



INDIAN SCHOOL MUSCAT

SECOND PERIODIC TEST

SUBJECT: BIOLOGY

CLASS: XI

Sub.Code: 044

Time Allotted: 50mts.

15.01.2023

Max .Marks: 20

GENERAL INSTRUCTIONS:

There are three sections in the question paper.

All questions are compulsory, but internal choice is given in one question in each section and attempt only one question in such case.

Draw neat labelled diagram wherever required

SECTION A

1. NADP reductase is an important enzyme in the process of photosynthesis. It also helps in creating the proton gradient. Identify its location. 1
2. C₄ is an adaptation in plants to avoid photorespiration. Which part of the leaf of a C₄ plant contains the enzyme RuBisCO for carbondioxide fixation? 1
3. Define ETS. 1

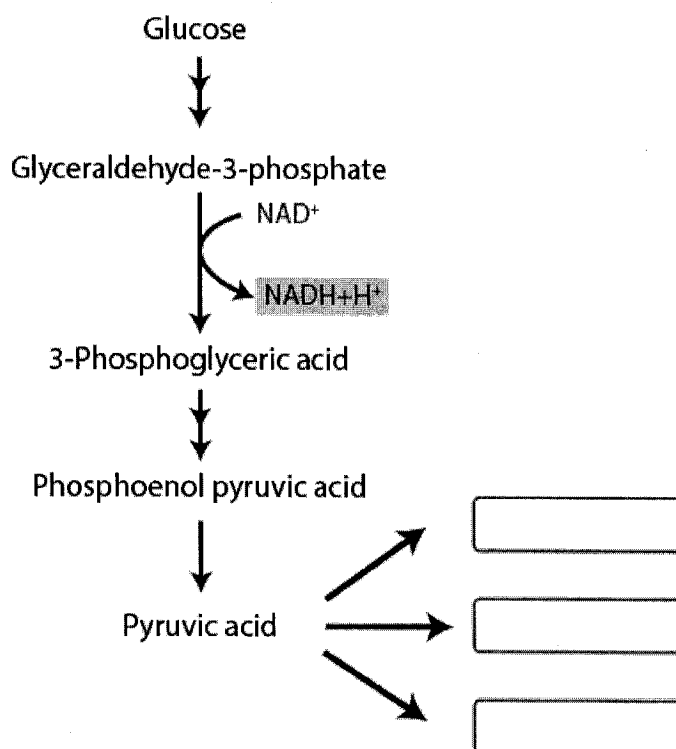
OR

Respiratory process has traditionally been considered as a catabolic process but it is better to be considered as an amphibolic pathway. Justify.

4. Define RQ. What is its value for fats? 1

SECTION B

5. What are respiratory substrate? Name the most common respiratory substrate. 2
6. By looking at which internal structure of a plant can you tell whether a plant is C3 or C4? Explain. 2
7. Pyruvic acid is the end product of glycolysis. What are the three metabolic products of pyruvic acid produced under aerobic and anaerobic conditions? Rewrite the flow chart in your answersheet and write their names in the space provided. 2



8. Following the experiment by Joseph Priestley another scientist showed that it is only the green part of the plants that could release oxygen. Name the scientist and how could he prove it? 2

OR

Suppose there were plants that had a high concentration of chlorophyll b, but lacked chlorophyll a, would it carry out photosynthesis? Then why do plants have chlorophyll b and other accessory pigments?

9. Mention two energy yielding reactions of glycolysis.

2

SECTION C

10. Explain C3 cycle with the help of a diagram.

3

11. Compare fermentation and aerobic respiration.

3

OR

Explain the structure of Complex V involved in ETS.

***** END OF THE QUESTION PAPER*****



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SECTION A

1. C4 is an adaptation in plants to avoid photorespiration. Which part of the leaf of a C4 plant contains the enzyme RuBisCO for carbondioxide fixation? 1
2. Define ETS. 1

OR

Respiratory process has traditionally been considered as a catabolic process but it is better to be considered as an amphibolic pathway. Justify.

