

GRACE BOOK EXAMINATIONS BOARD

PLE PREPARATION-2025

SET ONE

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

Random No.					Personal No.		

Candidate's name:

Candidate's signature:

Random number:

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Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has two sections: **A** and **B**. Section **A** has **40** questions and section **B** has **15** questions. The paper has **11 printed pages** altogether.
3. Answer **all** questions. **All** answers to both sections **A** and **B** must be written in the spaces provided.
4. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any work written in pencil will **not** be marked.
5. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss** of marks.
6. Do not fill anything in the table indicated: **"FOR EXAMINERS' USE ONLY"** and boxes inside the question papers.

FOR EXAMINER'S USE ONLY		
QN. NO.	MARKS	EXR'S NO.
1 - 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53 - 55		
TOTAL		

SECTION A: 40 MARKS

Answer **all** questions in this section.

Questions **1** to **40** carry one mark each.

1. State the importance of the damp proof course used when building the foundation of a house.

.....

2. Write down **one** way in which lightning improves crop yields in the environment.

.....

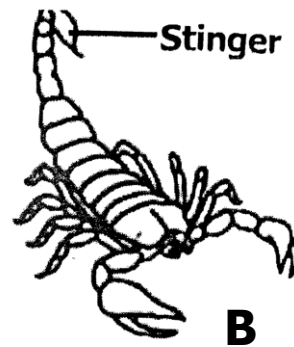
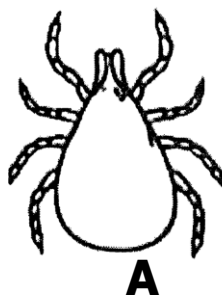
3. Mention any **one** action that increases the volume of the chest cavity during inhalation apart from flattening of the diaphragm.

.....

4. Give any **one** way in which livestock can contribute to soil erosion in an area.

.....

The diagrams below show examples of arachnids. Study and use them to answer questions **5** and **6**.



5. Mention **one** difference between the arachnids **A** and **B** in the way they breathe.

.....

.....

6. Apart from undergoing internal fertilization, state any one other similarity in reproduction between arachnid **B** and human beings.

.....

7. Give **one** reason why carbon dioxide from a fire extinguisher is able to put out petrol fire.

.....

8. Name the fungus that can be used in pharmaceutical industries for making antibiotics.

.....

9. Give **one** reason why it is important to take iron supplement tablets when suffering from bilharzia.

.....

10. Name the product got from rabbits which is useful in textile industries.

.....



11. Mention any **one** sign which shows that the erector muscles in the human skin have contracted during cold weather.

.....

12. Give any **one** way in which a farmer can reuse plastic containers in a nursery bed.

.....

13. Give **one** way in which the flow of venom from the leg to the heart can be prevented when giving first aid to a casualty bitten by a snake.

.....

.....

14. Name any **one** product obtained through fermentation.

.....

15. Give any **one** condition that can make a thermos flask fail to work normally.

.....

The diagram below shows some organs of the digestive system which are not parts of the alimentary canal. Study and use them to answer questions **16** and **17**.



16. State the similarity in function between organ **H** and urinary bladder.
-
-
17. Mention any **one** way in which organ **G** is helpful in the chemical digestion of fats in the human body.
-
-
18. Give any **one** way in which the effect of squirrels to sweet potato is different from that of caterpillars.
-
-
19. Write down any **one** reason why medical workers should consider the age of the patient when prescribing drugs.
-
-
20. Give any one example of fuel that can be used in a smoker during harvesting of honey.
-



21. State any **one** way in which the human skin promotes proper functioning of the muscular-skeletal system.
-
22. When a stone whose density is 63g/cm^3 is put in a measuring cylinder containing water, the water level rises from 17cm^3 to 24cm^3 . What will be the mass of the stone when removed from water?
-
23. State the mode of breathing used by arachnids which are parasites to farm animals.
-
24. Name the new permanent substance formed when oxygen, water and iron metal react chemically.
-
25. Mention any **one** fungal disease that can be identified during a school health parade.
-
26. Write down any **one** practice done by farmers to promote production of high-quality pork.
-
27. Give any **one** factor considered when classifying matter into its states.
-

28. Apart from practicing agroforestry, mention one other way of improving soil fertility in the garden.

.....

