

BUDHA DAL PUBLIC SCHOOL PATIALA
Final Examination (10 March 2026)
CLASS IX
PAPER- SCIENCE (SET-B)

M.M. 80

Time: 3 hr.

General Instructions:

- (i) This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.
(ii) 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

- Q1. Which out of the following is not a function of vacuole? (1)
a) Storage b) Providing turgidity and rigidity to the cell
c) Waste excretion d) Locomotion (1)
- Q2. Choose the wrong statement
a) The nature of matrix differs according to the function of the tissue
b) Fats are stored below the skin and in between the internal organs
c) Epithelial tissues have intercellular spaces between them
d) Cells of striated muscles are multinucleate and unbranched
- Q3. A nail is inserted in the trunk of a tree at a height of 1 metre from the ground level. After 3 years the nail will (1)
a) Move downwards b) Move upwards c) Remain at the same position d) Move sideways (1)
- Q4. Gunny bags in the godown are covered by a powdery mass. It is an indication of (1)
a) Infestation of the stored grains b) Remains of pesticide spray
c) Healthy nature of stored grains d) Wet nature of grains
- Q5. For the following questions, two statements are given - one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: (1)
a) Both A and R are true and R is the correct explanation of the assertion.
b) Both A and R are true but Reason R is not a correct explanation of Assertion.
c) A is true but R is false.
d) A is false but R is true.
- Assertion : Organic farming raises unpolluted crops.
Reason: It does not use chemical fertilizers and pesticides.
- Q6. For the following questions, two statements are given - one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: (1)
a) Both A and R are true and R is the correct explanation of the assertion.
b) Both A and R are true but Reason R is not a correct explanation of Assertion.
c) A is true but R is false.
d) A is false but R is true.
- Assertion : SER is specialized to synthesis proteins.
Reason: SER does not bear ribosomes over its surface.
- Q7. How is flexible nature of plasma membrane useful to Amoeba? Name the process.

B-1



OR

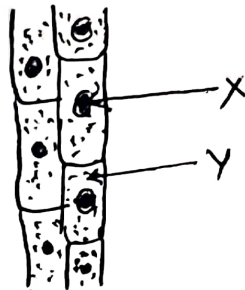
Explain what happens when a drop of concentrated sugar solution is placed on a rheo leaf mounted on a glass slide. Name this phenomenon.

- Q8. Write one function of each of the following tissues and also name the chemicals present in their wall thickenings. (2)
- a) Sclerenchyma b) Cork cells
- Q9. Identify and draw labelled diagram of muscular tissue found in the iris of eye and bronchi of lungs. Write one characteristics also. (3)
- Q10. a) A farmer wants to improve the cattle breed for getting higher yield and for resistance to disease. Name the method he should adopt to get animals of desired qualities and explain it in brief. (3)
- b) Name the two types of food requirements of dairy animals.
- c) Differentiate roughage and concentrate in animal food.

OR

What is composite fish culture? Explain with example. State one merit.

- Q11. a) Identify the following element of xylem and write its function. Also label the parts X and Y. (5)

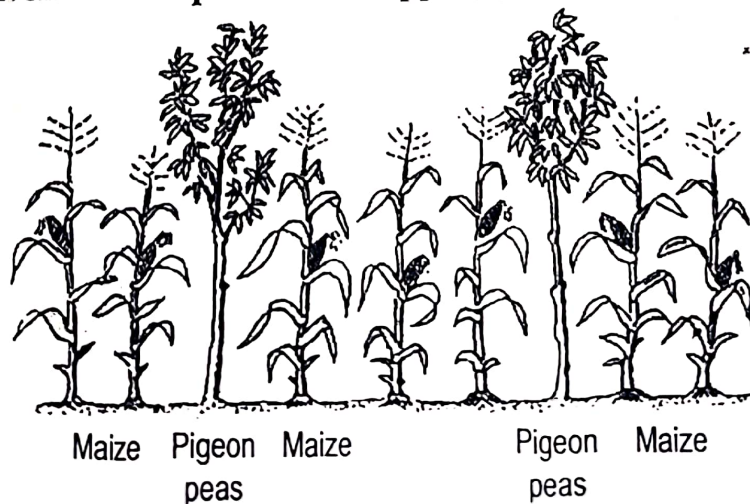


- b) Write four differences between tendon and ligament.

