary **HB** pencil.
5. Confirm that the answer sheet you have been provided with has the following:

   YOUR ASSESSMENT NUMBER
   YOUR NAME
   NAME OF YOUR SCHOOL
   NAME OF THE SUBJECT

6. Keep the answer sheet clean and dry. **DO NOT** fold it.
7. For each of the questions **1 – 30**, four options are given. The options are lettered **A, B, C** and **D.** In each case, only **ONE** of the four options is correct. Choose the **correct** option.
8. On the answer sheet, the correct answer is to be shown by drawing a **DARK LINE** inside the box in which the letter you have chosen is written.

   Example:

   In the Question Paper:

   16. At Junior School, learners study Integrated Science. A learner in Junior School chose Mathematics, Physics, Chemistry and Biology for study at Senior School. Which of the subjects chosen by the learner are components of Integrated Science?
       A. Mathematics, Physics and Biology.
       B. Physics, Chemistry and Biology.
       C. Mathematics and Physics.
       D. Chemistry and Biology.

   The correct answer is **B**.

   On the answer sheet, in the set of boxes given for number **16**, draw a **DARK LINE** inside the box with the letter **B** printed in it as marked below.

   16. [A] [~~B~~] [C] [D]

9. Your dark line MUST be within the box. DO NOT make any marks outside the boxes.
10. For each question, **ONLY ONE** box is to be marked.

SECTION A (30 marks)

*Answer **ALL** the questions in this section.*

1. During a lesson to identify common hazards and their symbols, learners observed various symbols. Which one of the following symbols observed represents corrosive substances?

A.

B.

C.

D.

2. During a group discussion, learners listed the following as benefits of studying various subjects: to
   (i) understand nature;
   (ii) strengthen one's faith;
   (iii) improve one's behaviour;
   (iv) solve problems in daily life.

   Which **two** are the benefits of studying Integrated Science?

   A. (i) and (ii)
   B. (ii) and (iii)
   C. (iii) and (iv)
   D. (i) and (iv)

3. During a science lesson, learners discussed chemical symbols of the following elements:
   (i) Hydrogen
   (ii) Nitrogen
   (iii) Aluminium
   (iv) Silver

   Which one of the following sets shows the **correct** chemical symbol for each of the elements?

	Hydrogen	**Nitrogen**	**Aluminium**	**Silver**
A.	H	N	al	Si
B.	Hg	Na	AL	Si
C.	H_2	N_2	Al	Ag
D.	H	N	Al	Ag

Turn over

4. Substances in nature exist either as elements or compounds. During a lesson, learners classified substances into elements and compounds. Which one of the following pairs of substances consists **only** of compounds?

   A. Copper and iron.
   B. Iron and water.
   C. Water and carbon dioxide.
   D. Copper and carbon dioxide.

5. In a class activity to classify mixtures, learners were given the following mixtures:
   (i) salt and sand;
   (ii) sugar and water;
   (iii) kerosene and water;
   (iv) milk and water.

   Which **two** of the mixtures are homogeneous?

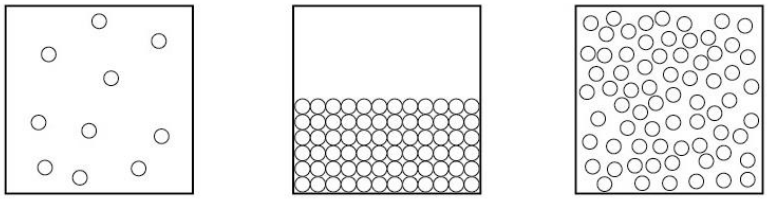
   A. (i) and (ii)
   B. (ii) and (iv)
   C. (i) and (iii)
   D. (iii) and (iv)

6. During a class discussion on metals and non-metals, learners were asked to classify the following elements:
   (i) Calcium;
   (ii) Sulphur;
   (iii) Phosphorus;
   (iv) Sodium.

   Which one of the following pairs of elements consists **only** of metals?

