BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

PLANT RESPIRATION

Mutiple Choice Questions Mcq

1. The reaction of TCA occur in

A. ribosome

B. grana

C. mitochondria

D. endoplasmic reticulum

Answer: C

2. In alcohol fermentation

A. triose phosphate is the electron donor while pyruvic acid is the electron acceptor

B. there is no electron donor

C. oxygen is the electron acceptor

D. triose phosphate is the electron donor while acetaldehyde is the electron acceptor .

Answer: D

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3. The intermediate between Glycolysis and TCA cycle is

A. pyruvic acid

B. glucose 1-6 diphosphate

C. oxaloacetate

D. acetyl Co-A

Answer: D

4. Name the scientist who gave TCA cycle

A. Kolliker

B. Krebs

C. Altmann

D. Benda

Answer: B

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5. Complete oxidation of one gram mole of glucose yields

A. 686 kcal

B. 688 kcal

C. 68.6 kcal

D. 6.8 kcal

Answer: A

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6. Which of the following is common to both aerobic and anaerobic respiration

A. ETC

B. glycolysis

C. Krebs cycle

D. oxidative decarboxylation

Answer: B

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7. Main source of ATP in a cell is

A. glycolysis

B. ETS

C. Krebs cycle

D. fermentation

Answer: A,C

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8. Cytochrome in the plant cell act as

A. oxygen acceptor

B. CO_2

C. electron acceptor

D. proton acceptor

Answer: C

9. In hexoses monophosphate shunt , the net amount of ATP formed are

A. 29

B. 36

C. 38

D. 34

Answer: B

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10. The electron acceptor in ETS are arranged according to

A. decreasing positive potential

B. increasing positive potential

C. increasing negative potential

D. any arrangement

Answer: B

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11. During ripening of some fruit (e.g., banana , apple) there is a sudden increase in respiration rate which is called

A. climacteric

B. climatic

C. pasteur effect

D. anthesis

Answer: A

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12. R.Q. is highest in

A. glucose

B. malic acid

C. protein

D. fat

Answer: B

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13. Other name of Glycolysis is

A. EMP pathway

B. TCA cycle

C. HMS pathway

D. Carbon pathway

Answer: A

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14. Respiratory quotient of mixed diet is

A. 36

B. 0.85

C. 0.7

D. 1.5

Answer: B

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15. Define aerobic respiration

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16. Out of 38 ATP molecules produced per glucose , 32 ATP molecules are formed from NADH/FADH_2 in

A. Respiratory chain

B. Krebs cycle

C. EMP

D. Oxidative decarboxylation

Answer: B

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17. In anaerobic respiration _____ is produced is yeast

A. H_2O

B. N_2

C. CO_2

D. O_2

Answer: C

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18. The synthesis of ATP in photosynthesis and respiration is essentially an oxidation-reduction process involving removal of energy from

A. oxygen

B. phytochromes

C. cytochromes

D. electrons

Answer: D

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19. An indispensable role in energy metabolism is played by

A. phosphorous

B. lithium

C. sodium

D. calcium

Answer: A

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20. Which of the following regularly enter into the mitochondria ?

A. citric acid

B. ATP

C. pyruvic acid

D. glucose

Answer: C

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21. Glucose is stored as glycogen in

A. pancreas

B. liver

C. stomach

D. heart

Answer: B

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22. Loss of ATP in glycolysis is

A. 8

B. 4

C. 0

D. 2

Answer: D

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23. Anaerobic respiration after glycolysis is also called

A. fermentation

B. fragmentation

C. restoration

D. multiplication

Answer: A

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24. The electron in ETS is transferred by

A. Fe- S

B. phytochrome

C. F_1 - particle

D. cytochrome

Answer: A

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25. A pyrophosphate cleavage occurs when

A. ATP is converted to ADP

B. AMP is converted to ATP

C. ADP is converted to AMP

D. ATP is converted to AMP

Answer: A

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26. Electron transport chain is located on

A. inner membrane of mitochondria

B. outer membrane of mitochondria

C. inter membrane space of mitochondria

D. matrix of mitochondria

Answer: A

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27. Anaerobic respiration was reported for the first time by (AFMC)

A. Pfeffer

B. Kostychev

C. Kelin

D. Pasteur

Answer: B

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28. What causes R.Q. to vary ?

A. respiratory product

B. respiratory substrate

C. temperature

D. light and O_2

Answer: B

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29. Mineral activator needed for the enzyme aconitase of TCA cycle is

A. Mn

B. Fe

C. Mg

D. Cu

Answer: B

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30. Which is also formed along with ATP is glycolysis

A. FMN

B. $NADH_2$

C. $FADH_2$

D. FAD

Answer: B

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31. Which of the following process is used in the conversion of Pyruvate to Acetyl Co-A ?