29. Name any **one** example of disinfectant that can be used when cleaning latrine.

.....

30. Mention **one** similarity between the halteres of an insect and the semi-circular canals of the human ear.

.....

.....



31. Give the reason why a stone is not considered a regular object.

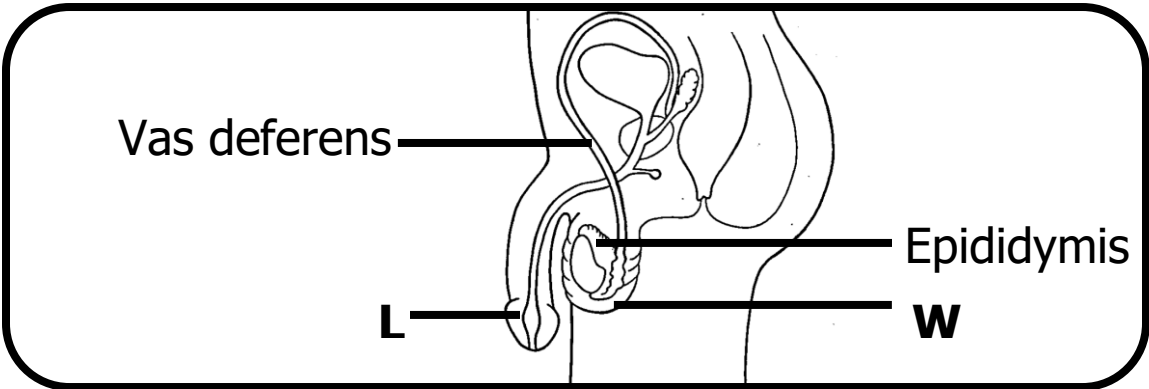
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32. State any **one** reason why cassava seeds are not commonly used for propagation.

.....

The diagram below shows the parts of the male reproductive system. Study and use it to answer questions **33** and **34**.



33. Apart from protecting the testes from physical injuries, give any one other function of the part marked **W**.

.....

34. Mention any **one** reason why part marked **L** is usually circumcised.

.....

.....

35. Give any **one** way in which adolescent girls can protect themselves against tetanus during menses.

.....

36. State the main role played by the sun in the formation of rainbow.

.....

37. Write down any **one** way in which soil erosion can lead to water pollution.

.....

38. Mention any **one** reason why some people normally put dentures in their mouth.

.....

39. Apart from conserving mineral resources, state any one other reason why the casing of most electric appliances is made of plastics.

.....

40. Give any **one** way in which testa helps to maintain viability of a seed.

.....



SECTION B

Answer all questions in this section.

*Questions **41** to **55** carry four marks each.*

41. a) Name the class of food that helps in proper formation of red blood cells in the body.

.....

b) Apart from washing hands before eating, write down any one other example of good eating habit.

.....

c) Give a reason why kwashiorkor is mostly common among babies who are not properly fed.

.....

d) State any one difference between night blindness and river blindness.

.....

.....

42. a) Name the pole of a freely suspended magnet which faces geographic north.

.....

b) Explain why the pole you have identified in a) above faces geographic north. (02 marks)

.....

.....

c) State the main reason why steel is not suitable for making electromagnet used in an electric bell.

.....

.....

43. a) To which group of flowering plants do onions belong?

.....

b) Name the form of asexual reproduction used to propagate onion plants.

.....

c) Mention any one way in which onions are useful to people.

.....