   A. (i) and (iv)
   B. (i) and (iii)
   C. (ii) and (iii)
   D. (ii) and (iv)

7. The diagrams below represent the arrangement of particles in three substances as drawn by a learner during a lesson on states of matter.



(i) (ii) (iii)

Which **two** of the diagrams represent the arrangement of particles in air and in water?

	Air	**Water**
A. .	(i)	(ii)
B.	(i)	(iii)
C.	(ii)	(iii)
D.	(iii)	(i)

8. Learners were controlling fire which was burning a bush. Which one of the following actions could **not** control the fire?

A. Turning on the fire alarm.
B. Cutting off oxygen supply.
C. Cutting off the source of heat.
D. Moving fuels away from the fire.

9. Learners observed that water obtained from a nearby stream was not lathering easily with soap. They suggested the following as methods of making the water to lather easily:

(i) boiling the water;
(ii) filtering the water;
(iii) adding washing soda.

Which of the methods suggested by the learners could be used to make the water lather easily?

A. (i) and (ii).
B. (ii) only.
C. (i) and (iii).
D. (iii) only.

Turn over

11. The following are some changes that take place in day-to-day life:
    (i) water becoming ice;
    (ii) fermenting of milk;
    (iii) rusting of iron nails;
    (iv) drying of wet clothes.

    Which one of the following pairs consists **only** of physical changes?
    A. (i) and (ii)
    B. (ii) and (iii)
    C. (iii) and (iv)
    D. (i) and (iv)

12. During a lesson, learners discussed applications of acids and bases. They listed the following applications: manufacture of
    (i) car batteries.
    (ii) soft drinks.
    (iii) Toothpaste.
    (iv) baking powder.

    Which one of the following pairs of the applications listed are for bases **only**?

    A. (i) and (ii)
    B. (ii) and (iii)
    C. (iii) and (iv)
    D. (i) and (iv)

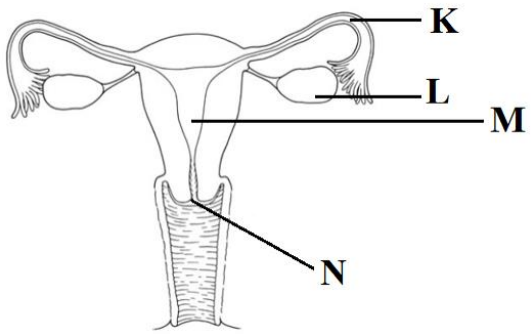
13. During a class discussion on functions of the parts of the male reproductive system, learners identified functions of various parts of the system. The function of testes is to

    A. produce hormones and sperms.
    B. transport sperms only.
    C. produce sperms only.
    D. transport sperms and produce hormones.

14. After a discussion on changes that take place in boys and girls during adolescence, a learner summarised the changes as shown in the table. Which one of the changes is correctly summarised?

	Change in Boys	**Change in Girls**
A.	Hips become broad	Hips become broad
B.	Chest widens	Chest widens
C.	Breasts enlarge	Breasts enlarge
D.	Pubic hair grows	Pubic hair grows

15. The diagram below was drawn by a learner to represent the female reproductive system with parts labelled **K**, **L**, **M** and **N**. Use the diagram to answer questions **14** and **15**.



The part labelled **N** represents

A. cervix.
B. vagina.
C. uterus.
D. oviduct.

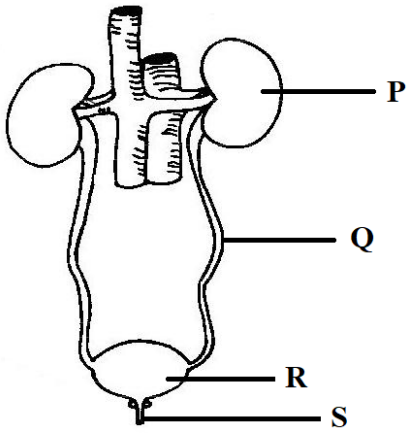
16. Fertilization takes place at the part labelled

A. **K.**
B. **L.**
C. **M.**
D. **N.**

Turn over

17. At adolescence, boys and girls may experience frequent changes in moods. The **best** advice for such adolescents would be to
    A. be sleeping less.
    B. avoid interactions.
    C. do physical exercises regularly.
    D. eat more energy giving foods.

