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Daily Practice Problems

NEET BIOLOGY

Topic: Respiration in Plants

1. Number of phosphorylation reactions involved in glycolysis is
   1. 4 2. 3
   3. 6 4. 2

2. During the conversion of GAP to 1,3 Bis PGA, the required phosphate comes from
   1. ATP 2.$NADPH_2$
   3. $H_2PO^-_4$ 4. ADP

3. Conversion of 3- PGA to 2- PGA in glycolysis is an example for
   1. Phosphorylation 2. Intramolecular shift 3. Dehydration 4. Cleavage

4. Pyruvic acid enters into Krebs' cycle via
   1. Phosphoenol pyruvate 2. 2- PGA
   3. 3- PGA 4. Acety CoA

5. For every molecule of glucose during glycolysis the ratio between pyruvic acid liberated and net gain ATP molecules formed is
   1. 1 : 1 2. 2 : 1
   3. 2 : 3 4. 3 : 1

6. The connecting link reaction between glycolysis and Krebs' cycle occurs in
   1. Cytosol 2. Cristae
   3. Peroxisome 4. Mitochondrial matrix

7. Product of first biological oxidation in Krebs' cycle is
   1. Isocitric acid 2. Oxalosuccinic acid
   3. Ketoglutaric acid 4. Succinic acid

8. Enzyme catalysing the cleavage reaction in Krebs' cycle is
   1. Succinic thiokinase
   2. Succinic dehydrogenase
   3. fumarase
   4. Aconitase

9. The 5-carbon organic acid of the Krebs' cycle- a key compound in the nitrogen metabolism of the cell is
   1. Fumeric acid 2. Oxaloscuccinic acid 3. citric acid 4. - Ketoglutaric acid

10. Net gain of ATP when pyruvic is respired aerobically
    1. 12 2. 15 3. 20 4. 17

11. When malic acid is the respiratory substrate
    1. The amount of CO_2 released is more than O_2 consumed
    2. The amount of CO_2 released is less than O_2 consumed
    3. The amount of CO_2 released is equal to O_2 consumed
    4. CO_2 is not released

12. The net gain ATP in aerobic respiration is
    1. 38 2. 40
    3. 36 4. 34

13. Enzymes involved in the incomplete oxidation of pyruvic acid during anaerobic respiration is
    1. Isomerase and Kinase
    2. Decarboxylase and Dehydrogenase
    3. Decarboxylase and Kinase
    4. Isomerase and dehydrogenase

14. The net gain of ATP during anaerobic respiration is
    1. Zero 2. Two 3. 38 4. 48

15. One of the following undergoes reduction during alcoholic fermentation
    1. Pyruvate 2. Acetaldehyde
    3. Acetyl CoA 4. PEP

16. The value of R.Q If glucose is the repertory substrate
    1. One 2. Two 3. Zero 4. Infinity

17. If respiratory substrate is rich in oxygen, the value of RQ is
    1. One 2. <1
    3. >1 4. Can't be estimated

18. RQ value will be less than one in edible products of
    1. *Saccharum* and *Oryza*
    2. *Arachis* and *Ricinus*
    3. *Beta* and *Ipomea*
    4. *Manihot* and *Beta*

19. During respiration, if CO_2 liberated is more than the amount of O_2 consumed, the respiratory substrate must be
    1. Organic acids 2. Proteins
    3. Fats 4. Carbohydrates

20. If the value of RQ is 1.33, respiratory substrate is
    1. Carbohydrate 2. Triolein 3. Malic acid 4. Oxalic acid

21. If Triolein is used as a respiratory substrate, then
    1. More CO_2 is liberated and less O_2 is absorbed
    2. Amount of CO_2 liberated and amount of O_2 absorbed are same
    3. No O_2 is absorbed but CO_2 is liberated
    4. More O_2 is absorbed and less $CO_2$is liberated

22. A common enzyme involved in both photosynthesis and respiration is
1. Enolase 2. Aldolase
3. Mutase 4. Aconitase

23. The inter convertable trioses involved in glycolysis are
1. 3- PGA & 2-PGA
2. Phosphoenol pyruvic acid & Pyruvic acid
3. Glucose-6-Phosphate & Fructose -6- Phosphate
4.GAP & DHAP

24. Pyruvic acid before entering into Krebs' cycle must be converted to Acetyl CoA. During the conversion of pyruvic acid to acetyl CoA, biological oxidation and decarboxylation changes must occur. The various cofactors required for the process are
(Hint : LA = Lipoic acid, CoA = Co enzymeA)
1. TPP + LA + Mg + NADP +CoA
2. TPP + LA +Mn + NAD +CoA
3. TPP + LA +Mg + NAD +CoA
4. TPP + LA +Mn + NADP +CoA

25. Following is the sequence of carboxylic acids in Krebs' cycle
i) OAA = Oxalo acetic acid
ii) Citric acid (CA)
iii) Succinic acid iv)Fumeric acid (FA)
v) Malic acid (MA) From the above list, pick out the carboxylic acids, which do not participate at all in biological oxidation
1. OAA, CA, FA 2. MA, OAA, CA
3. FA, MA, OAA 4. FA, OAA, SA

26. The last tricarboxylic acid formed during Krebs' cycle that has more than four carbons is
1.Cis-acotinitic acid 2. Citric acid
3. -Ketoglutaric acid 4.Oxalosuccinic acid

27. The substance for third biological oxidation in Krebs' cycle
1. Fumeric acid 2. Succinic acid
3. Oxalosuccinic acid 4.- Ketoglutaric acid

28. The universal hydrogen acceptor is
1. NAD 2. ATP 3. CoA 4. FMN

29. Substrate level phosphorylation occurs in
1.Glycolysis and ETS chain
2. Glycolysis and Krebs' cycle
3. Krebs' cycle and transition reaction
4. ETS and transition reaction

30. When one molecule of pyruvic acid is subjected to anaerobic oxidation there is
1. Loss of 3 molecules of ATP
2. Loss of 6 molecules of ATP
3. Gain of 2 molecules of ATP
4. Loss of 4 molecules of ATP

ANSWER KEY

Que.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Ans.	4	3	2	4	1	4	2	1	4	2
Que.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Ans.	1	3	2	2	2	1	3	2	1	3
Que.	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Ans.	4	2	4	3	1	3	2	1	2	4