- Q12. Case Study:
Read the passage and answer the following questions:

Different ways of growing crops can be used to give maximum benefit. Mixed cropping is growing two or more crops simultaneously on the same piece of land, inter-cropping is growing two or more crops simultaneously on the same field in a definite pattern. The growing of different crops on a piece of land in a pre-planned succession is known as crop rotation. Weeds, insects and diseases must be controlled by various methods for a good harvest. One of the most commonly used methods is the use of pesticides. However, excessive use of these chemicals creates problems. Some other preventive measures against pests are the use of resistant varieties, and summer ploughing, in which fields are ploughed deep in summers to destroy weeds and pests.

- (i) The image given below represents a cropping pattern.



The cropping pattern represents

- (a) inter-cropping, which ensure maximum utilisation of the nutrients supplied
- (b) mixed-cropping which minimize the risk of crop failure
- (c) crop rotation which ensure good harvest within a year
- (d) mixed cropping which ensure eradication of weeds

(ii) Which of the following is not weed control method?

- (a) Mechanical removal of weeds
- (b) Intercropping and crop-rotation
- (c) Use of pesticides
- (d) Enriching the soil via manure and fertilisers

iii) Write two preventive measures against pests.

iv) What is crop rotation?

**Section - B
Chemistry**

- Q13. 77°C on Kelvin Scale will be (1)
a) 109k b) 350k c) 300k d) 250 k
- Q14. A liquid disposed in a gas is called (1)
a) sol b) solid foam c) aerosol d) solid sol
- Q15. A symbol ${}_{18}^{40}\text{X}$ represents an atom of an element. The number of neutrons in the elements is (1)
a) 18 b) 22 c) 40 d) None of these
- Q16. Which of the following is a suspension (1)
a) Sugar solution b) Milk c) Milk of magnesia d) Salt
- Q17. Carbon dioxide gas can be converted into solid state, which is a white fluffy mass. The solid state of carbondioxids is called (1)
a) Cooking gas b) dry ice c) tear gas d) mustard gas
- Q18. Which is not the characteristic of a pure substance? (1)
a) It is homogeneous in nature
b) It composition can be altered by physical means
c) It has a definite melting point, boiling point density etc.
d) It has only one kind of particales
- Q19. The chemical name of PbI_2 is (1)
a) Lead chloride b) Lead iodide c) Lead iodine d) None of these
- Q20. For the following questions, two statements are given - one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: (1)
a) Both A and R are true and R is the correct explanation of the assertion.
b) Both A and R are true but Reason R is not a correct explanation of Assertion.
c) A is true but R is false.
d) A is false but R is true.
Assertion : Isotopes have identical chemical properties.
Reason : Isotopes have different atomic numbers
- Q21. Define the following terms (2)
a) Aqueous solution b) Emulsion
- Q22. Give reasons: (2)
a) Naphthalene balls disappear with time without leaving any solid.
b) Sponge though compressible is a solid.

- Q23. a) Describe Bohr model of atom. Explain with the help of diagram.
b) Why L shell can accommodate maximum of 8 electrons?

OR

- a) What are main features of Rutherford model of atom?
b) What is the relative mass of Electron and proton? (3)
- Q24. a) Define Atomicity. Give example of monoatomic molecule.
b) Calculate molecular mass of Na_2CO_3 given atomic mass of $\text{Na} = 23\text{u}$, $\text{C} = 12\text{u}$, $\text{O} = 16\text{u}$
c) If valency of element M is +3, what is its formula of Chloride and Oxide. (5)

- Q25. a) Define a.m.u.
b) Write symbols of (i) Silicon (ii) Silver
c) Define Law of constant proportion with help of this law. What weight of oxygen gas would be required to completely react with 3gm of Hydrogen gas to form H_2O .

OR

- i) Identify the dispersed phase and dispersing medium in the Foam
ii) Define solubility. How does the solubility of a solute in solvent change with an increase in temperature?
iii) Distinguish between mixtures and compounds (4 points)
- Q26. The following data represents the distribution of electrons, protons and neutrons in elements A, B, C and D (4)
From the given table :

Element	Proton	Neutron	Electron
A	19	21	19
B	17	18	17
C	17	20	17
D	18	22	18

Answer the following:

- Q1. What is the mass number of element A and D?
Q2. What will be number of Electrons in A^+ ions?
Q3. Which two elements forms isobars? Define isobars.

