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INDIAN SCHOOL SALALAH

FINAL EXAMINATION, FEBRUARY 2026 (AY 2025-26)

Class: IX **SCIENCE- Code No. 086** **Date: 03/02/2026**

Time: 3 Hrs. **Maximum Marks:80**

General Instructions:

a. **This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.**

b. **All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.**

SECTION A- BIOLOGY

1 Local varieties of bees used for commercial honey production are: **1**

A. Apis cerana indica and Apis dorsata

B. Apis mellifera and Apis florae

C. Apis nuluensis and Apis mellifera

D. Apis indica and Apis mellifera

2 Meristematic tissues are found in all growing parts of a plant. Which among the following helps in the elongation of internodes in grasses? **1**

A. Parenchyma

B. Apical meristem

C. Intercalary meristem

D. Lateral meristem

3 Cultivation practices and crop yield are related to weather, soil quality and availability of water. Which among the following will help in developing varieties for wider adaptability? 1

A. Increasing storage life

B. Allowing cultivation in different climatic conditions

C. Reducing seed size

D. Increasing water requirement

4 Besides nucleus, DNA is also present in **1**

A. Ribosome and Golgi apparatus

B. Lysosomes and Endoplasmic reticulum

C. Mitochondria and Chloroplasts

D. Golgi apparatus and Mitochondria

5 Identify the characteristic feature which describes a parenchyma tissue. **1**

A. They have living cells and irregularly thickened at corners

B. The cells are dead with thickened walls.

C. The cells are dead with thin cellulose walls.

D. They have living cells with thin cell walls.

6 Identify the statement which is not related to endoplasmic reticulum? **1**

A. It behaves as transport channel for proteins between nucleus and cytoplasm.

B. It transports materials between various regions in cytoplasm.

C. It is a site of energy generation.

D. It is a site for some biochemical activities of the cell.

The following one question consists of two statements – **Assertion** (A) and **Reason** (R). Answer this question by selecting the appropriate option given below:

A. Both A and R are true, and R is the correct explanation of A.

B. Both A and R are true, and R is not the correct explanation of A.

C. A is true but R is false.

D. A is false but R is true.

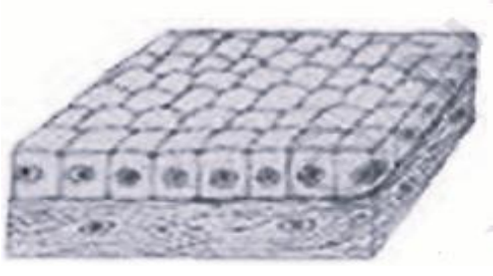
7 **Assertion (A):** Husk of coconut is hard and stiff. **1**

Reason (R): It is made of collenchymatous tissues.

8 **Assertion (A):** Plants are eukaryotes. **1**

Reason (R): In plant cells, nucleus is surrounded by nuclear membrane.

9 Identify the animal tissue and specify its location and function. **2**



10 a. How are micro-nutrients different from macro-nutrients? **2**

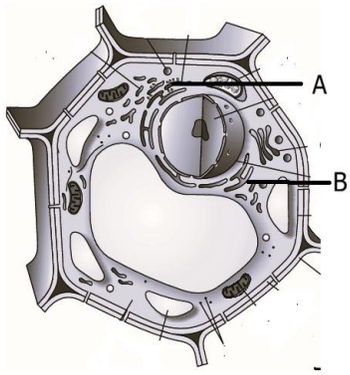
b. Organic farming system aims in minimal use of chemicals. Give one example for each of the following: i) Biofertilizer ii) Bio-pesticide

OR

a. Storage loses in agricultural produce is very high due to biotic and abiotic factors. State any two consequences of such storage loss.

b. Define hybridization.

11 Given below is the ultrastructure of a plant cell. Identify the labelled part A and B and write the difference between them. **2**



12 In Biology practical class, the teacher placed the onion peel, RBC and a boiled egg in three different beakers of hypotonic solution. What changes would have happened to all the three? Give reason by supporting the activity performed in the lab. **3**

OR

Explain the structure of nucleus (any four points) and mention any two of its functions.

13 Nervous tissues are highly specialised for being stimulated and transmitting signals very rapidly from one place to another within the body. Nerve impulses allow us to move our muscles when we want to. The functional combination of nerve and muscle tissue is fundamental to most animals. **4**

A Mention any two features of skeletal muscles.

B Write the difference between ligament and tendon

C(I) **Attempt either option (I) or (II).**

Given below is an incomplete table relating muscle tissues. Observe the table and fill in the blanks P, Q, R and S.