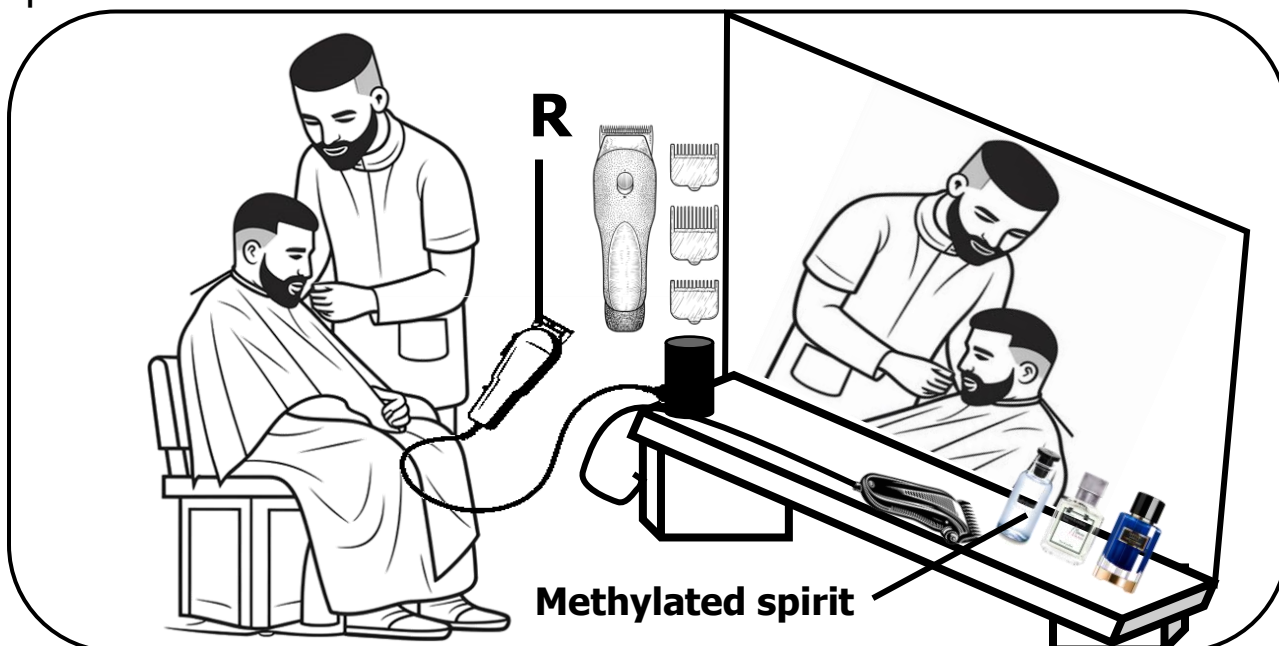
d) Give one difference between aloe vera and bryophyllum plant in the way they are propagated.

.....

.....



44. The diagram below shows a barber cutting hair. Study and use it to answer the questions that follow.



a) Give any **one** way in which the above activity helps to promote the health of the person.

.....

b) State the energy change which takes place in the machine marked **R**.

.....

c) Name the force that enables the blades of the machine marked **R** to work normally.

.....

d) State the importance of the methylated spirit above in the barbershop.

.....

45. a) Mention any one advantage of using an electric iron over local iron box when ironing clothes at home.

.....

.....

b) State any one danger of over drying clothes on sunshine.

.....

.....

c) Identify any two examples of animal fibres used in textile industries.

i)

ii)

46. a) Give one way of limiting oxygen supply to the burning wood when making charcoal.

.....

b) Mention one reason why oxygen supply to the burning wood should be limited when making charcoal.

.....

.....