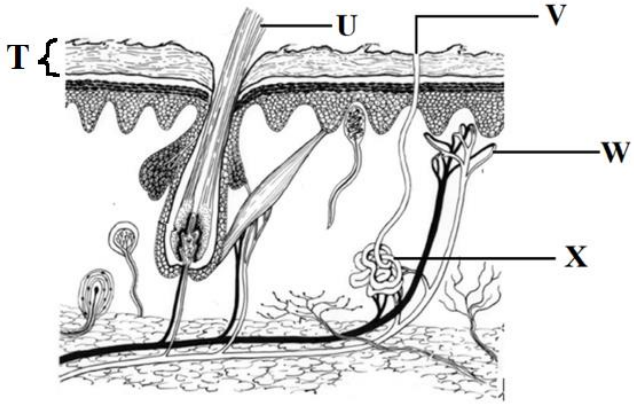
    The diagram below was drawn by a learner to show parts of the human urinary system with parts labelled **P**, **Q**, **R** and **S**. Use the diagram to answer questions **17** and **18**.



18. The part that stores urine temporarily is represented by letter
    A. **P.**
    B. **Q.**
    C. **R.**
    D. **S.**

19. The function of the part represented by letter **Q** is to
    A. filter salt and water.
    B. filter waste products from blood.
    C. provide temporary storage of urine.
    D. provide passage of urine to the bladder.

The diagram below was drawn by a group of learners to represent the human skin with parts labelled **T, U**, **V**, **W** and **X**. Use the diagram to answer questions **19** and **20**.



20. The part of the skin that produces sweat is represented by letter
    A. **U.**
    B. **V.**
    C. **W.**
    D. **X.**

21. Which one of the following is the function of the part represented by labelled **T**?
    A. Protection against physical injury.
    B. Insulation against heat loss.
    C. Supply of blood.
    D. Production of hair.

22. The human digestive system has various parts that perform different functions. In which one of the following parts of the system does the absorption of water take place?
    A. Stomach.
    B. Large intestine.
    C. Mouth.
    D. Small intestine.

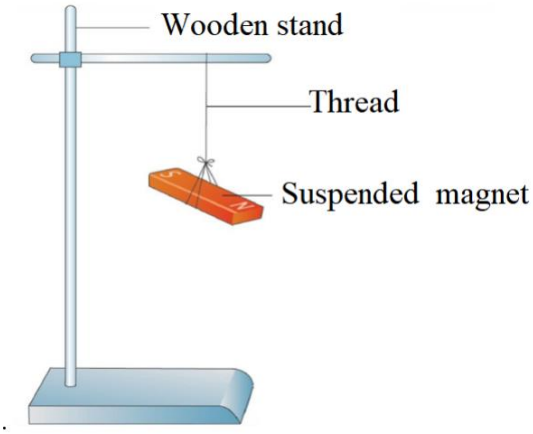
23. Human beings have different types of teeth. Each type has a unique structure suited for its functions. A learner observed a model of a human tooth that had sharp edges and was chisel shaped. The function of the tooth is likely to be
    A. crushing.
    B. cutting.
    C. chewing.
    D. tearing.

Turn over

23. A medical officer gave a talk on healthy lifestyles that promote kidney health. Which one of the following could **not** have been included in the talk as a healthy lifestyle that promotes kidney health?

A. Eating a balanced diet.
B. Drinking plenty of clean water.
C. Getting enough sleep.
D. Eating sugary foods.

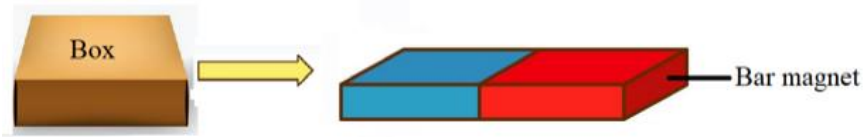
24. During a class experiment on properties of magnets, a learner freely suspended a magnet as shown in the diagram below.



