KOTHARI INTERNATIONAL SCHOOL, NOIDA
ANNUAL EXAMINATION, SESSION: 2025-26
GRADE: 7 SUBJECT: SCIENCE
SET A SECTION B (SUBJECTIVE)

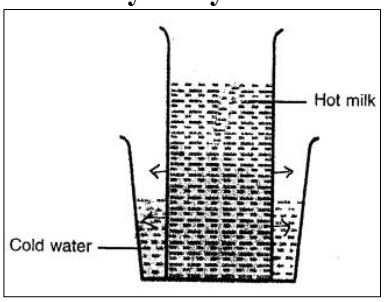
DAY & DATE: TUESDAY - FEBRUARY 24, 2026 **MAXIMUM MARKS: 60**
TIME ALLOTTED: 2 HOURS 30 MINUTES
NAME: _____ **ROLL NO: _____**

GENERAL INSTRUCTIONS:

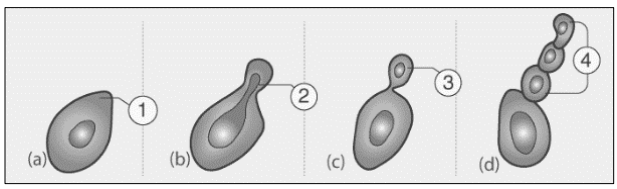
1. ***This question paper consists of 4 pages and contains 19 questions.***
2. ***Read the question paper carefully***
3. ***All questions are compulsory to attempt.***
4. ***No question to be attempted on the question paper.***

Q1. In the human circulatory system, arteries generally carry oxygen-rich blood and veins carry oxygen-poor blood. However, the pulmonary artery and pulmonary vein do not follow this rule. **2**

Explain **why the pulmonary artery and pulmonary vein are called exceptions** to the general rule of arteries and veins. Support your answer with suitable reasoning related to the **type of blood they carry** and their **function**.

Q2. 

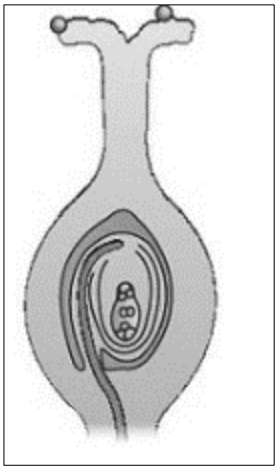
The given figure shows a glass tumbler containing hot milk which is placed in a tub of cold water. State the direction in which heat will flow and why? **2**

Q3. 

Observe the diagram carefully and answer the questions that follow: **2**

a) Explain the process of asexual reproduction shown in the diagram.

b) Name and label the stages numbered **1, 2, 3, and 4** in the diagram.

Q4. 

Show the direction of the pollen tube from the pollen on the stigma in the embryo sac in the given diagram. (Draw and label the diagram in your answer sheet). **2**

Q5. Rusting of iron objects is faster in coastal areas than in deserts. Why? **2**

Q6. A train travels 120 km at 60 km/h and then 180 km at 90 km/h. What is its average speed for the entire journey? **2**

Q7. Draw a distance-time graph from the following data showing the distance covered by a racing car in fixed intervals of time. Calculate the speed of the car. **(2+1)**

Time (s)	Distance (in m) From start point
0	0
1	15
2	30
3	45
4	60
5	75

Q8. There is a pair of bean-shaped organs **P** in the human body towards the back, just above the waist. A waste product **Q** formed by the decomposition of unused proteins in the liver is brought into organs **P** through blood. The numerous tiny filters **R** present inside the organs **P** clean the dirty blood by removing the waste product **Q**. If due to some reason, the organs **P** of a person stop functioning completely, the person's blood can be cleaned periodically by a process **S** so as to save his life.

Read the given description carefully and answer the following:

a) Identify the organs **P**, the waste product **Q**, and the tiny filters **R** mentioned above. **2**

b) Name the process **S** by which the blood is cleaned artificially if the organs **P** stop functioning. **1**

Q9. The flask shaped organ X at the centre of a flower is surrounded by a number of little stalks Y having swollen tops which lie just inside the ring of petals. **3**

a) Name the organ X &Y.

b) Which part of organ X contains gametes?

c) What does the swollen top of organ Y contain?

Q10. a) Explain why lime water turns milky on passing carbon dioxide gas into it. **1**

b) What happens when magnesium oxide is dissolved in water? Write a word equation for this process. **2**

Q11. During a nature walk, Riya observes that some plants around a pond have light, fluffy seeds that float in the air, while plants near the river have seeds with spongy coverings that float on water. After a few weeks, she notices new plants growing far away from the parent plants.

a) Identify the two agents responsible for dispersal of seeds in the above situation. **1**

b) Explain how the structure of seeds helps in their dispersal by these agents. **2**

Q12. When an object made of material P is kept immersed in the blue coloured solution Q, then a chemical change takes place to form a green coloured solution R and a brown layer of substance S is deposited on the object. P is used for making nails and S is used for making copper wires.

a) What could be P, Q, R & S? **2**

b) Write a word equation for this process. **1**

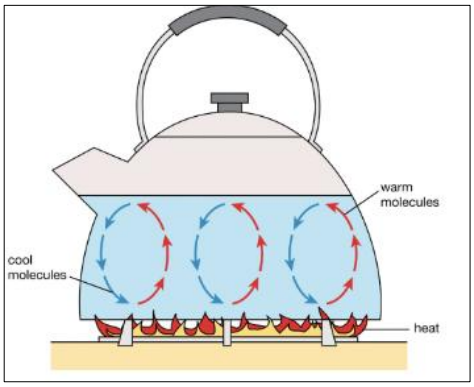
Q13. A white shirt has a yellow stain of curry. When soap is rubbed on this shirt during washing, the yellow stain turns red. On rinsing the shirt with plenty of water, the red stains turns yellow again. **3**

a) Name the natural indicator present in curry stain.

b) What is the nature of soap (acidic or basic) as shown by the indicator present in curry stain?

c) Name a synthetic indicator which will give pink colour with soap solution.

