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**Max Time : 1 hr** **Class = 11th Biology Test Max Marks : 30**

**Topic: Respiration in Plants**

1. Multiple choice questions : [ 1 X 10 = 10 ]
2. In animal cells, like muscle, during exercise when O2 is inadequate for cellular respiration, pyruvic acid is reduced into lactic acid by

|  |  |
| --- | --- |
| a) O2 | b) carboxylation |
| c) lactate dehydrogenase | d) none of the above |

1. Glucose-6-phosphate Fructose-6-phosphate. Identify the enzyme used in the above reaction from the options given below

|  |  |  |  |
| --- | --- | --- | --- |
| a) Aldolase | b) phosphofructokinase | c) Hexokinase | d) Isomerase |

1. RQ for anaerobic respiration is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 0.7 | b) 0.9 | c) unity | d) infinity |

1. In which of the following conversions ATP synthesis occurs during glycolysis
2. Glucose Glucose-6-phosphate
3. Fructose-6-phosphate Fructose-1, 6-bisphosphate
4. 1,3-bisphosphoglyceric acid (BPGA) 3-phosphoglyceric acid (PGA)
5. All of the above
6. Kreb’s cycle is completed with the formation of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Citric acid | b) Oxaloacetate | c) Succinic acid | d) Malic acid |

1. 2NADH (H+) produced during aerobic glycolysis yield

|  |  |
| --- | --- |
| a) 6 ATP molecules | b) 4 ATP molecules |
| c) 8 ATP molecules | d) None of these |

1. The Respiratory Quotient (RQ) or respiratory capacity is :

|  |  |
| --- | --- |
| a) RQ = | b) RQ = |
| c) RQ = | d) RQ = |

1. What is the RQ for glucose?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1 | b) less than one | c) more than one | d) infinite |

1. Refer to the given equation : the value of RQ is :

2(C51 H98 O6) + 145 O2 102 CO2 + 98 H2O

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1 | b) 0.7 | c) 1.45 | d) 1.62 |

1. In yeast during anaerobic respiration, how many glucose molecules are required for the production of 38 ATP molecules?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1 | b) 2 | c) 19 | d) 38 |

1. What makes dough spongy when it kept over night? [ 1 ]
2. Name the unit of oxidative phosphorylation. [ 1 ]
3. Name the heme protein present in ETS. [ 1 ]
4. Where is cytochrome-c located? What is its function? [ 1 ]
5. How many NADH2 molecules are produced from one molecule of acetyl Co-A in TCA cycle? [ 1 ]
6. Do you know any step in TCA cycle, where there is substrate level phosphorylation takes place? [ 1 ]
7. (a) What is the end product of glycolysis and where does it occur? [ 2 ]

(b) List the conditions under which fermentation occur in plant cells? [ 2 ]

1. What would be the RQ value of yeast if, it were to respire glucose anaerobically?
2. Why oxygen is an ultimate acceptor of electrons in ETS? [ 2 ]
3. Write two energy yielding reactions of glycolysis. [ 2 ]
4. Explain 10 steps through which glucose is converted into Pyruvic acid. [ 3 ]
5. Name the phenomenon on the basis of which various complexes are present on Electron Transport System also write the name of the complexes with their electrons carriers and explain the mechanism of ETS.

[ 3 ]

1. Define Oxidative Phosphorylation. [ 1 ]
2. Write the function of enzyme Hexokinase. [ 1 ]
3. Define Respiratory quotient. [ 1 ]
4. What does Pasteur effect states? [ 1 ]
5. Name the phenomenon on the basis of which various complexes are present on Electron Transport System also explain the phenomenon. [ 2 ]
6. Explain respiratory balance sheet of Glycolysis , Link reaction and Krebs cycle. [ 2 ]
7. What is the fate of Pyruvic acid in the absence of Oxygen? [ 3 ]
8. Explain 10 steps through which glucose is converted into Pyruvic acid. [ 3 ]
9. Define and explain various steps of Krebs cycle. [ 5 ]