BIOLOGY

BOOKS - PREMIERS PUBLISHERS

RESPIRATION

Textbook Questions Answer

1. The number of ATP molecules formed by complete oxidation of one molecule of pyruvic acid is

A. 12

B. 13

C. 14

D. 15

Answer: A

Watch Video Solution

2. During oxidation of two molecules of cytosolic NADH $+H^+$, number of ATP molecules produced in plants are

A. 3

B. 4

C. 6

D. 8

Answer: C

 Watch Video Solution

3. The compound which links glycolysis and Krebs' cycle is

A. succinic acid

B. pyruvic acid

C. acetyl CoA

D. citric acid

Answer: C

Watch Video Solution

4. Assertion (A) : Oxidative phosphorylation takes place during the electron transport chain in mitochondria.

Reason (R) : Succinyl CoA is phosphorylated into succinic acid by substrate phosphorylation.

A. A and R is correct. R is correct explanaton of A

B. A and R is correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A and R is wrong.

Answer: A

Watch Video Solution

5. Which of the following reaction is not involaved in Krebs cycle.

A. Shifting of phosphate from 3C of 2C

B. Splitting of Fructose 1,6 bisphosphate of into two molecules 3C compounds.

C. Dephosphorylation from the substrates

D. All of these

Answer: D

 Watch Video Solution

6. What are enzymes involved in phosphorylation and dephosphorylation reaction in EMP pathway ?

 Watch Video Solution

7. Respiratory quotient is zero in succulent plants. Why ?

Watch Video Solution

8. Explain the reactions taking place in mitochondrial inner membrane.

Watch Video Solution

9. What is the name of alternate way of glucose breakdown ? Explain the process involved in it.

Watch Video Solution

10. How will you calculate net products of one sucrose molecule upon complete oxidation during aerobic respiration as per recent view ?

