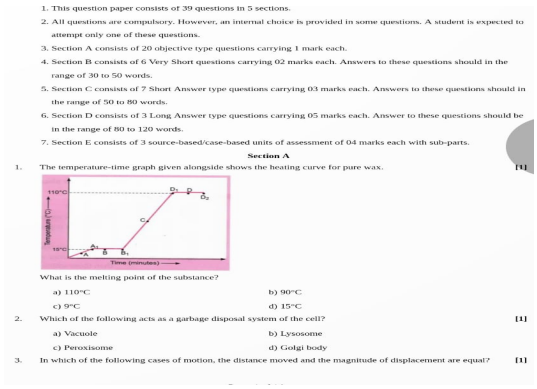
January Memories

Photo 1: qfjif



1. This question paper consists of 39 questions in 5 sections.
2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
3. Section A consists of 20 objective type questions carrying 1 mark each.
4. Section B consists of 6 Very Short questions carrying 02 marks each. Answers to these questions should in the range of 30 to 50 words.
5. Section C consists of 7 Short Answer type questions carrying 03 marks each. Answers to these questions should in the range of 50 to 80 words.
6. Section D consists of 3 Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
7. Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

Section A

1. The temperature-time graph given alongside shows the heating curve for pure wax. [1]

What is the melting point of the substance?

a) 110°C b) 90°C
c) 5°C d) 15°C

2. Which of the following acts as a garbage disposal system of the cell? [1]

a) Vacuole b) Lysosome
c) Peroxisome d) Golgi body

3. In which of the following cases of motion, the distance moved and the magnitude of displacement are equal? [1]

Photo 2: ihefio

a) The earth is revolving around the Sun b) The pendulum is moving to and fro
c) A car is moving on a straight road d) A car is moving in a circular path

4. Which of one of the following nutrients is not available in fertilisers. [1]

a) Iron b) Potassium
c) Nitrogen d) Phosphorous

5. Rhythmic contraction and relaxation throughout life, are shown by [1]

a) epithelium of lungs b) striated muscles of tongue
c) striated muscles of limbs d) cardiac muscles of heart

6. Which among the following is concerned with the synthesis and transport of lipids within the cell? [1]

a) Smooth endoplasmic reticulum b) Lysosomes
c) Rough endoplasmic reticulum d) Golgi apparatus

7. Symbol of Iron is:- [1]

a) Ir b) Fe
c) Mg d) I

8. Branched involuntary muscles fibres are found in [1]

a) ureters b) limbs
c) heart d) tongue

9. Three students used three different containers (A) (B) and (C) of different shapes, for finding the loss in weight of solid when dipped in water. On dipping a solid sphere in these containers they would observe that the loss in weight is: [1]

a) Minimum in [A] b) Maximum in [A]
c) Maximum in [B] d) Same in all

10. A ball is dropped onto the floor from a height of 20 m. It rebounds to a height of 10 m. If the ball is in contact with the floor for 0.1 seconds, what is the average acceleration during contact? [1]

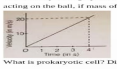
a) 142 m s^{-2} b) 338 m s^{-2}
c) 564 m s^{-2} d) 285 m s^{-2}

11. A compound of carbon, hydrogen and nitrogen contains these elements in the ratio 9 : 1 : 3.5. If its molecular mass is 108, what is the molecular formula? [1]

a) C_2HN_2 b) C_2H_2N
c) $C_6H_6N_2$ d) C_3H_4N

Photo 3:

30. Ram's family was worried about heavy electricity bills to be paid. Their neighbour Mohan suggested some easy and effective steps to reduce the same. Next month's bill came as a relief to Ram, as the consumption of electricity had reduced by 50 units and so had the bill. [3]
    a. In what other aspects of life can this situation help?
    b. What is the unit of energy?
    c. Write any three steps that you think Mohan might have suggested to Ram.
31. The velocity-time graph of a ball moving on the surface of the floor is as shown in the figure. Calculate the force acting on the ball, if mass of the ball is 100 g. [3]



32. What is prokaryotic cell? Differentiate between prokaryotic cell & eukaryotic cell? [3]

OR

If you are provided with some vegetables to cook, we generally add salt to the vegetables during cooking process. After adding salt, vegetables releases water. What mechanism is responsible for this?

33. Diagrammatically show the difference amongst three types of muscle fibres. [3]

Section D

34. The weight of any person on the moon is about 1/6 times that on the earth. He can lift a mass of 15 kg on the earth. What will be the maximum mass, which can be lifted by the same force applied by the person on the moon? [5]

OR

What are the differences between the mass of the object and its weight?

35. Draw a well-labeled diagram of a eukaryotic nucleus. How is it different from the nucleoid? [5]

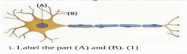
OR

Draw a neat labelled diagram of an animal cell.

36. Iron filings and sulphur were mixed together and divided into two parts, A and B. Part A was heated strongly while part B was not heated. Dilute hydrochloric acid was added to both the parts and evolution of gas was seen in both the cases. How will you identify the gases evolved? [5]

Section E

37. **Read the following text carefully and answer the questions that follow:** [4]
    Given below is the diagram of the human nerve cell.



    i. Label the part (A) and (B). (1)
    ii. What is the function of nervous tissue? (1)
    iii. Mention all part of the human body composed of nervous tissue. (2)
    OR

Photo 4: ieefhoh

What enables the animal to move rapidly in response to stimuli? (2)

38. **Read the following text carefully and answer the questions that follow:** [4]
    Poultry is the rearing of domesticated fowl (chicken), ducks, geese, turkey and some varieties of pigeon for their meat and eggs. Poultry birds are of two types that is broilers and layers. One is specialized meat-producing poultry birds while other is egg-laying poultry birds. The tremendous rise in the availability of poultry products is called Silver Revolution.

    i. What is the meaning of layers regarding poultry? (1)
    ii. There are different breeds of hens, so give some information about broiler. (1)
    iii. We know that different types of revolution regarding animal husbandry. So, what is the silver revolution explain? (2)
    OR
    There are different breeds of poultry bir[illegible]mples of indigenous and exotic breeds of poultry birds. (2)

39. **Read the following text carefully and a[illegible]at follow:** [4]
    Homogeneous mixtures are regarded as s[illegible]s. Heterogeneous mixtures are of two types. These are suspensions and colloidal solut[illegible] size of the particles responsible for the difference in their properties. In a suspension, the particle size is more than 10^{-5} cm whereas in a colloidal solution, it ranges between 10^{-5} cm to 10^{-7} cm. The two phases which constitute colloidal solutions, are dispersed phase and dispersion medium. Based upon their nature, the colloidal solutions are classified into eight types. The mixture of the non-reacting gases is always homogeneous irrespective of their nature. Therefore, it is not a colloidal solution.
    i. Scattering of light occurs when a beam of light is passed through Blood. Why? (1)
    ii. What is Tyndall effect? (1)
    iii. What is called colloidal solution? (2)
    OR
    Give an example of colloidal solution and identified their dispersed phase and dispersion medium? (2)