

**PRE-MOCK SPECIAL SET**

**2023**

**INTEGRATED SCIENCE**

**Time allowed: 2 hours 15 minutes**

**Index No.**

Random No.						Personal No.		

**Candidate's name:** .....

**Candidate's signature:** .....

**School Random number:** .....

**District No. :**

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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 **15 printed papers** altogether.
3. Answer **all** questions. **All** the answers for both sections **A** and **B** must be shown in the spaces provided.
4. **All** working must be done using a **blue** or **black** ball point pen or ink. Any work done in pencil will **NOT** be marked except drawings and diagrams.
5. Unnecessary **changes** in your work and handwriting that cannot easily be read may lead to loss of marks.
6. Do not fill anything in the table indicated: "**For examiners' use only**" and the boxes inside the question paper.

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		
<b>TOTAL</b>		

## SECTION A (40 MARKS)

1. Name the soil component which improves water-holding capacity of soil.  
.....
2. Identify the method of food preservation which keeps the germs dormant and unable to reproduce.  
.....
3. In which way does breastfeeding boost the baby's immunity?  
.....  
.....
4. Why is an Ecosan toilet sometimes called urine-diverting dry toilet (UDDT)?  
.....
5. Name the vector that spreads Lyme disease to people.  
.....
6. An object of density  $1.2\text{g/cm}^3$  was placed on water. State what happened?  
.....
7. Mention any **one** disease that affects the human ears.  
.....
8. Write down any **one** way of reducing violence among children in schools.  
.....

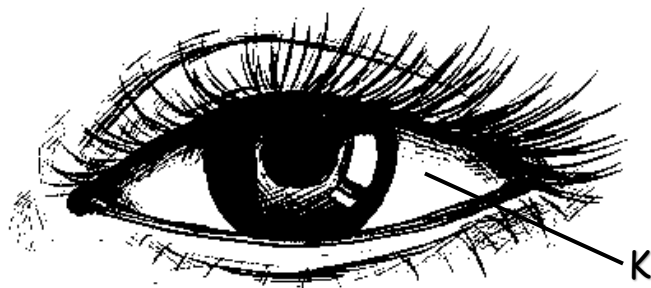
The diagram below shows a non-flowering plant. Use it to answer questions 9 and 10.



9. Name the non-flowering plant shown in the diagram above.  
.....
10. How are spores useful to the non-flowering plant shown above?  
.....

11. Name the type of movable joint found between phalanges.  
.....
12. State what happens to the intercostal muscles during inhalation.  
.....
13. Besides Celsius scale, name **one** other temperature scale.  
.....
14. How does recycling of wastes conserve the environment?  
.....
15. Name the proper method of harvesting trees commonly practised by farmers to prevent Moringa trees from growing very tall.  
.....
16. State the importance of dental braces in management of teeth disorders.  
.....
17. In which **one** way does free range system increase losses on a poultry farm?  
.....
18. Name the childhood immunizable disease which stiffens the baby's jaws.  
.....
19. Write down **one** structural similarity between an artery and a blood capillary.  
.....
20. State any **one** way adolescents can manage secondary sex characteristics.  
.....

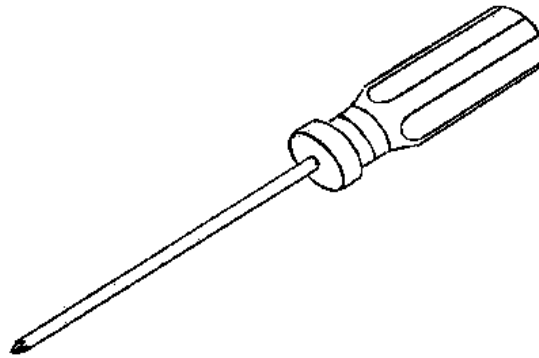
The diagram below shows the human eye. Study it carefully and answer question 21.