Which one of the following is the **correct** direction the bar magnet would be aligned to?

A. North East - South West.
B. East – West.
C. North – South.
D. North West - South East.

25. In an activity to identify magnetic and non-magnetic materials, learners put a certain object in a carton box and placed the box near a bar magnet as shown in the diagram below.



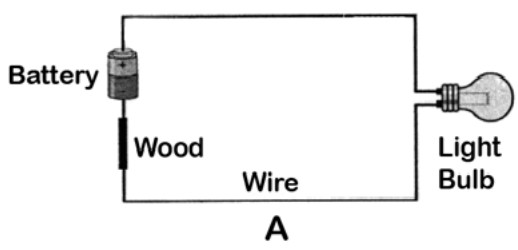
The box was observed to move in the direction shown by the arrow. The object inside the box was likely to have been

A. a silver coin.
B. an iron nail.
C. a gold ring.
D. a wooden rod.

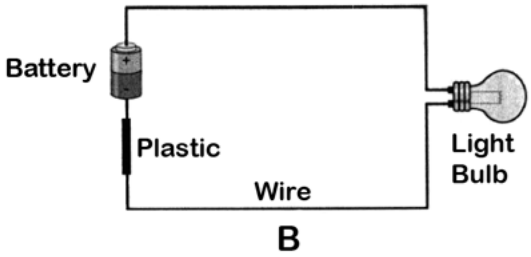
26. Learners classified sources of electricity into renewable and non-renewable sources. Which one of the following combinations of sources of electricity was **correctly** classified by the learners?

	Renewable source	**Non-renewable source**
A.	Geothermal	Coal
B.	Wind	Hydroelectric
C.	Natural gas	Solar
D.	Tidal waves	Biomass

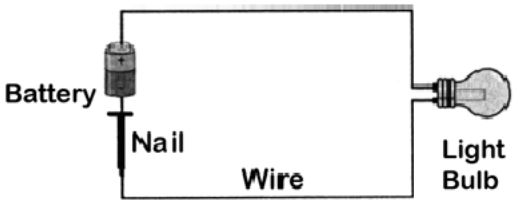
27. In an experiment to demonstrate the flow of electric current, learners connected materials to make simple electric circuits. Which one of the following diagrams represents an electric circuit in which the bulb would light?



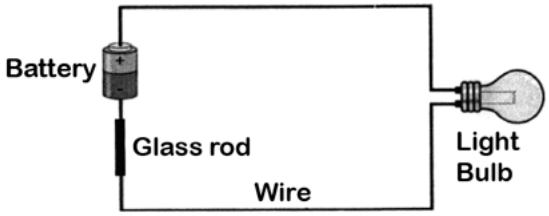
A



B



C



D

28. Learners identified safety measures during a discussion on handling appliances. Which one of the following measures identified by the learners is safe?
    A. Operating electrical appliances with dry hands.
    B. Connecting an appliance to electricity when cleaning it.
    C. Inserting foreign objects into electrical sockets.
    D. Overloading a power socket with many appliances.

Turn over

29. During a class discussion on appliances used in day-to-day life, learners listed the following appliances:

    (i) Air conditioner
    (ii) Fireless cooker
    (iii) Thermos flask
    (iv) Washing machine

    Which two of the listed appliances use electricity to perform their function?

    A. (i) and (ii)
    B. (ii) and (iii)
    C. (i) and (iv)
    D. (iii) and (iv)

30. Curved mirrors are used in day today life for different purposes. Learners discussed and listed the following as applications of curved mirrors:

    (i) Security mirrors in supermarkets
    (ii) Motor vehicle side mirrors
    (iii) Car headlights
    (iv) Solar cooker

    Which two of the uses are **correct** only for convex mirrors?