OR

- Q3. Which element represent Noble gas? Name it and what is its valency?

Section - C Physics

- Q27. An object floats in a liquid, if the buoyant force is (1)
a) zero b) less than its weight c) greater than its weight d) equal to its weight
- Q28. Area under a V-t graph represents a physical quantity which has the unit (1)
a) m^2 b) m c) m^3 d) ms^{-1}
- Q29. A sound wave travels at a speed of 330 m/s. If its wavelength is 1.5m, what is the frequency of the wave? (1)
a) 220 Hz b) 22,600 Hz c) 230 Hz d) 20,000 Hz

B-4

- Q30. Rocket propulsion phenomena can be described by which Newton's Law of motion? (1)
- First Law of motion
 - Second Law of motion
 - Third Law of motion
 - None of above

- Q31. Water stored in a dam processes (1)
- No energy
 - Kinetic energy
 - Electrical energy
 - Potential energy

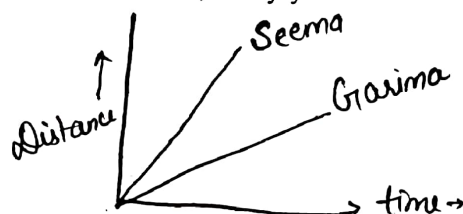
- Q32. For the following questions, two statements are given - one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: (1)

- Both A and R are true and R is the correct explanation of the assertion.
- Both A and R are true but Reason R is not a correct explanation of Assertion.
- A is true but R is false.
- A is false but R is true.

Assertion : Earth is attracted towards the object but with a very small acceleration.

Reason : According to Newton's Law of motion, if earth attracts an object towards itself then the object should also attract the earth.

- Q33. The distance time graph for motion of Seema and Garima is shown alongside. Which of them has smaller acceleration? Justify your answer. (2)

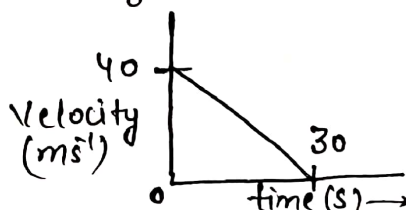


- Q34. The volume of a 500 g sealed packet is 350 cm³. Will the packet float or sink in water? If the density of water is 1g/cm³, what will be the mass of water displaced by this packet? (2)

- Q35. Represent graphically by two separate diagrams in each case: (3)
- Two sound waves having the same amplitude but different frequencies
 - Two sound waves having the same frequency but different amplitudes
 - Two sound waves having different amplitudes and also different wavelength

- Q36. An object of mass M is moving with a constant velocity v. How much work should be done on the object to bring the object to a constant velocity v/2? (3)

- Q37. Velocity - time graph of a ball of a 100g marble rolling on floor is given below. Calculate (3)
- Time in which it stops
 - Negative acceleration produced in it
 - Positive force acting on the marble



- Q38. (5)
- A human heartbeat 70 times in a minute. Calculate its frequency.
 - Why can't we hear the sound of an explosion on the surface of the moon?
 - What is Reverberation?
 - A boy hears the echo of his own voice from a distant hill after 0.8 sec. If the speed of sound in air is 340m/s. Calculate the distance of hill from the boy.

B-5

Q39.

(4)

Read the paragraph and answer the following questions:

The force acting on an object perpendicular to the surface is called thrust. When you stand on loose sand, the force, that is, the weight of your body is acting on an area equal to the contact area of your feet. When you lie down then the same force acts on an area equal to the contact area of your whole body, which is larger than the area of your feet. Thus, the effects of forces of the same magnitude on different areas are different. In the above cases, thrust is the same. But effects are different. Therefore the effect of thrust depends on the area on which it acts. The effect of thrust on sand is larger while standing than while lying. The thrust on unit area is called pressure.

- (i) SI unit of pressure is
(a) Pascal (b) N/m^2 (c) Both a and b (d) None of these
- (ii) SI unit of thrust is
(a) m/s (b) m/s^2 (c) Newton(N) (d) None of these
- (iii) The effects of forces of the same magnitude on different areas are different. True or false
(a) True (b) False (c) None of these
- (iv) We have two different areas A and B. where $A > B$. Then relation between pressure on A(P_A) and pressure on B (P_B) is
(a) $P_A = P_B$ (b) $P_B > P_A$ (c) $P_A > P_B$ (d) None of these