3. Define RQ. What is its value for proteins? 1

4. Splitting of water is an important process happening during photosynthesis. Where does it occur? 1

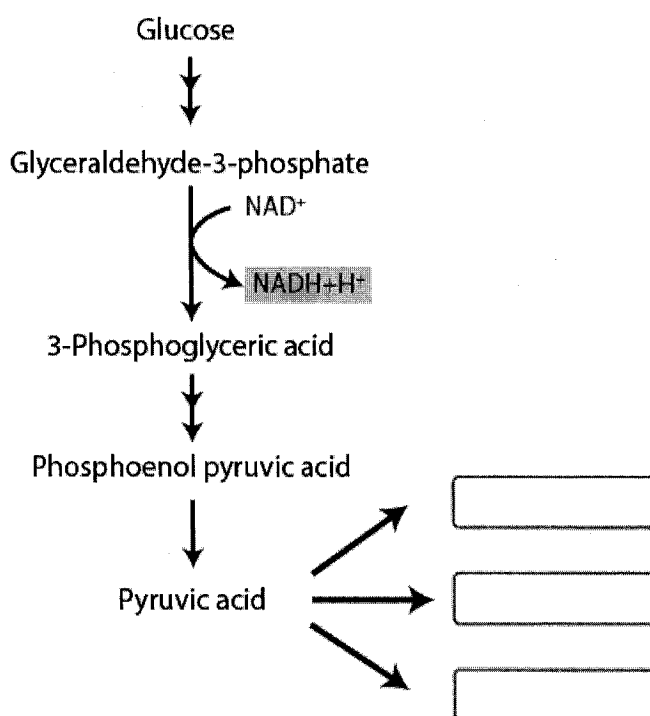
SECTION B

5. By looking at which internal structure of a plant can you tell whether a plant is C3 or C4? Explain. 2
6. Following the experiment by Joseph Priestley another scientist showed that it is only the green part of the plants that could release oxygen. Name the scientist and how could he prove it? 2

OR

Suppose there were plants that had a high concentration of chlorophyll b, but lacked chlorophyll a, would it carry out photosynthesis? Then why do plants have chlorophyll b and other accessory pigments?

7. Pyruvic acid is the end product of glycolysis. What are the three metabolic products of pyruvic acid produced under aerobic and anaerobic conditions? Rewrite the flow chart in your answersheet and write their names in the space provided. 2



8. What are respiratory substrate? Name the most common respiratory substrate. 2

9. Mention two stages of glycolysis where ATP is utilised. 2

SECTION C

10. Explain C3 cycle with the help of a diagram. 3

11. Schematically represent Krebs's cycle. 3

OR

List three assumptions which are made during the calculation of respiratory balance sheet.

***** END OF THE QUESTION PAPER*****



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Draw neat labeled diagram wherever required

SECTION A

1. Define RQ. What is its value for proteins? 1
2. Define ETS. 1

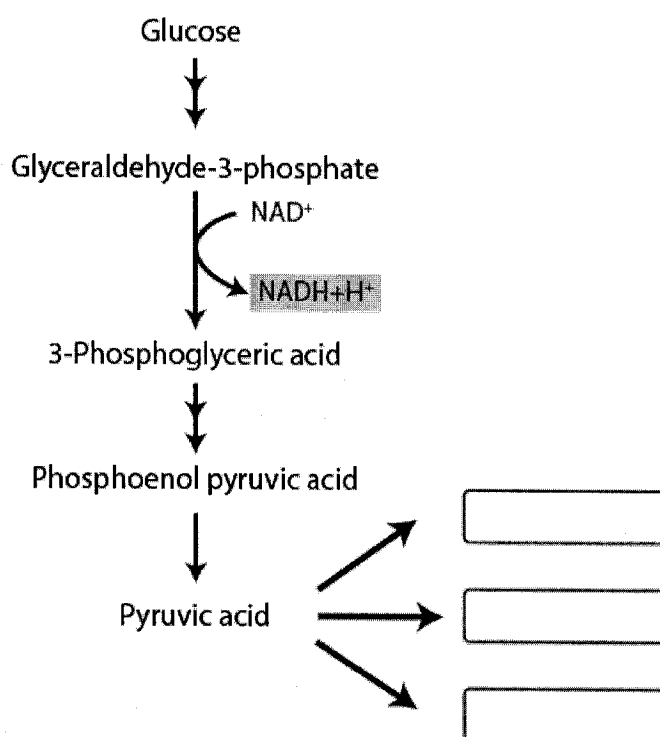
OR

Respiratory process has traditionally been considered as a catabolic process but it is better to be considered as an amphibolic pathway. Justify.

3. Cyclic photophosphorylation occurs in the stroma lamellae. Justify giving two reasons. 1
4. C4 is an adaptation in plants to avoid photorespiration. Which part of the leaf of a C4 plant contains the enzyme RuBisCO for carbondioxide fixation? 1

SECTION B

5. What are respiratory substrate? Name the most common respiratory substrate. 2
6. Pyruvic acid is the end product of glycolysis. What are the three metabolic products of pyruvic acid produced under aerobic and anaerobic conditions? Rewrite the flow chart in your answersheet and write their names in the space provided. 2



7. Mention two stages of glycolysis where ATP is utilised. 2
8. Following the experiment by Joseph Priestley another scientist showed that it is only the green part of the plants that could release oxygen. Name the scientist and how could he prove it? 2

OR

Suppose there were plants that had a high concentration of chlorophyll b, but lacked chlorophyll a, would it carry out photosynthesis? Then why do plants have chlorophyll b and other accessory pigments?

9. Differentiate between C3 and C4 cycle.

2

SECTION C

10. Explain Z scheme of light reaction with diagram.

3

11. Compare fermentation and aerobic respiration.

3

OR

Explain the structure of Complex V involved in ETS.