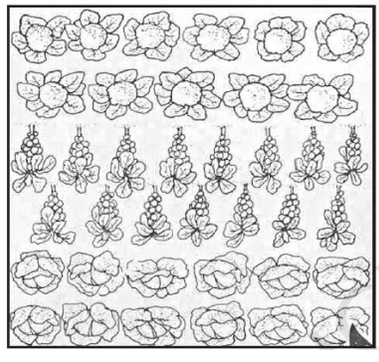
Tissue	Location	Shape
Smooth muscle	P	Q
R	Heart	S

OR

C(II) Draw a nerve cell and label the following parts: a. Axon b. dendrites

14(I) **Attempt either option (I) or (II).** **5**

a. In order to get maximum benefit, crops can be grown in different ways. Identify the cropping pattern in the figure given below and explain the different patterns of cropping.



b. Mention any two preventive measures taken to control weeds.

c. List two desirable traits for fodder crops.

d. Fertilizers are a factor of higher yield but should be applied carefully in proper dose. What are the disadvantages of it?

OR

14(II) a. Poultry farming in animal husbandry involves raising birds (chickens, ducks) for eggs (layers) and meat (broilers). Cross breeding between indigenous and exotic breed focuses on improved variety. From the figure given below identify the Indian breed and exotic breed. Describe any two desirable traits for which new varieties are developed.

Aseel

Leghorn

b. Explain composite fish culture. Write any two advantages of it.

c. Name the two types of food requirement of diary animals.

SECTION B - CHEMISTRY

15 Which of the following represent the suitable conditions for the liquefaction of gases? **1**

A) Low temperature, low pressure

B) High temperature, low pressure

C) Low temperature, high pressure

D) High temperature, high pressure

16 Which of the following statements are true for pure substances? **1**

i) Pure substances contain only one kind of particles.

ii) Pure substances may be compounds or mixtures.

iii) Pure substances have the same composition throughout.

iv) Pure substances can be exemplified by all elements other than nickel.

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

17 Out of ozone, phosphorous, sulphur, argon, the elements having the lowest and highest atomicity are respectively: **1**

A) Sulphur, Argon

B) Argon and Ozone

C) Phosphorous, Sulphur

D) Argon, Sulphur

18 The isotopes of an element contain: **1**

A) Same number of neutrons but different number of protons.

B) Same number of neutrons but different number of electrons

C) Different number of protons as well as different number of neutrons

D) Different number of neutrons but same number of protons

The following one question consists of two statements – **Assertion** (A) and **Reason** (R). Answer this question by selecting the appropriate option given below:

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19 **Assertion:** When a beam of light is passed through a colloidal solution placed in a dark place the path of the beam becomes visible. **1**

Reason: Light get scattered by the colloidal particles.

20 When water is cooled to a temperature X, it gets converted into ice at temperature X by a process called P. When ice at temperature X is warmed, it gets reconverted into water at the same temperature X in a process called Q. **2**

A) What is the value of temperature X in Kelvin?

B) What are the processes P and Q known as?

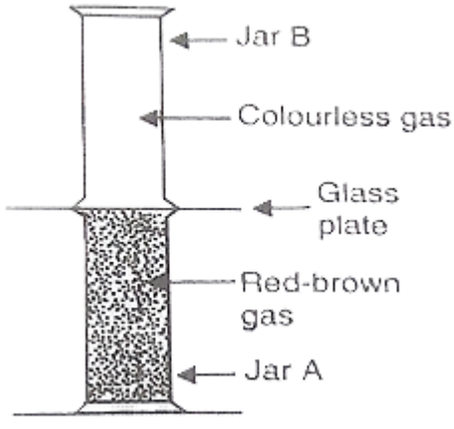
C) What is the name of energy absorbed during process Q?

21 A) What are valence electrons? **2**

B) How many numbers of valence electrons are present in the atoms of an element having atomic number 12? Name the valence shell of this atom.

C) What is the reason for the slight difference in the physical properties of different isotopes of an element?

22 A. Look at the diagram given below. Jar A contains a red brown gas whereas jar B contains a colourless gas. The two gas jars are separated by a glass plate placed between them. **3**



i) What will happen when the glass plate between the two jars is pulled away?

ii) Which is the gas most likely to be present in jar A?

iii) Name two solids which can be placed in jar A in place of red-brown gas which can show same phenomenon when gently heated.

B. Why does steam cause more severe burns than boiling water?

23 A) Iron powder and sulphur powder were mixed together and divided into two parts A and B. When part A was heated strongly over a burner, then a substance C was formed. The part B was, however, not heated at all. When dilute hydrochloric acid was added to substance C, then gas D was evolved and when dilute hydrochloric acid was added to part B then gas E was evolved. **3**

i) Name the gases D and E.

ii) State one characteristic property of gas D.

iii) Write one test to identify gas E.

B) Define solubility of a substance? How does it vary with temperature?

24 I.A) State law of constant proportions. **3**

B) Calculate the molecular masses of compounds $CHCl_3$, P_2O_5.

(Atomic masses C=12 u, H=1 u, Cl=35.5 u, P=30 u, O=16 u)

C) What is the difference between 2H and H_2.

OR

II.A) The formula of a carbonate of a metal M is M_2CO_3, then what will be the formula of its hydroxide?

B) Magnesium and oxygen combine in 3:2 ratio by mass to form magnesium oxide. What mass of oxygen gas would be required to react completely with 39 g of magnesium?

C) Give one drawback of Dalton's atomic theory of matter.