    A. (iii) and (iv)
    B. (ii) and (iv)
    C. (i) and (iii)
    D. (i) and (ii)

SECTION B (40 marks)

*Answer **ALL** the questions in this section.*

31. (a) During a class activity, learners determined the temperature of water using a thermometer. Identify **two** basic skills in science applied in this activity. (2 marks)

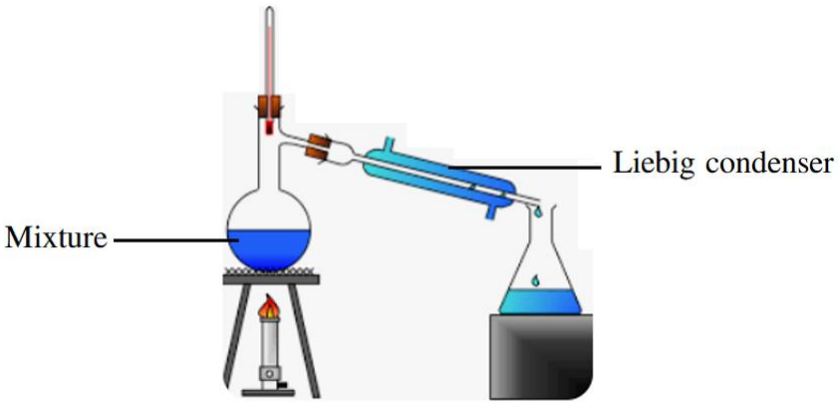
_____

_____

(b) State the International System of unit (SI unit) of temperature. (1 mark)

_____

32. The diagram below represents a set up used by learners to separate components of a mixture.



Name:

(a) the method used to separate the components of the mixture. (1 mark)

_____

(b) **two** homogeneous mixtures that can be separated using the method. (2 marks)

_____

_____

Turn over

33. Describe how one can recover

(a) salt from salt solution; (2 marks)

_____

_____

_____

(b) alcohol from a mixture of water and alcohol. (2 marks)

_____

_____

34. (a) Learners were provided with coloured flowers to prepare an acid-base indicator. Describe how the learners could have prepared the indicator. (4 marks)

_____

_____

_____

_____

_____

_____

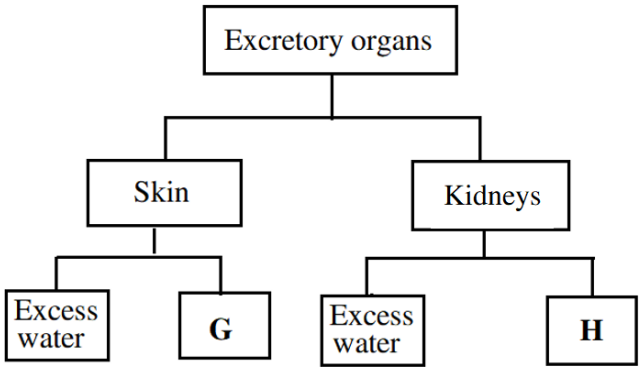
(b) A farmer realised reduced crop production on his farm. He took samples of the soil for testing. It was found that lime should be added to the farm. Based on the knowledge of acids and bases, explain the purpose of adding lime to the farm. (2 marks)

_____

_____

_____

35. The flow chart below shows two human excretory organs and their products.



(a) Name the likely excretory products labelled **G** and **H**

G _____

H _____ (2 marks)

(b) During a talk on Sexually Transmitted Infections (STI) by a medical doctor to learners, the doctor discussed signs and symptoms of gonorrhoea and ways it can be prevented.