A. oxidative dehydration

B. oxidative phosphorylation

C. oxidative decarboxylation

D. respiratory phosphorylation

Answer: C

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32. Synthesis of ATP in mitochondria requires

A. NADP

B. FMN

C. Oxygen

D. Pyruvic acid

Answer: C

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33. ATP synthesis occurs on the

A. matrix

B. outer membrane of mitochondria

C. inner membrane of mitochondria

D. none of the above

Answer: C

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34. The six carbon containing acid formed in Krebs cycle is

A. OAA

B. Citric acid

C. a-Ketoglutaric acid

D. Succinic acid

Answer: B

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35. In ETS which cytochrome reacts with oxygen ?

A. Cyt a

B. Cyt b

C. Cyt b_6

D. Cyt a_3

Answer: D

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36. Which intermediate compound acts as connecting link between glycolysis & Krebs cycle ?

A. Acetyl Co-A

B. Cytochrome

C. OAA

D. Pyruvic acid

Answer: A

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37. Where do we observe both photosynthesis & respiration ?

A. Fungi

B. Bacteria

C. Autotrophs

D. Viruses

Answer: C

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38. When yeast ferments glucose , the products are

A. C_2H_5OH + Energy

B. $C_2H_5OH + CO_2$ + Energy

C. $CO_2 + H_2O$ + Energy

D. $CH_3OH + H_2O$ + Energy

Answer: B

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39. Lactic acid fermentation in muscules , no CO_2 is released , the NADH + H^+ gives its hydrogen atoms to

A. pyruvic acid

B. ADP

C. ETS

D. Acetyl Co-enzyme A

Answer: A

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40. Energy required to form glucose from pyruvate is equivalent to

A. 8 ATP

B. 16 ATP

C. 32 ATP

D. 4 ATP

Answer: A

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41. Enzymes of glycolysis are restricted in

A. matrix of mitochondria

B. cytosol

C. chloroplast

D. anywhere in cell

Answer: B

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42. Complete oxidation of one gram mole of glucose yields

A. 686000 Cal

B. 686000 kcal

C. 686 Cal

D. 38 kcal

Answer: A

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43. Which is formed through phosphorylation in glycolysis

A. Fruc 1 , 6-biphosphate

B. 1, 3-bisphosphoglyceric acid

C. GAP

D. Both (a) & (b)

Answer: D

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44. Krebs cycle is

A. aerobic

B. anaerobic

C. anabolic

D. none

Answer: A

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45. During glycolysis ATP & Mg^{2+} function for

A. gluco (hexo) kinase

B. pyruvic kinase

C. inolase

D. phosphokinase

Answer: A

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46. Cristae in mitochondria

A. increase surface area of inner membrane

B. increase diameter of cytosol

C. increase oxysomes

D. check escape of oxygen

Answer: A

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47. Seeds can be preserved if they are stored

A. with minimum moisture

B. absolutely fresh

C. after boiling in water

D. after drying in steam

Answer: A

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48. When oxygen enters in mitochondrion as an atom of

A. O_2 gas

B. CO_2 gas

C. $C_6H_{12}O_6$

D. Pyrivic acid $(CH_3COCOOH)$

Answer: A

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49. Which of the following is the source of respiration ?

A. Stored food

B. ATP

C. DNA

D. RNA

Answer: A

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50. Which is important in oxidative fat metabolism ?

A. Acetyl Co-A

B. CO_2

C. pyruvic acid

D. glucose

Answer: A

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51. Who discovered anaerobic respiration ?

A. Kostytchev

B. Pasteur

C. Pfeffer

D. Cruick Shank

Answer: A

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52. Glyoxalate cycle is a modified

A. TCA cycle

B. EMP pathway

C. HMP pathway

D. None

Answer: A

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53. Phosphorylation of hexose sugar requires

A. ATP & Mg^{++}

B. TPN

C. NAD & Mg^{++}

D. NADP

Answer: A

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54. Climacteric rise is a phenomenon encountered in respiration of

A. fleshy fruits

B. aquatics

C. all fruits

D. all plants

Answer: A

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55. Site of Krebs cycle & ATP synthesis in bacterial cell is

A. cell wall

B. plasma membrane

C. mitochondria

D. nucleoid

Answer: B

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56. Cytochrome oxidase is related with

A. cyt a_3

B. cyt a

C. cyt c_1

D. both a & b

Answer: D

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57. Biological oxidation in krebs cycle involves

