## **SCIENCE QUIZ MARCH 2021**

## Kumud Bala

- 1. A student focused the leaf epidermal peel under the low power of microscope but could not see all the parts. He should:
  - (A) use the coarse adjustment knob again to focus the slide
  - (B) use the fine adjustment knob to increase magnification
  - (C) focus under high power using coarse adjustment knob
  - (D) focus under high power using fine adjustment knob
- 2. The temporary mount of the leaf epidermal peel which looked pinkish red under the microscope was:
  - (A) stained in acetocarmine and mounted in glycerine
  - (B) stained in iodine and mounted in water
  - (C) stained in safranin and mounted in glycerine
  - (D) stained in methylene blue and mounted in water
- 3. Before testing the leaf for starch at the end of the experiment, 'light is necessary for photosynthesis', the experimental leaf should be boiled in:

(A) Water (B) Alcohol (C) KOH solution (D) Hydrochloric acid

- 4. The steps necessary for setting up the experiment, 'To demonstrate that light is necessary for 'photosynthesis' are not given here in proper sequence :
  - I. keep the potted plant in sunlight for 3 to 4 hours.
  - ii. keep the potted plant in darkness for about 48 hours.
  - iii. cover a leaf of the plant with a strip of black paper.

iv. pluck the leaf and test it for starch.

The correct sequence of steps is: (A) I, III, IV, II (B) I, IV, III, II (C) II, IV, III, I (D) II, III, I, IV

- 5. In the experiment to show that light is necessary for photosynthesis, the plucked leaf is boiled in ethanol and then washed with water. After this, it is tested for the presence of a carbohydrate by a chemical which is:
  (A) salt solution (B) sugar solution (C) iodine solution (D) starch solution
- 6. Why is some KOH placed in a small test tube in the flask with germinating seeds in the experiment to demonstrate occurrence of respiration in germinating seeds?
  - A. to provide oxygen required by the seeds for respiration.
  - B. to absorb carbon dioxide and create partial vacuum in the flask.
  - C. to absorb water from the seeds to make them dry.
  - D. to make the air present in the flask alkaline.
- 7. Which one of the following is the correct set of three precautions for setting up the experiment to demonstrate that carbon dioxide is evolved during respiration?
  - A. air tight set up; delivery tube dips in water in beaker; flask has seeds which have just germinated.
  - B. thread holding koh test tube; air tight flask; delivery tube above surface of water in the beaker.
  - C. germinated seeds under water in the flask; experimental set up not air tight; delivery tube above water level.
  - D. delivery tube touching bottom of water; koh test tube held by a thick wire; seeds covered by water.

- 8. In the experiment to show that CO2 is given out during respiration by germinating seeds, the student uses: (A) Lime water (B) Alcohol (C) KOH solution (D) Iodine solution
- **9.** Each of the three beakers X, Y and Z contained 50 mL of distilled water. A student placed five raisins in each beaker. The raisins for each beaker weighed the same. The beakers were kept at room temperature. The raisins were removed from beaker A after 10 minutes, from beaker B after 20 minutes and from beaker C after one hour. On calculating the percentage of water absorbed by the raisins, it was found that:
  - (A) maximum absorption of water by raisins was in beaker Z
  - (B) maximum absorption of water by raisins was in beaker Y
  - (C) minimum absorption of water by raisins was in beaker Z
  - (D) absorption of water was equal in raisins of all the three beakers
- 10. A Student dissolved 5 g of sugar in 100 mL of distilled water in beaker X. He dissolved 100 g of sugar in 100 mL of distilled water in beaker Y. Then he dropped a few raisins of equal weight in each beaker. After two hours he found the raisins in A swollen and those in B shrunken. The inferences drown is that;
  - (A) sugar concentration of raisins is lower than that of solution X and higher than that solution Y.
  - (B) sugar concentrations of raisins are higher than that of solution X and lower than that of solution Y.
  - (C) in Y the cell membrane of raisins was damaged resulting in bleaching.
  - (D) in X the permeability of water of the cell membrane of raisins was enhanced
- **11.** 5 dry raisins were placed in each of the two beakers containing 50 mL of water. After four hours, the raisins were taken out and wiped. For calculating the percentage of water absorbed by raisins, the raisins should have been weighed:
  - (A) only before placing in water
  - (B) only after four hours of their being in water
  - (C) both before and after placing in water
  - (D) before and at intervals of every hours
- 12. In the experiment to demonstrate that starch is made as food by the process of photosynthesis, the plucked leaf is first boiled in water for about 3 to 5 minutes in order to -----:
  - (A) remove chlorophyll from leaf cells
  - (B) break down the cell membranes of leaf cells
  - (C) soften the brittle leaf
  - (D) convert starch into glucose so that it can be tested easily
- 13. In the slides showing binary fission in Amoeba and budding in yeast, the correct observations are :
  - (A) the daughter cells of Amoeba and the bud of yeast are smaller than their respective parental cells
  - (B) the daughter cells of Amoeba and the bud of yeast are of the same size as their respective parental cells
  - (C) the daughter cells of Amoeba are bigger than the parent but the bud of yeast is smaller than the parent
  - (D) the daughter cells of Amoeba are smaller than the parent but the bud of yeast is larger than the parent
- 14. A portion of destarched leaf of a potted plant was covered with a black strip of paper. The plant was then exposed to sunlight for six hours and then tested for starch. It was observed that:
  - (A) both covered and uncovered parts of leaf turned blue-black
  - (B) both covered and uncovered parts of leaf turned yellow-brown
  - (C) only the uncovered part of leaf turned blue-black
  - (D) only the covered part of leaf turned blue-black

- 15. The most appropriate reason for taking germinating seeds in the experiment to show that carbon dioxide is produced during respiration, is:
  - (A) germinating seeds create high temperature
  - (B) germinating seeds are easy to handle(C) germinating seeds are living things

  - (D) germinating seeds are in dormant to state

1. (D) 2. (C) 3. (B) 4. (D) 5. (C) 6. (B) 7. (A) 8. (C) 9. (A) 10. (B) 
$$1. (C)$$
 12. (C) 13. (A) 14. (C) 15. (C)

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