(i) State **two** symptoms of gonorrhoea in males that the doctor could have talked about. (2 marks)

_____

_____

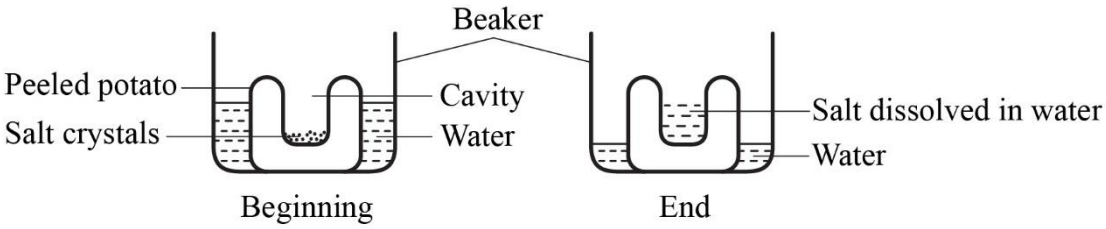
(ii) Name **two** other Sexually Transmitted Infections the doctor is likely to have mentioned. (2 marks)

_____

_____

Turn over

36. (a) The diagrams below show a setup used by learners to demonstrate a certain process that takes place in living things.



Explain the observations made at the end of the demonstration. (3 marks)

_____

_____

_____

(b) A Member of Parliament (MP) donated sanitary towels which were only given to girls in Form 3 and not those in Grade 2. Explain why only the Form 3 girls were given the sanitary towels. (2 marks)

_____

_____

37. During a nature walk to study adaptations of flowers to wind and insect pollination, learners observed a dull coloured flower with small petals.

(a) State the likely agent of pollination for the flower. (1 mark)

_____

(b) State **two** other adaptations the learners may have observed on the flower. (2 marks)

_____

_____

38. A girl was advised to reduce the amount of cosmetics she used on her skin. Explain how excessive use of cosmetics could affect the excretory function of the skin. (2 marks)

_____

_____

39. (a) During an activity to investigate sources of waves in the environment, learners produced waves by plucking a string to vibrate. List **two** other sources of waves that belong to the same group of waves as the one generated by the learners. (2 marks)

_____

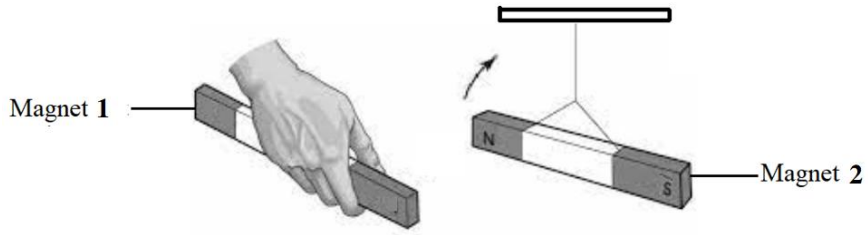
_____

(b) During a lesson learners observed images formed by concave mirrors with objects at different points. State the characteristics of an image formed by a concave mirror when the object is at infinity. (3 marks)

_____

_____

40. (a) During an experiment on properties of magnets, a learner brought magnet **1** close to the **N**-pole of magnet **2** as shown in the diagram below. The learner observed that magnet **2** moved in the direction shown by the arrow in the diagram.



(i) Identify the pole of magnet **1** that was brought close to magnet **2**. (1 mark)

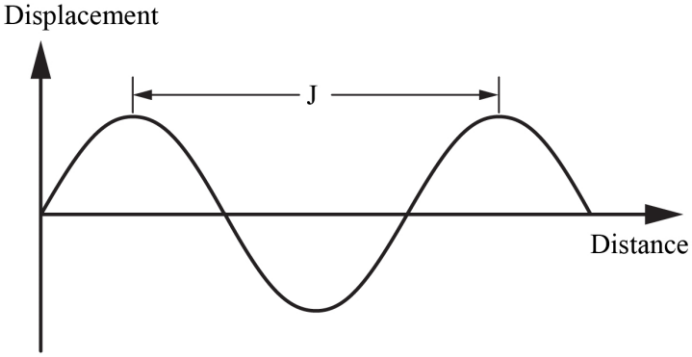
_____

(ii) Give a reason for your answer in (i) above. (1 mark)

_____

Turn over

(c) The diagram below shows a waveform drawn by a researcher during a study on properties of waves.



Name the part of the wave labelled **J**. _____ _(1 mark)

THIS IS THE LAST PRINTED PAGE