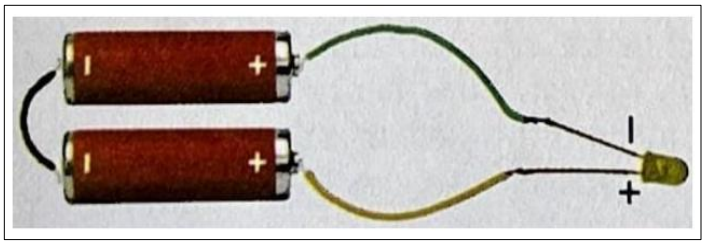
Q14.



a) Based on the picture, explain why the arrows inside the water form circular paths when the pot is heated. Name the mode of heat transfer responsible for this process. **2**

b) Convert 25 degree Celsius to Fahrenheit. **2**

Q15.

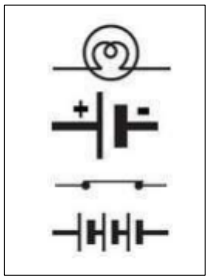


a) An LED needs two cells connected in series to glow. Tanya assembled an electrical circuit using an LED and two cells, as shown in the figure below. **2**

i) Will the LED glow in this circuit? Give a reason for your answer.

ii) If the LED does not glow, redraw the circuit diagram showing the correct wire connections so that the LED glows.

b) Write the electric components corresponding to the following symbols. **2**



Q16. a) A cheetah runs a distance of 200 metres in 10 seconds. What is the speed of the cheetah in **2**

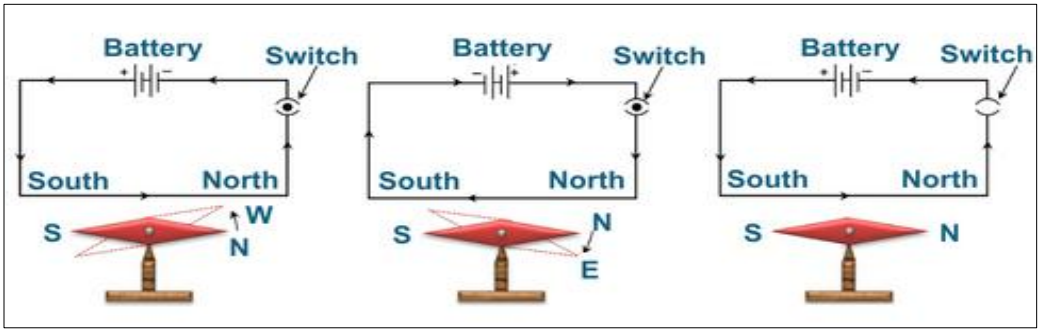
i) m/s ii) km/h

b) A simple pendulum takes 15 seconds to complete 5 oscillations. What is the time period of the pendulum? **2**

Q17. a) The diagram shows a magnetic compass placed near a straight wire connected to a battery and a switch. **2**

i) In which arrangement does the compass needle **not show any deflection**? Give one reason.

ii) What does the deflection of the compass needle in the other arrangements show about the **effect of electric current**?

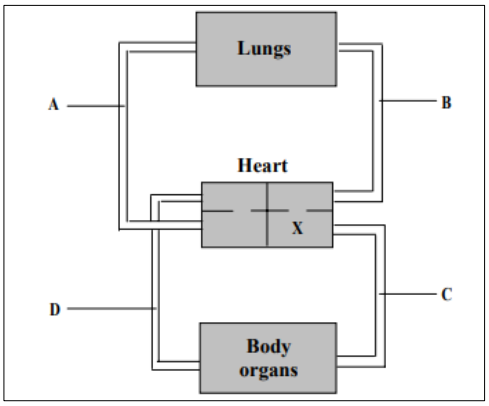


b) Write a short note on the **excessive flow of electric current** in an electric circuit. In your answer, briefly explain **short circuit** and **overloading**, and mention **one harmful effect** of each. **3**

Q18. a) Explain how, water moves from the soil particles to the xylem vessel in the centre of a root. **2**

b) Name any two animals which do not have blood (or circulatory system). **1**

c) The diagram shows a plan of part of the circulation.



i) Name the type of blood vessel labelled C & D.

ii) What happens to the amount of oxygen in the blood as it passes through the body organs? **2**

Q19. a) After eating spicy food, Aman feels a burning sensation in his stomach due to excess hydrochloric acid. He takes an antacid tablet containing magnesium hydroxide and feels relieved after some time. **2**

i) What type of reaction occurs between the antacid and stomach acid?

ii) How does this reaction help relieve acidity.

b) Write a word equation for the neutralisation reaction between sodium hydroxide and hydrochloric acid. Also write the chemical formulae for all the substances involved. **3**