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2023-24

HALF YEARLY EXAM

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FOR
CBSE BOARD
AND
STATE BOARDS

Half Yearly Exam 2023-24
Question Paper

CLASS 7TH SUBJECT: SCIENCE

Max Marks: 60 **Time Allotted: 2½ Hrs.**

Instructions:

1. ***Section A comprises of question numbers 1 to 10. These are MCQ carrying one mark each. You have to select one most appropriate response out of the four provided options.***
2. ***Section B comprises question numbers 11 to 20. These are VSAQs carrying two marks each.***
3. ***Section C comprises question numbers 21 to 25. These are SAQs carrying three marks each.***
4. ***Section D comprises question numbers 26 to 28. These are Case Study Based / Long answer type questions carrying five marks each.***
5. ***All questions are Compulsory!***

Q	Question	Mk
	Section – A: Multiple Choice Questions	
1.	The food making process in green plants is known as – A. Symbiosis B. Saprophytic nutrition C. Photosynthesis D. Parasitic nutrition	1
2.	The gall bladder temporarily stores – A. Fats B. Bile juice C. Carbohydrates D. Proteins ***OR*** Digestion in stomach takes place in – A. Acidic medium B. Alkaline medium C. Neutral medium D. None of these	1
3.	Stainless steel pans are usually provided with copper bottoms. The reason for this could be that: A. Copper bottom makes the pan more durable. B. Such pans appear colorful C. Copper is easier to clean than stainless steel D. Copper is a better conductor of heat than the stainless steel	1
4.	Which of the following can be used to neutralize the basic nature of the soil – A. Organic matter B. Quick lime C. Baking soda D. Slaked lime	1
5.	Which one is filled in the bulb of thermometer – A. Copper B. Mercury C. Silver D. Lead	1
6.	When carbon dioxide is passed through lime water, _____ is formed, which makes lime water milky. A. Sodium carbonate B. Zinc carbonate C. Calcium sulphate D. Calcium carbonate	1
7.	Birds have _____ for respiration. A. Lungs B. Air bladder C. Skin D. Gills	1
8.	Tap water is – A. Acidic B. Basic C. Neutral D. Depends on source	1

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9.	Gastric digestion takes place efficiently in – A. Acidic medium B. Alkaline medium C. Neutral medium D. Highly alkaline medium	1
10.	Burning of any substance is a/an – A. Physical change B. Chemical change C. Irreversible change D. Both B and C	1

Section – B: Very Short Answer Type Questions

11.	Give one difference between a parasite and a saprotroph with one example of each. ***OR*** What do you understand by the term symbiosis? Give an example of symbiosis.	2
12.	Which part of the digestive canal is involved in – a) absorption of food _____. b) chewing of food _____. c) killing of bacteria _____. d) complete digestion of food _____.	2
13.	What are villi? What is their location and function? ***OR*** Explain the role of mucus secreted by stomach.	2
14.	Give two examples each of conductors and insulators of heat.	2
15.	Match the following: a) Land breeze blows during — i) Summer b) Sea breeze blows during — ii) Winter c) Dark coloured clothes are preferred during — iii) Day d) Light coloured clothes are preferred during — iv) Night	2
16.	Ammonia is found in many household products, such as window cleaners. It turns red litmus blue. What is its nature?	2
17.	Mark 'T' if the statement is true and 'F' if it is false – a) Nitric acid turns red litmus blue. (T/F) b) Sodium hydroxide turns blue litmus red. (T/F)	2
18.	When a candle burns, both physical and chemical changes take place. Identify these changes. Give another example of a familiar process in which both the chemical and physical changes take place.	2
19.	Why rusting of iron objects is faster in coastal areas than in deserts? ***OR*** State two methods to prevent rusting of Iron?	2
20.	Paheli participated in 400m race competition held at her school and won the race. When she came home, she had cramps in her leg muscles which was relieved after a massage. a) What can be the possible reason for the pain in her legs? b) Why did she feel comfortable after the massage?	2

Section – C: Short Answer Type Questions

21.	Identify the colour change in the given solutions when we add indicators like blue litmus and turmeric. Write the changes in the table provided for your help.	3

Indicators-	Blue litmus	Turmeric
1. Vinegar		

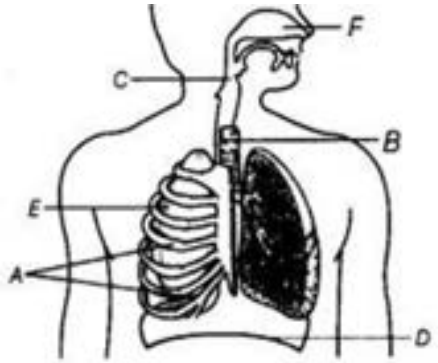
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	2. Soap solution		
	3. Pure water		

OR

Divya took Water, solution of baking powder in water and vinegar in water in test tubes A, B and C respectively. What colour is expected when China rose extract is poured in each test tube?