25 Compounds composed of metals and nonmetals contain charged species. The charged species are known as ions. Ions may consist of a single charged atom or a group of atoms that have a net charge on them. An ion can be negatively or positively charged. A negatively charged ion is called an 'anion' and the positively charged ion, a 'cation'. Take, for example, sodium chloride (NaCl). Its constituent particles are positively charged sodium ions (Na+) and negatively charged chloride ions (Cl–). A group of atoms carrying a charge is known as a polyatomic ion. **4**

A Define formula unit mass.

B If the valency of Sulphur is 6 and oxygen is 2 then work out the formula of oxide of Sulphur.

C(I) How many number of electrons, neutrons are present in U^{+6} (Z=92, A=235).

OR

C(II) An element A forms an oxide A_2O_5.

i) What is the valency of element A?

ii) What will be the formula of chloride of A?

26(I) **Attempt either option (I) or (II).** **5**

A) The average atomic mass of a sample of an element carbon is 12.011 u. What are the percentages of isotopes ^{12}C and ^{13}C and in the sample?

B) Write any two applications of isotopes.

C) Describe Thomson's model of the atom. Which subatomic particle was not present in Thomson's model of the atom?

OR

26(II) A) Give the evidence for the existence of nucleus in an atom.

B) Write two postulates of Bohr's model of atom.

C) Compare an electron, a proton, a neutron in respect of their relative masses.

D) Write the distribution of electrons in silicon, fluorine.

SECTION C - PHYSICS

27 An object of mass 2 kg is sliding with a constant velocity of 4 m/s on a frictionless horizontal table. The force required to keep the object moving with the same velocity is: **1**

A. 2N

B. 32 N

C. 0N

D. 8N

28 What is the momentum of a body of mass 2m and velocity v/2? **1**

A. mv/2

B. 2mv

C. mv

D. mv/4

29 The weight of a body is 120 N on the earth. If it is taken to the moon, its weight will be **1**

A. 20 N

B. 60 N

C. 120 N

D. 720 N

30 On tripling the speed of motion of a body, the change in K.E is **1**

A. 8 times

B. 9 times

C. 4 times

D. 2 times

31 The distance between two consecutive compressions is known as **1**

A. Frequency

B. Time period

C. Amplitude

D. Wavelength

32 Which one of the following statements is incorrect? **1**

A. The sound of single frequency is called a tone.

B. The sound which is produced due to a mixture of several frequencies is called a note.

C. The quality or timbre of sound is that characteristic which enables us to distinguish one sound from another having a different pitch and loudness.

D. A high pitch sound corresponds to a greater number of compressions and refractions passing a fixed point per unit time.

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33 **Assertion:** The slope of distance time graph gives acceleration of the body. **1**

Reason: Greater the slope of distance time graph, more is the speed of the body.

34 Define uniform circular motion. Is it an accelerated motion? If yes, what is the direction of acceleration? Give an example of this type of motion. **2**

35 A car moving with the speed of 36 km/h comes to rest in 5 s by applying brakes. Calculate the acceleration and distance covered by the car before coming to rest. **3**

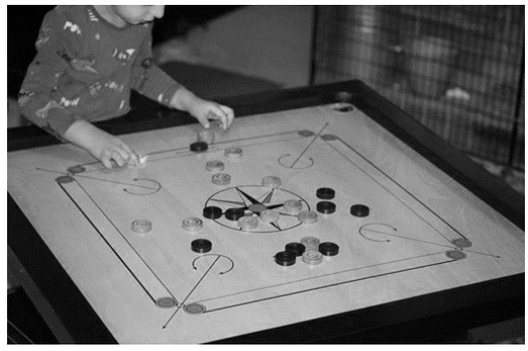
36 A. Draw the waveforms which represent soft sound and loud sound. **3**

B. If the frequency and wavelength of a sound wave are 2 kHz and 0.35 m respectively. Then find the time taken by a sound wave to travel 1.5 km.

37 A. An egg sinks in fresh water but floats in a strong solution of salt. Why? **3**

B. Derive the relation between g and G.

38 While playing carrom, the coins on a carrom board are arranged vertically. Arun observed that a fast-moving striker strikes a pile of carrom coins and only the bottom coin gets removed and the vertical arrangements of the coins remain intact. **4**



A What is the reason that only the bottom coin is removed, and the rest of the coins do not fall?

B Which law of motion explains the observed phenomenon in the carrom coin arrangement? Also state the law.

C(I) Luggage placed on the roof of a car or bus is tied with a rope. Explain with reason.

OR

C(II) Why do you fall in the forward direction when a moving bus brakes to a stop and fall backwards when it accelerates from rest? Explain

39(I) **Attempt either option (I) or (II).** **5**

A. Define Kinetic energy and derive the expression for kinetic energy.

B. A force acting on a 10 kg mass changes its velocity from 54km/h to 90km/h. Calculate the work done by the force.

OR

39(II) A. Define potential energy. Derive an expression for gravitational potential energy.

B. Define power. A man of mass 60kg runs up a flight of 30 steps in 40s. If each step is 20cm high, calculate his power.

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