

Tenth Class Biological Science Model Paper

SUMMATIVE ASSESSMENT-I

Time: 2 Hours 45 Min.

Max. Marks: 50

SECTION-I

Answer all the questions

Each question carries half mark

12 × ½ = 6M

- Expand ATP_____
- Find the mismatched one
 - Bulbs-Onion
 - Tuber-Ginger
 - Stolons-Jasmine
- Observe the flow chart and find A
A Trachea Bronchioles Alveoli Blood
- Read the sentence, find the error in the underlined word and rewrite it.
Alkaloids are the Primary metabolites
- Which group of the following comes under Eco -friendly conservation?
Cycling, walking, car pooling
Group-A
Over use, deforestation, emissions
Group- B
- "I am a leguminous plant. Farmers plant me at field bunds to get nitrogen rich" who am I?
- In 1574 an Italian doctor studied the veins in the leg, he noticed that they had small valves in them, name the scientist.
- Olfactory lobes: : Cerebellum : Equilibrium
- Your teacher gave you a red ribbon to wear it on. can you guess and write which occasion it is?
- Identify the figure shown



Answer 11 and 12 questions to complete the passage

(11-12)

Cytokinins promote cell_____ (11). Promotion of sprouting of lateral buds, opening of_____ (12)

SECTION-II

8 × 1 = 8M

Answer all the questions

Each question carries one mark

- Fermented Idli, Dosa produces smell. Name the process and responsible microorganism for producing such smell.
- Write the materials required to conduct an experiment regarding food movement in Oesophagus.
- We can't imagine the world without sparrows. So how should be our concern towards their conservation?
- Why does the air become more moist in the nasal cavity?
- Why are variations important?
- Complete the following table

Hormones secreted in Stomach	Function

- Leaves prepare substance 'A' through photosynthesis. It is converted into substance 'B' what are A and B?
- What is the difference between Homo zygous and Heterozygous?

SECTION-III

Answer all the questions

Each question carries two marks

8 × 2 = 16M

- With which human organ organ systems the following organs are associated?
 - Vanacova
 - Glomerulus
 - Alveoli
 - Microvilli
- What happens if CO₂ is not expelled during exhalation?
- Marasmus is a malnutricious disease. Justify.
- Fill the boxes in the table

Gas	% in inhaled air	% in exhaled air
a	21	16
b	0.03	4.4
- Why external fertilization occur in fishes and amphibians?
- What is the advantage of difference in diameter of efferent arteriole and afferent arteriole?
- What questions do you ask a doctor to know about different birth control methods?
- You know the plant jatropa carcass, write the importance of this plant.

SECTION-IV

Answer all the following.

Each question carries Four marks

5 × 4 = 20M

- How can we show that heat is liberated during respiration?

(or)

Answer the following questions by observing the diagram showing the experiment.



Fig-4: Mohl's half leaf experiment

- What will you prove this experiment?
 - What apparatus do you use in the experiment?
 - Why do we use KOH solution in the experiment?
 - Why do we study two leaves in the experiment?
- Draw a neat labelled diagram of brain.

(or)

Draw the diagram of L.S. of root showing relationship of root hair to root water.

- Fill the table

Stimuli	Movements	Examples
1. Light		
2. Earth		
3. Water		
4. Chemicals		

1. Light

2. Earth

3. Water

4. Chemicals

(or)

Classify the following vitamins as water soluble and fat soluble vitamins.

B₁, B₂, C, D, K, B₆, B₁₂, E write the diseases due to their deficiency.

32. More snakes were introduced in one ecosystem. Write about the consequence of it.

(or)

If you meet a historian to clarify your doubt on man has first Born in Africa continent. What type of questions you will ask him.

33. Write the differences spermatozoan and ovum.

(or)

Even though plants do not possess any special excretory organs. They sent out waste materials regularly. How do you think it is possible?

Answers

Section-I

1. ATP: Adenosine TriPhosphate
2. Tuber: Ginger
3. Nostrils
4. Secondary
5. Group A
6. Gliricidia
7. Girolamo Fabrici
8. Sense of smell
9. AIDS Awareness day
10. Neuron
11. Cell division
12. Stomata

Section-II

13. Fermentation, Yeast
14. Old cycle tube, oil, or grease, potato
15. Reduce the use of pesticides and prepare natural habitats
16. Because of secretion of mucus
17. Evolution of new species desired characters obtained.
18. Ghrelin - Initiates hunger pangs
Leptin - Suppress hunger pangs
19. A- Starch B - ATP
20. Homozygous- having identical alleles for single trait
Heterozygous- having dissimilar alleles for a single trait