22. Observe the given diagram of human respiratory system. List the organs from A to F. — 3



23. When baking soda is mixed with lemon juice, bubbles are formed with the evolution of a gas. What type of change is it? Explain. — 3

24. Show with the help of a sketch that plants are the ultimate source of food. — 3

OR

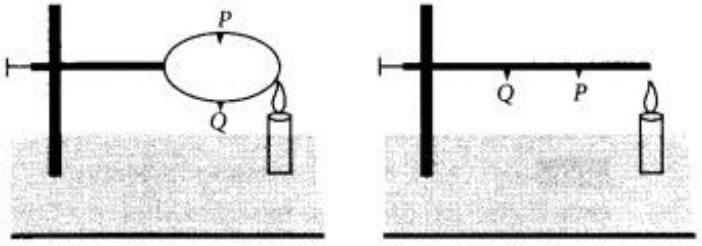
Differentiate between autotrophic and heterotrophic mode of nutrition.

25. Write one similarity and one difference between the nutrition in amoeba and human beings. — 3

Section – D: Case Study Based / Long Answer Type Questions

26. **Read the passage and answer the following questions:** — 5

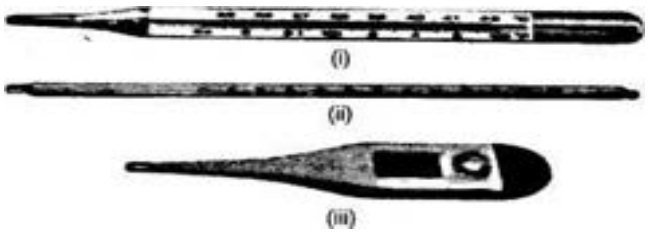
A teacher was demonstrating the process of conduction with the help of the following arrangements A and B shown in Figure. He fixed the pins P and Q to a metal loop and an iron rod with the help of wax and asked the following questions from the students.



(A) (B)

a) Give reason behind falling of pins at different interval.
b) Define the term conduction. Give one example of conductor

OR



Students were given three thermometers by their teacher as shown in figure above. Observe the figure carefully and answer the following questions:

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a) Which thermometer is used to measure the temperature of human body?

b) Give two precautions that we need to take while using clinical thermometer.

c) What is the range of a laboratory thermometer?

d) Identify the thermometer given in figure (iii).

e) What prevents the mercury from falling on its own in a clinical thermometer?

27. **Read the passage and answer the following questions:** 5

Plants synthesize carbohydrates through the process of photosynthesis. The carbohydrates are made of carbon, hydrogen and oxygen. These are used to synthesize other components of food such as proteins and fats. But proteins are nitrogenous substances which contain nitrogen. Nitrogen is present in abundance in gaseous form in the air.

However, plants cannot absorb nitrogen in this form. Soil has certain bacteria that convert gaseous nitrogen into a usable form and release it into the soil. These are absorbed by the plants along with water. Also, you might have seen farmers adding fertilizers rich in nitrogen to the soil. In this way the plants fulfil their requirements of nitrogen along with the other constituents. Plants can then synthesize proteins and vitamins.

Besides leaves, photosynthesis also takes place in other green parts of the plant in green stems and green branches. The desert plants have scale or spine like leaves to reduce loss of water by transpiration. These plants have green stems which carry out photosynthesis.

a)	Carbohydrates are made up of which of the following components? A. Hydrogen B. Carbon C. Oxygen D. All of these
b)	_____ is a nitrogen containing compound. A. Carbohydrates B. Hydrogen C. Oxygen D. Proteins
c)	Which organisms convert gaseous nitrogen into a useable form? A. Earthworm B. Cattle C. Microbe D. Bacteria
d)	How does a desert plant reduce loss of water by transpiration?
e)	How do plants fulfil their requirements of nitrogen?

28. **Read the passage and answer the following questions:** 5

Animals such as elephants, lions, cows, goats, frogs, lizards, snakes, birds, have lungs in their chest cavities like the human beings. Cockroach: A cockroach has small openings on the sides of its body. Other insects also have similar openings. These openings are called spiracles. Insects have a network of air tubes called tracheae for gas exchange. Oxygen rich air rushes through spiracles into the tracheal tubes, diffuses into the body tissue, and reaches every cell of the body.

Similarly, carbon dioxide from the cells goes into the tracheal tubes and moves out through spiracles. These air tubes or tracheae are found only in insects and not in any other group of animals. The skin of an earthworm feels moist and slimy on touching. Gases can easily pass through them. Though frogs have a pair of lungs like human beings, they can also breathe through their skin, which is moist and slippery.

Answer the following:

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a)	Which of the following animal have lungs like human beings? A. Cows B. Goats C. Snakes D. All of these	
b)	The trachea is found only in the _____ and no other group of animals. A. Insect B. Pest C. Cow D. Snake	
c)	_____ organism can breathe through their skin. A. Snake B. Reptiles C. Birds D. Frog	
d)	What are the small openings on the sides of cockroach's body?	
e)	How does the skin of earthworms feel on touching?	

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