Watch Video Solution

Other Important Questions Answer Choose The Correct Answer

1. The term respiration was coined by _____

A. Lamark

B. Kerb

C. Pepys

D. Blackman

Answer: C

Watch Video Solution

2. In floating respiration the substrates are:

A. carbohydrate or protein

B. carbohydrate or fat

C. protein of fat

D. none of the above

Answer: B

Watch Video Solution

3. The discovery of ATP was made by:

A. Lipman

B. Hans Adolt

C. Warburg

D. Karl Lohman

Answer: D

Watch Video Solution

4. The end product of glycolysis is:

A. pyruvate

B. ethanol

C. malate

D. succinate

Answer: A

Watch Video Solution

5. On hydrolysis, one molecule of ATP releases energy of:

A. 8.2 K cal

B. 32.3kJ

C. 7.3 K cal

D. 7.8 K cal

Answer: C

Watch Video Solution

6. Which of the following is known as terminal oxidation:

A. glycolysis

B. electron transport chain

C. kreb's cycle

D. pyruvate oxidation

Answer: B

Watch Video Solution

7. Identify the link reaction:

A. conversion of glucose into pyruvic acid

B. conversion of glucose into ethanol

C. conversion of acetyl CoA into CO_2 and water

D. conversion of pyruvic acid into acetyl coenzyme-A

Answer: D

 Watch Video Solution

8. Who was awarded Nobel prize in 1953 for the discovery of TCA cycle?

A. Lipmann

B. Hans Adolf Kreb

C. Peternrmitchell

D. Dickens

Answer: B

 Watch Video Solution

9. Kreb's cycle is .....in nature.

A. catebolic pathway

B. anabolic pathaway

C. amphibolic pathway

D. hydrolytic pathway

Answer: C

Watch Video Solution

10. Electron transport system during aerobic respiration takes place in:

A. cytoplasm

B. mitochondria

C. chloroplast

D. golgi appartus

Answer: B

Watch Video Solution

11. The oxidation of one molecule of $NADH + H^+$ gives rise to:

A. 2 ATP

B. 3 ATP

C. 4 ATP

D. 2.5 ATP

Answer: B

Watch Video Solution

12. In aerobic prokaryotes, one glucose molecule produces .....ATP molecules.

A. 36 ATP

B. 32 ATP

C. 34 ATP

D. 38 ATP

Answer: D

Watch Video Solution

13. Cyanide acts as electron transport chain inhibitor by prebenting:

A. synthesis of ATP from ADP

B. flow of electrons from $NADH + H^+$

C. flow of electrons from cytochrome a_3 to O_2

D. oxidative phosphorylation

Answer: C

Watch Video Solution

14. Respiratory quotient for oleic acid is:

A. 0.69

B. 0.71

C. 0.8

D. 0.36

Answer: B

Watch Video Solution

15. End products of fermentation in yeast is:

A. pyruvic acid and CO_2

B. lactic acid and CO_2

C. ethyl alcohol and CO_2

D. mixed acid and CO_2

Answer: C

Watch Video Solution

16. The end products of mixed acid fermentation in enterobacteriaceae are:

A. lactic acid, ethanol, acid CO_2 and H_2

B. lactic acid, formic acid and CO_2

C. lactic acid, ethanol, CO_2 and O_2

D. ethanol, formic acid, CO_2 and H_2

Answer: A

Watch Video Solution

17. The external factors that affect the respiration are:

A. temperature, insufficent O_2 and amount of protoplasm

B. temperature, insufficient O_2 and high concentration of CO_2

C. temperature, high concentration of CO_2 and respiratory substrate

D. temperature, high concentration of CO_2 and amount of protoplasm

Answer: B

Watch Video Solution

18. Pentose phosphate pathway was described by

A. Pepys and black man

B. Kreb and Embden

C. Warburg, Dickens and Lipmann

D. Warburg and Parnas

Answer: C

 Watch Video Solution

19. The oxidative pentose phosphate pathway is controlled by the enzyme:

A. glucose,1,6 diphosphate dehydrogenase

B. glucose 6 phosphate dehydrogenase

C. fructose-6-phosphate dehydrogenase

D. none of the above

Answer: B

Watch Video Solution

20. In pentose phosphate pathway the glucose-6-phosphate dehydrogenase enzme is inhibited high ratio of:

A. FADH to FAD

B. glucose to glucose-6-phosphate

C. NADPH to NADP

D. GTPH to GTP

Answer: C

Watch Video Solution

21. Erythrose is used for synthesis of

A. Erythromycin

B. Xanthophill

C. Erythrocin

D. Anthocyanin

Answer: D

 Watch Video Solution

22. as per the recent view, when a glucose molecule is completely aerobically oxidised, the net yield of ATP in plant cell is:

A. 38

B. 36

C. 30

D. 32

Answer: C

Watch Video Solution

23. Identify the electron transport inhibitor:

A. phosphophenol

B. dinitrophenol

C. xylene

D. indol acetic acid

Answer: B

Watch Video Solution

24. The phenomenon of climacteric is present in:

A. banana

B. coconut

C. cauli flower

D. brinjal

Answer: A

 Watch Video Solution

25. Cyanide resistant respiration is known to generate heat in thermogenic tissues as high as:

A. $35^{\circ} C$

B. $38^{\circ} C$

C. $40^{\circ} C$

D. $51^{\circ} C$

Answer: D

Watch Video Solution

26. Match the following:

Substrate	R.Q
A. Palmitic acid	*(i)* 1.6
B. Oleic acid	*(ii)* 4.0
C. Tartaric acid	*(iii)* 0.36
D. Oxalic acid	*(iv)* 0.71

A. A-(ii),B-(iii),C-(1),D-(iv)

B. A-(iii),B-(1),C-(iv),D-(ii)

C. A-(ii),B-(iv),C-(i),D-(iii)

D. A(iii),B(i),C(iv),D(ii)

Answer: B

Watch Video Solution

27. Indicate the correct statement:

A. In Brycophyllum, carbohhydrates are partially oxidised to organic acid

B. In opuntia, the Respiratory Quotient value is 0.5

C. Alcoholic fermentation takes place in enterobacteriaceae

D. Muscles of vertebrate does not have lactate dehydrogenase enzyme

Answer: A

Watch Video Solution

28. The order of aerobic respiration in plant cell is:

A. glycolysis, Kreb's cycle, pyruvate oxidation and electron transport chain

B. glycolysis, pyruvate oxidate, Kreb's cycle, electron transport chain

C. pyruvate oxidate, glycolysis, Kreb's cycle, electron transport chain

D. none of the above order

Answer: B

 Watch Video Solution

29. The complete reactions of glycolysis take place in:

A. mitochondria

B. cristae

C. cytoplasm

D. outer membrane of mitochondria

Answer: C

Watch Video Solution

30. The co-enzyme quinone is a proton carrier located within:

A. outer membrane of mitochondria

B. cytoplasm

C. inner membrane of mitochondria

D. matrix of mitochondria

Answer: C

Watch Video Solution

31. how many molecules of CO_2 produced during link reaction?