Section-III

21. i) heart ii) Kidney
iii) Lungs iv) Small-Intestine
22. CO₂ is the waste product of metabolic activities. If CO₂ is not removed from the body it becomes toxic and normal function of tissues will be effected.
23. Marasmus is due to deficiency of both protein and calories lean and weak body, dry skin, diarrhea are the symptoms.
24. a) Oxygen b) CO₂
25. Fishes and amphibians are aquatic animals. It produces a vast number of eggs and sperms and it releases in water. The fertilization occur in water.
26. The narrow outlet of efferent arteriole exerts pressure in the glomerulus. So as to enable the blood to remain more time in it, then help in proper filtration of blood.
27. 1. What are birth control methods?
2. What is the use of birth control method?
3. How copper T loop is useful in birth control
28. Latex is sticky milky white substance secreted by plants, latex is stored in latex cells. Latex from *Jatropha* in the source of bio-diesel

Section -IV

29. **Aim:** To prove that heat is liberated during respiration
Apparatus: Thermos flasks, two thermometers, rubber corks, dry seeds, germination seeds.
Procedure:
1) Take sprouts into thermos flask and dry seeds are taken into another thermos flask.

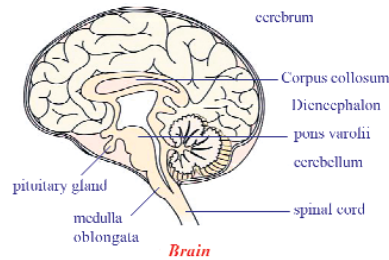
- 2) Mouths of the both the flasks are closed with one holed corks.
- 3) Thermometers are fixed in each flask through the hole of the cork.
- 4) It is important to see that both the bulbs of thermometers should dip in the seeds in each flask.
- 5) Temperature is recorded for every 2 hours.

Observation: constant increase in the temperature is observed in the thermometer placed in the germinated seeds.

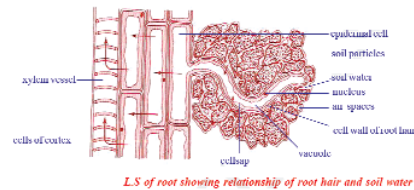
Result: Therefore it is proved that germinated seeds respire and liberate heat which is responsible for the increase in temperature.

29. i) To show CO₂ is essential for photosynthesis
ii) Potted plant, split corck, wide mouthed bottle, KOH, starch iodine.
iii) KOH absorbs the CO₂ present in the bottle.
iv) To show CO₂ is necessary for photosynthesis. The leaf kept in the bottle is not turn into blue black with iodine.

30.



(or)



L.S of root showing relationship of root hair and soil water

31.

Stimuli	Movements	Examples
1. Light	Phototropism	Sunflower
2. Earth	Geotropism	Root
3. Support	Thigmotropism	Cucumber
4. Water	Hydrotropism	Plants grow on rocky areas
5. Chemicals	Chemotropism	Flowers, nectar

(or)

Solubility	Vitamin	diseases Deficiency
Water soluble vitamins	Thiamine (B ₁)	Beriberi
	Riboflavin (B ₂)	Glossitis
	Cyanocobalamin (B ₁₂)	Anaemia
	Ascorbic acid (C)	Scurvy
Fat soluble vitamins	Calciferol-D	Rickets
	Tocopherol-E	Fertility disorders
	Phylloquinone-K	Blood clotting

32. Introduce more snakes, there is a chance of following consequences.

- a) There will be no frogs. Because snakes feed on the frogs.
- b) The number of Grasshoppers increases as the number of frogs diminishes. They won't get enough food from the grass. So a competition develops.
- c) Due to the increased number, the snakes will not get enough food and competition develops among them.
- d) But the hawks get more food and population increase

(or)

- 1) When did the human evolution takes place?
- 2) Africa is the birthplace of Early man. Is it correct?
- 3) How the early men spread all over the globe?
- 4) Why did ancient human beings traveled from one place to other?
- 5) Could you describe the lifestyle of the early humans?
- 6) What is meant by human race?

33.

Spermatozoan	Ovum
1. These are formed in males	1. These are formed in females
2. Each sperm has head, neck, middle piece and tail	2. It is round in shape
3. These are produced in million numbers.	3. These are produced single or two every month
4. Production of sperm starts only after puberty in males.	4. Production of ova may start after birth. But ova will be matured until puberty
5. They are motile	5. They are non-motile
6. Lifespan is 24-72 hours.	6. Lifespan is 25 hours

(or)

- 1) Plants can get rid of excess water by a process called transpiration and guttation.
- 2) Waste products may be stored in leaves, bark and fruits.
- 3) In some plants the wastes get stored in the fruits in the form of solid bodies called Raphides.
Eg: Kiwi fruit, Agave, spinach etc.
- 4) Several compounds are synthesized by the plants for their own use especially for defence.
- 5) Several plants produce chemicals and store them in their roots, leaves and seeds for protecting them against herbivores.