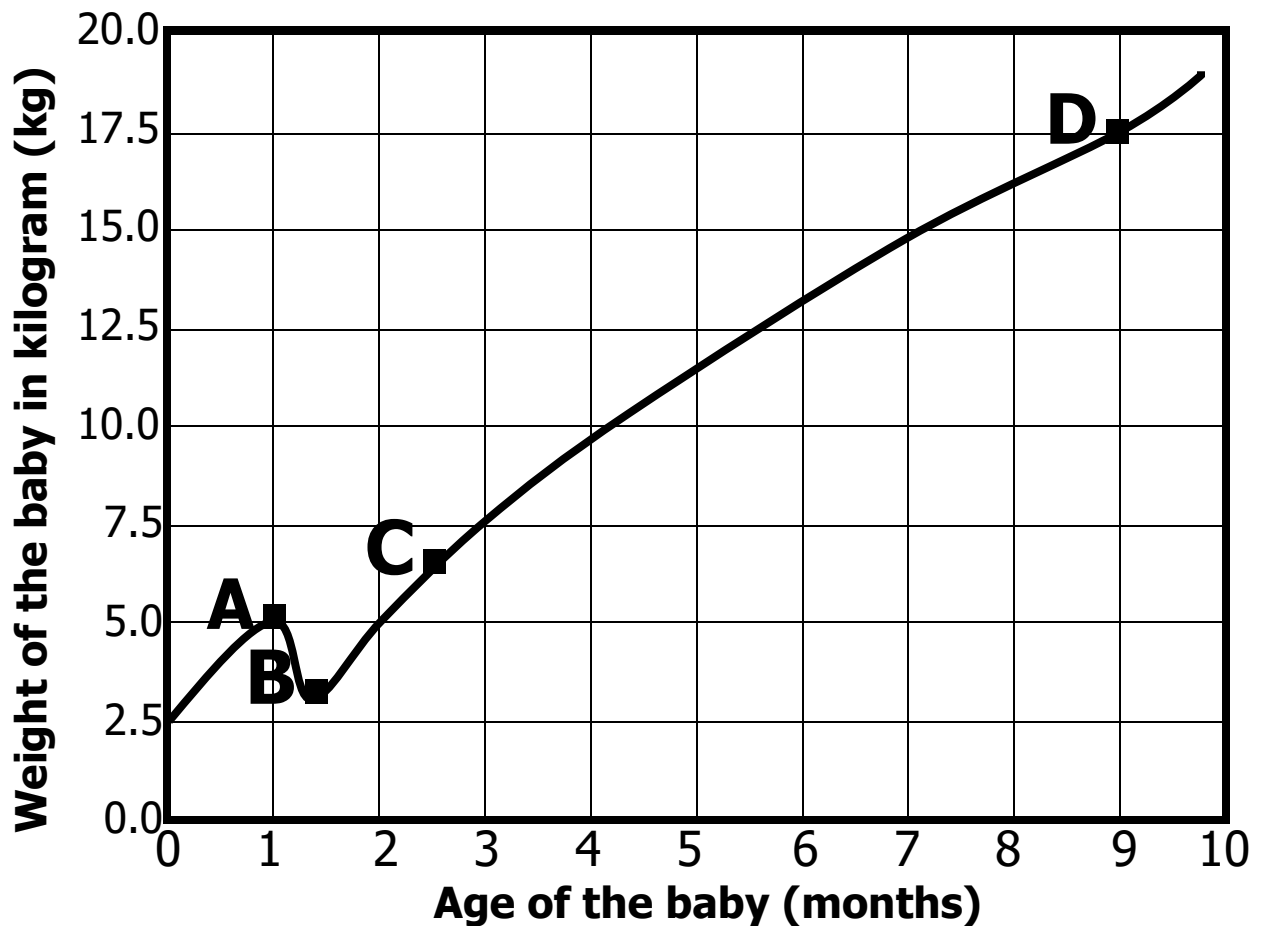
c) State the energy change that occurs in charcoal when it is being used for roasting maize.

.....

d) Write down one reason why briquettes are able to retain heat for a longer time than charcoal.

.....
.....

47. The graph below is an extract from a child health card, showing the growth trend of a baby as recorded by a health worker during immunisation. Study and use it to answer the questions that follow.



a) State the birth weight of the baby whose growth trend is shown in the diagram above.

.....

b) Name the vaccine which was given to the baby at point **C**.

.....

c) State the immunization site for the vaccine given to the baby at point **D**.

.....

d) Apart from malnutrition, state any **one** other possible cause of the drop in the weight of the baby from point **A** to point **B**.

.....

48. a) Name the method of storing sound in which a cassette tape is used.

.....

b) State one way in which tightening the string of a tube fiddle affect the pitch of sound it produces.

.....

c) Give the reason why the voice of an adolescent boy breaks and deepens.

.....

d) A string musical instrument has three strings **A**, **B** and **C** of different lengths. String **A** is **30cm** long, string **B** is **35cm** long and string **C** is **40cm** long. Name the string that will vibrate at the highest frequency.

.....

.....

49. Below are steps that can be followed to prepare a simple dish from cassava tubers at home.

i) Using a sharp knife, peel the cassava tubers and slice them.

ii) Put the slices of cassava into a clean saucepan and wash them well.

iii) Light the charcoal in a stove using a matchbox.

iv) Put the saucepan having clean slices of cassava and water on to the stove to boil for few minutes.

Use the steps given above to answer the questions that follow.