21. Name the communicable disease that makes part **K** turn pink.  
.....

22. What happens to naphthalene when heated?  
.....
23. State the importance of a chimney on a kitchen.  
.....
24. Why do alcoholics find it difficult to stop their anti-social habit?  
.....
25. How does Oral Polio Vaccine (OPV) differ from Inactivated Polio Vaccine in the way they are administered?  
.....  
.....
26. Write down **one** reason why sheep keepers carry out flushing among their ewes before mating?  
.....
27. Name the perennial crop affected by Panama disease.  
.....
28. Why does an earthworm die when salt is sprinkled on its body?  
.....
29. State the reason why water is added to plant ash when making local salt.  
.....
30. Of what importance is an incinerator at school?  
.....
31. State the function of pyloric sphincter muscles during food digestion.  
.....
32. Mention any **one** healthy lifestyle that can protect an individual against typhoid fever.  
.....
33. Why are suture joints grouped under fixed joints?  
.....
34. Name the human body organ mainly affected by rabies.  
.....
35. How do crustaceans breathe while in water?  
.....

The diagram below shows a simple machine used to tighten or loosen screw nails. Study it carefully and answer questions **36** and **37**.



36. Name the simple machine shown above.

.....

37. On which principle does the simple machine above work?

.....

38. State any **one** process involved in urine formation.

.....

39. Identify the main product obtained from steers.

.....

40. What happens to gaps between the rails of a railway line on a hot day?

.....

### SECTION B (60 MARKS)

41. (a) What type of bones are the vertebrae?

.....

(b) Name the main human body organ protected by the backbone.

.....

(c) How does the skeletal system benefit the excretory system?

.....

(d) Which disease of the skeletal system shows thickening of the ankles, wrists and knees, and bowed legs among children?

.....

42. (a) How does a sprain differ from a strain?

.....  
.....

(b) Write down any **two** first aid for sprains and strains.

(i) .....

(ii) .....

(c) Of what importance is an arm sling when giving first aid?

.....

43. (a) Differentiate between soil texture and soil structure.

.....  
.....

(b) How does the use of organic fertilizers affect soil texture?

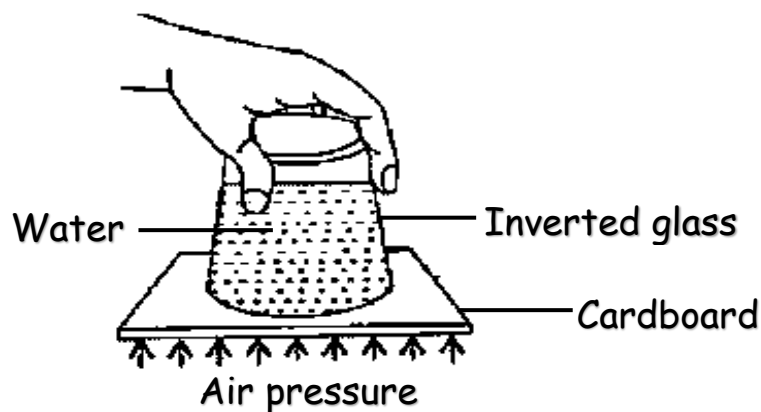
.....

(c) Identify the type of soil with;

(i) greatest permeability: .....

(ii) greatest capillarity: .....

44. Pius carried out the experiment below. Study it and answer the questions carefully.



(a) What was the experiment about?

.....

(b) Why did the cardboard stick on an inverted glass for some time?

.....  
.....

(c) Write down **two** applications of air property in the experiment above in our daily life.

(i) .....

(ii) .....

45. (a) Mention any **two** root tubers propagated by seeds.

(i) .....

(ii) .....

(b) Why is proper earthing up necessary on tuber crops?

.....

(c) Give a reason why cassava plant not propagated by seeds yet it is a flowering plant.

.....

46. (a) To which group of invertebrates does each of the organisms below belong?

(i) Cuttlefish .....

(ii) Jellyfish

.....

(b) Why are the organisms listed in (a) above called invertebrates?

.....

(c) Which type of skeleton is possessed by vertebrates which undergo moulting?

.....

