

INTERNATIONAL INDIAN SCHOOL, DAMMAM

I TERMINAL EXAMINATION, JUNE 2015-2016

**CLASS : XI
TIME: 3 HOURS**

SET – A

**SUBJECT : BIOLOGY
MAX. MARKS : 70**

GENERAL INSTRUCTIONS:

1. All questions are compulsory.
2. The question paper consists of five sections, A,B,C,D&E. Section A contains 5 questions of 1 mark each, Section- B contains 5 questions of 2 marks each, Section-C contains 12 questions of 3 marks each, Section.D has one value based question of 4marks and Section .E is of 3 questions of 5 marks each.
3. There is no overall choice. However , an internal choice has been provided in one question of 2 marks, one question of 3 marks, and all the3 questions of 5 marks weightage. Attempt only one of the choices in such questions.
- 4 . Wherever necessary, the diagrams drawn should be neat and properly labeled.

SECTION.A

1. Name the enzymes involved in alcoholic fermentation. 1
2. Define R.Q. 1
3. Why are reaction centres of photo systems I &II named as **P700** and **P680** respectively? 1
4. How are Prokaryotic ribosomes different from Eukaryotic ribosomes? 1
5. In which phase of meiosis are the following formed?
(a) Recombination nodules
(b)Dissolution of the synaptonemal complex 1

SECTION.B

6. Why do lipids whose molecular weights do not exceed 800Da come under acid insoluble fraction or macromolecular fraction? 2
7. What are botanical gardens? How are they useful as a taxonomical aid? 2
8. Schematically represent cyclic photo phosphorylation occur in the chloroplast during light reactions of photosynthesis. 2

9. (a) Why cytokinesis cannot occur in plant cells the same way as it occurs in animal cells? 2
(b) How is it accomplished in plant cells?

10. Draw a neat labeled diagram of the plant cell organelle that contains its own genetic material. 2

OR

Draw a neat labeled diagram of the animal cell organelle that contains its own genetic material.

SECTION.C

11. Differentiate between mitosis and meiosis. 3
12. Explain primary ,secondary and tertiary structure of proteins 3
13. What is meant by 9+2 organization of axonemal microtubules? Explain with a neat labeled diagram. 3
14. (a) Name the resting phase of the cell cycle. 3
(b) Describe the different phases of this so called resting phase of the cell and justify this phase is not a resting period of the cell.
15. Who proposed fluid mosaic model of plasma membrane? Describe fluid mosaic model of the plasma membrane with the help of a neat labeled diagram. 3
16. Give the schematic representation of glycolysis highlighting the steps where $\text{NADH}+\text{H}^+$ and ATP are formed. 3
17. Illustrate the taxonomical hierarchy with suitable examples of a plant and an animal. 3
18. Describe a glycosidic, a peptide and a phosphodiester bond 3
19. 'Photorespiration is a wasteful process'. Give reasons. 3
20. What is meant by taxonomic key? How is a key helpful in the identification and classification of an organism? 3
21. Describe half- leaf experiment on photosynthesis. 3

22. Define aerobic respiration. Mention the crucial events that occur in aerobic respiration 3

SECTION.D

23. Ramu and Sonu are reading the chapter on photosynthesis and the structure of chloroplast as part of it. Ramu's elder brother, Shiv, interrupted them and asked 'do you know there is division of labour in a chloroplast too'? The boys answered, no, only cells and tissues show division of labour and not cell organelles. Shiv explained the phenomenon to Ramu and Sonu.

- (a) What are the two phases in photo-synthesis? 4
(b) How does chloroplast exhibit division of labour?
(c) What value is shown by Shiv?

SECTION.E

24. Explain non-cyclic photophosphorylation occur in the plants during light-dependent reactions in the thylakoid membrane with the help of a schematic diagram. 5

OR

What are enzymes? Describe how the enzymes catalyse metabolic reactions. Write a note on competitive inhibition by giving an example.

25. Describe the major events occur during the cell division in mitosis.

OR

What are chromosomes? Describe the different types of chromosomes based on the position of centromere, with the help of diagrams.

26. In C4 plants like Maize and Sorghum photorespiration does not occur and have greater productivity and yield. Explain this referring to their special type anatomy and biochemical pathway, C4 cycle.

OR

- (a) Give the schematic representation of Calvin cycle and describe its three stages. 5
(b) Give reason: In the C4 plants Calvin cycle does take place only in bundle sheath cells and not in the mesophyll cells.

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SECTION.A

1. Name the enzyme involved in lactic acid fermentation 1
2. Define cellular respiration. 1
3. State Blackman’s law of limiting factors. 1
4. How are ribosomes of chloroplast different from cytoplamic ribosomes? 1
5. In which phase of meiosis are the following formed? 1
(a) Terminalisation of chiasmata
(b) Synaptonemal complex

SECTION.B

6. Both cellulose and starch are polymers of glucose .Starch gives blue colour with iodine but cellulose does not give blue colour with iodine. Give reason. 2
7. What is herbarium? How is it useful as a taxonomical aid? 2
8. Schematically represent cyclic photo phosphorylation occur in the chloroplast during light reactions of photosynthesis. 2

9. Mention the significance of meiosis. 2
10. Draw a neat labeled diagram of the plant cell organelle that contains its own genetic material. 2

OR

Draw a neat labeled diagram of the animal cell organelle that contains its own genetic material.

SECTION.C

11. Describe various stages of karyokinesis of Meiosis II. 3
12. Explain secondary, tertiary and quaternary structure of proteins. 3
13. Name the cell organelle which forms the basal body of cilia or flagella. Explain the cartwheel structure of it. 3
14. Interphase of the cell cycle though called the resting phase is not a resting period of the cell. Justify the statement. 3
15. Differentiate between active and passive transport of substances across the cell membrane. 3
16. Illustrate the taxonomical hierarchy with suitable examples of a plant and an animal. 3
17. Give the schematic representation of an overall view of Krebs's cycle. 3
18. What are Cofactors? Mention the three kinds of Cofactors .Briefly explain how a Cofactor influence the action of enzymes ,with an example 3
19. How are monographs, manuals and flora helpful in the identification and classification of an organism? 3
20. 'Photorespiration is a wasteful process'. Give reasons. 3
21. Differentiate between aerobic and anaerobic respiration. 3
22. Describe half- leaf experiment on photosynthesis. 3

SECTION.D

23. Ramu and Sonu are reading the chapter on photosynthesis and the structure of chloroplast as part of it. Ramu's elder brother, Shiv, interrupted them and asked 'do you know there is division of labour in a chloroplast too'? The boys answered, no, only cells and tissues show division of labour and not cell organelles. Shiv explained the phenomenon to Ramu and Sonu.

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(b) How does chloroplast exhibit 'division of labour'?

(c) What value is shown by Shiv?

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OR

What are chromosomes? Describe the different types of chromosomes with the help of diagrams.

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