A. 1

B. 6

C. 4

D. 2

Answer: D

Watch Video Solution

32. In the care of ground nut, during seed germination they use:

A. carbohydrate as respiratory substrate

B. fat alone as respiratory substrate

C. fat and protein as respiratory substrate

D. protein alone as respiratory substrate

Answer: C

Watch Video Solution

33. Lactic acid fermentation takes place in:

A. yeast

B. bacillus

C. enterobacteriaceae

D. none of the above

Answer: B

 Watch Video Solution

34. The net result of complete oxidation of one glucose-6-phosphate in pentose phosphate pathway yield:

A. $6CO_2$ and $12NADPH + H^+$

B. $6CO_2$ and $10NADPH + H^+$

C. $8CO_2$ and $16NADPH + H^+$

D. $8CO_2$ and $14NADPH + H^+$

Answer: A

Watch Video Solution

35. Ribose-5-phosphate and its derivatives are used in the synthesis of:

A. lignin

B. coenzyme A

C. anthocyanin

D. xanthophyll

Answer: B

Watch Video Solution

Other Important Questions Answer Answer The Following

1. Define respiration

Watch Video Solution

2. What is protoplasmic respiration.

Watch Video Solution

3. What do you understand by compensation of point?

Watch Video Solution

4. Define the Aerobic respiration

Watch Video Solution

5. What is anaerobic respiration?

Watch Video Solution

6. What do you know about transition reaction?

 Watch Video Solution

7. Who is sir Hans Adolf Krebs?

 Watch Video Solution

8. Write about amphibolic pathway.

Watch Video Solution

9. Mention the role of NADH dehydrogenase enzyme in electron transport system.

Watch Video Solution

10. What is oxidative phosphorylation ?

Watch Video Solution

11. Give examples of electron transport chain inhibitors .

Watch Video Solution

12. What is respiratory quotient?

Watch Video Solution

13. What is the signficance of respiratory quotient ?

Watch Video Solution

14. What is alcoholic fermentation.

Watch Video Solution

15. What are the industrial used of alcoholic fermentation ?

Watch Video Solution

16. What do you understand by the term mixed acid fermentation?

Watch Video Solution

17. Mention any two internal factors, that affect the rate of respiration in plants.

Watch Video Solution

18. What is the control mechanism of pentose phosphate pathway?

Watch Video Solution

19. Write any two significances of Pentose Phosphate Pathway.

Watch Video Solution

20. In bioaphere how do plants and animals are complementary systems, which are integrated to sustain life?

Watch Video Solution

21. What will happen, when you sleep under a tree during night time?

Watch Video Solution

22. The factors associated with compensation point are .....

Watch Video Solution

23. Why do you call ATP as universal energy currency of cell?

Watch Video Solution

24. What are redox reactions ?

Watch Video Solution

25. Distinguish between Aerobic and Anerobic respiration .

Watch Video Solution

26. What is the significance of Kreb's cycle ?

Watch Video Solution

27. Derive the respiratory quotient for carbohydrate as substrate in oxidative metabolism.

Watch Video Solution

28. What are the characteristics of anaerobic respiration ?

Watch Video Solution

29. Differentiate Glycolysis and fermentation.

Watch Video Solution

30. Write down any three external factors, that affect respiration in plants.

Watch Video Solution

31. How are alcoholic beverages made ?

Watch Video Solution

32. Give the schematic representation of glycolysis EMP pathway.

Watch Video Solution

33. Define Kreb's cycle.

Watch Video Solution

34. Mention the schematic diagram of the various steps involved in pentose phosphate pathway.

Watch Video Solution

35. What is electron transport chain?

Watch Video Solution

36. What is respiratory quotient?

Watch Video Solution

37. Explain experiment to demonstrate the production of CO_2 in aerobic respiration.

Watch Video Solution

Check Your Grasp Textbook Page No 145

1. How many ATP molecules are produced from one sucrose molecule?

Watch Video Solution

Check Your Grasp Textbook Page No 156

1. Why do micro organisms respire anaerobically ?

Watch Video Solution

2. Does anaerobic respiration take place in higher plants?

Watch Video Solution