47. Match the farm practices below with their meaning respectively.

**Farm practice**

**Meaning**

Thinning

removal of diseased crops from the garden

Weeding

removal of unwanted parts of a crop

Roguing

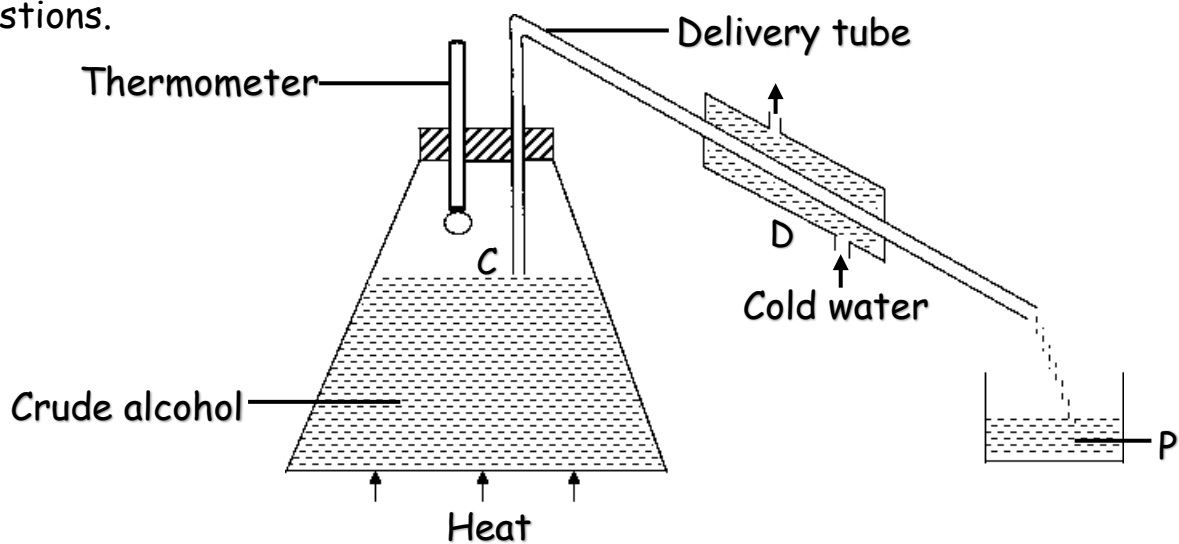
removal of excess crops from the garden

Pruning

removal of unwanted plants from the garden

- (i) Thinning: .....
- .....
- (ii) Weeding: .....
- .....
- (iii) Roguing: .....
- .....
- (iv) Pruning: .....
- .....

48. The diagram below shows a method of making alcohol. Use it to answer questions.



(a) Name the method of making alcohol shown above.

(b) What scientific name is given to liquid P?

(c) How are physical processes at points C and D different in the way they happen?

(d) How does distillation affect alcoholic drinks?

49. (a) Why are worker bees able to build honeycombs in a short time?



(b) Name the substance used by worker bees to build honeycombs.

.....

(c) In which way do honey bees benefit from bee bread?

.....

(d) How is a strainer useful during honey extraction?

.....

50. (a) What causes hog cholera in livestock?

.....

(b) Which livestock is mainly affected by hog cholera?

.....

(c) State the importance of a farrowing crate in piggery.

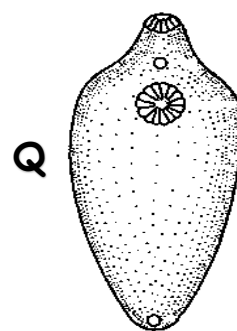
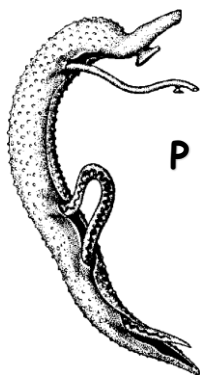
.....

(c) Write down any **one** advantage of keeping pigs over cattle.

.....

.....