- a) State the reason for carrying out the following steps.
- i) Slicing the cassava tubers
.....
 - ii) Washing the slices of cassava before boiling
.....
- b) State the importance of charcoal in the preparation of the dish above.
.....
- c) Which force enables the matchstick to produce fire when struck on the side of the matchbox?
.....



50. The diagram below shows a common narcotic drug commonly abused by some people in a community. Study and use it to answer the questions that follow.



- a) Name the narcotic drug shown in the diagram above.
.....
- b) Give any one way in which people abuse the above drug.
.....
- c) Write down any one sign of self-neglect in a person which results from prolonged use of the drug shown above.
.....

d) Name the life skill that enables an individual to assess the risks and consequences of using the above drug, more accurately.

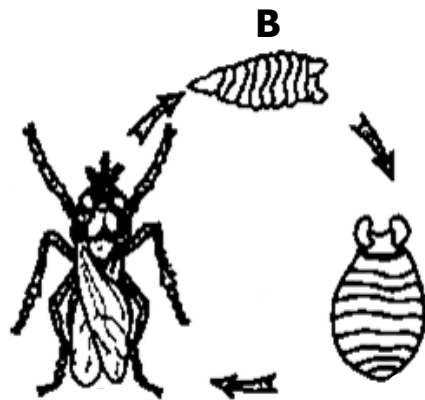
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51. a) In one sentence, give the meaning of the term metamorphosis.

.....

.....

b) The diagram below shows a common vector in the environment. Study and use it to answer the questions that follow.



i) Name the stage marked **B** on the diagram above.

.....

ii) Identify the type of metamorphosis shown in the diagram above.

.....

iii) Give a reason to support your answer in b) (ii) above.

.....

.....

52. a) Identify the plan process that requires the following components of air.

i) Oxygen

.....

ii) Carbon dioxide

.....

- b) Explain why the percentage composition of carbon dioxide is less in the atmosphere during the day than at night. (02 marks)

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53. Two muscles **G** and **H** work in pairs and have opposite effect to each other. Use this information to answer questions **a)**, **b)** and **c)**.

- a) Identify the scientific name is given to the muscles described in the statement above.

.....

- b) State what happens to muscle **G** when muscle **H** relaxes.

.....

- c) Given that the two muscles work together to move the arm such that the contraction of muscle **G** helps in raising the arm, name the muscle **H**.

.....

- d) Name the type of bones in the human body to which metacarpals, metatarsals and phalanges belong.

.....

54. a) Name the type of change which takes place when mulches turn in to humus in the garden.

.....

- b) Mention any two factors which favour formation of humus from mulches.

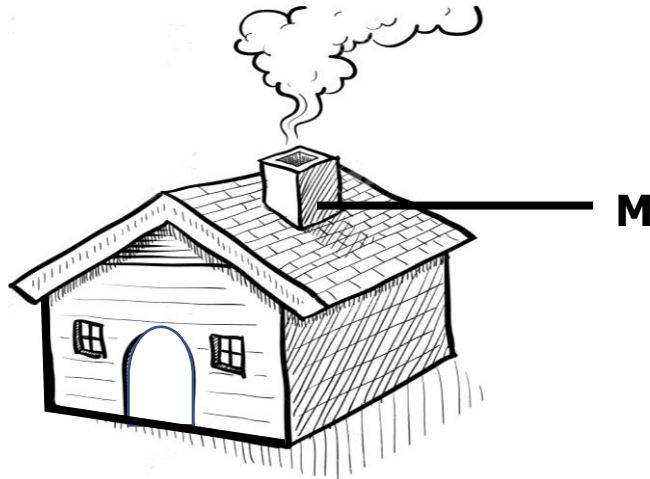
i)

ii)

c) When it is said that some physical changes are reversible, what does it mean?

.....

55. The diagram below shows a kitchen. Study and use it to answer the questions that follow.



a) Name the structure marked **M** on the diagram above.

.....

b) Identify the method of heat transfer that enables the structure marked **M** to function effectively.

.....

c) State the importance of constructing the structure marked **M** at a higher level than the doors and windows.

.....

d) Give the reason why the above structure is not necessary in a kitchen in which electricity is used for cooking instead of wood fuel.

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