51. The diagrams below show parasitic flatworms. Study them carefully and answer questions about them.



(a) Name the flatworms marked **P** and **Q**.

(i) P: .....

(ii) Q: .....

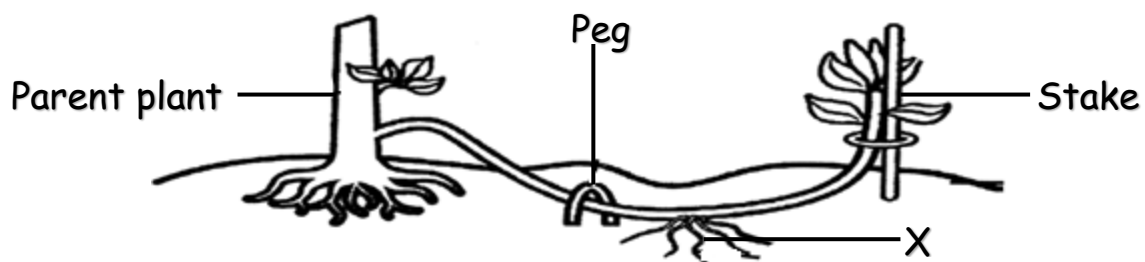
(b) How does flatworm P affect human health?

.....

(c) Write down **one** way of way controlling flatworm Q in cattle.

.....

52. (a) Write down two types of pollination in flowering plants.  
 (i) .....  
 (ii) .....  
 (b) Why do wind pollinated flowers produce much pollen grains?  
 .....  
 (c) State what happens in case vanilla flowers are not hand pollinated.  
 .....  
 .....
53. (a) Name any **one** viral vector vaccine that prevents **COVID-19**.  
 .....  
 (b) Apart from vaccination, mention **two** other ways of controlling the spread of COVID-19 in the community.  
 (i) .....  
 (ii) .....  
 (c) How are COVID-19 vaccines administered?  
 .....
54. Study the method of artificial vegetative propagation below and answer questions that follow.



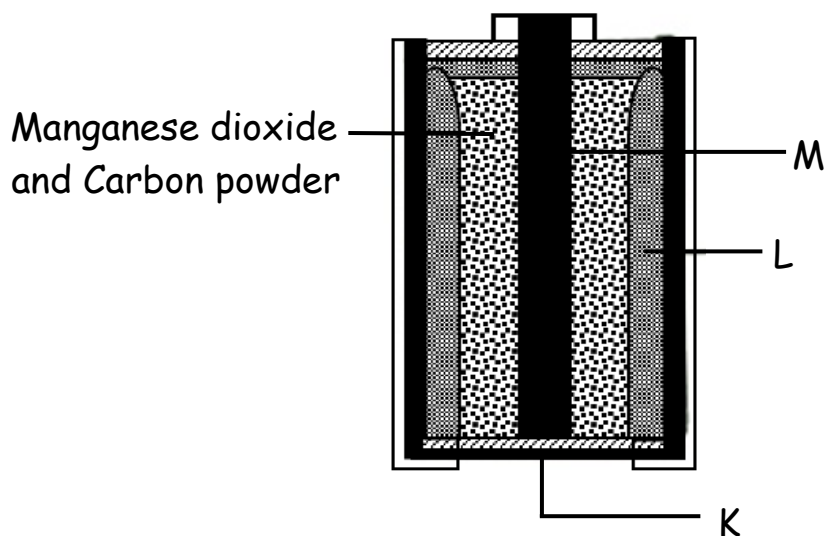
- (a) Identify the method of artificial vegetative propagation shown above.  
 .....  
 (b) Name the roots marked X.  
 .....  
 (c) How is the peg useful in the method of artificial vegetative propagation above?  
 .....  
 .....

(d) Why do pineapple growers prefer propagation by suckers to crowns?

.....

.....

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



(a) Name the part marked **M**.

.....

(b) State **one** function of part **K** to the dry cell.

.....

(c) What energy change occurs in a working dry cell?

.....

.....

(d) Why are dry cells less prone to leakage?

.....

END