A. O_2

B. CO_2

C. Electrons

D. Protons

Answer: A

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58. During strenuous exercise , glucose is changed into

A. Lactic acid

B. Starch

C. Glycogen

D. Pyruvic acid

Answer: A

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59. In the first step of glycolysis glucose/ fructose is phosphorylated . This phosphate group comes from

A. inorganic PO_4

B. ADP

C. ATP

D. nucleotides

Answer: C

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60. Pyruvic acid formed during glycolysis is oxidised to CO_2 & H_2O in

A. Krebs cycle

B. Calvin cycle

C. Hill reaction

D. Nitrogen cycle

Answer: A

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61. R.Q. is one in case of

A. Carbohydrates

B. fatty acids

C. Nucleic acid

D. Organic acid

Answer: A

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62. Cellular respiration first begins in

A. Golgi bodies

B. Cytoplasm

C. E.R

D. Lysosomes

Answer: B

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63. Which enzyme converts glucose into alcohols ?

A. Zymase

B. Invertase

C. Lipase

D. Diastase

Answer: A

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64. Calorie is the unit of

A. Heat

B. Sound

C. Light

D. Temperature

Answer: A

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65. R.Q. would depend upon

A. Amount of O_2 utilized

B. Nature of Substrate

C. Amount of CO_2 released

D. both a & c

Answer: C

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66. Direct ATP yield during Krebs cycle per glucose molecule is

A. 8

B. 2

C. 30

D. 38

Answer: B

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67. In mitochondria , enzyme cytochrome oxidase is present in

A. Inner membrane

B. Matrix

C. Outer membrane

D. None

Answer: A

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68. Which one is complex V of mitochondria ETS ?

A. ATP - Synthase

B. NADH dehydrogenase

C. Ubiquinone

D. Cytochrome -C oxidase

Answer: A

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69. Aerobic respiratory pathway is appropriately termed

A. Amphibolic

B. Catabolic

C. Parabolic

D. Anabolic

Answer: A

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70. Reduction of NAD^+ does not occur in the reaction

A. Succinic acid $\rightarrow$ Fumaric acid

B. Malic acid $\rightarrow$ Oxaloacetic acid

C. Both a & b

D. None

Answer: A

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71. Final product of ETS of mitochondria is

A. H^+

B. H_2O

C. Electrons

D. All of them

Answer: B

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72. F_1- particles of oxysome

A. Utilizes proton energy

B. Releases proton energy

C. Lies in outer chamber

D. None

Answer: A

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73. Which of the following respiratory substrate requires highest no. of oxygen molecules for its complete oxidation ?

A. Oleic acid

B. Triolein

C. Tripalmitin

D. Tartartic acid

Answer: B

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74. Pyruvate dehydrogenase complex reacted for conversion of pyruvic acid to acetyl Co-A is located in

A. cytoplasm

B. matrix of mitochondria

C. grana of chloroplast

D. intermembrane space

Answer: B

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75. ATP is synthesized in

A. plasmalemma

B. F_1- particles

C. gm channels

D. F_0- particles

Answer: B

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76. Chemiosmosis was first discovered by

A. Meischer

B. Boyer

C. Walker

D. Mitchell

Answer: D

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77. In Krebs cycle , OAA accepts acetyl CoA to form

A. succinyl CoA

B. fumarate

C. oxalosuccinate

D. citric acid

Answer: D

78. Energy liberated during respiration is stored as

A. NADP

B. ADP

C. FAD

D. ATP

Answer: D

79. Turns of Krebs cycle required for complete oxidation of one molecule of glucose are

A. 3

B. 6

C. 2

D. 4

Answer: C

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80. Decarboxylation occurs during

A. ETS

B. Krebs cycle

C. Glycolysis

D. All of them

Answer: B

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81. In alcoholic fermentation , two molecules of glucose produce ethanol & CO_2 respectively

A. $3 + 3$

B. $6 + 6$

C. $2 + 2$

D. $4 + 4$

Answer: D

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82. R.Q., of protein is

A. 1.0

B. 0.9

C. 0.7

D. more than one

Answer: B

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83. Chemiosmotic hypothesis given by Peter Mitchell proposes the mechansim of

A. synthesis of NADH

B. synthesis of NADPH

C. synthesis of ATP

D. synthesis of $FADH_2$

Answer: C

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84. Minerals that activate respiratory enzymes are

A. S and Fe

B. Cu and Bo

C. Mg and Mn

D. N and P

Answer: C

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85. In mitochondria , protons accumulate in

A. intermembrane space

B. matrix

C. Outer membrane

D. inner membrane

Answer: A

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86. ATP molecules formed on complete oxidation of 40 moles of glucose

A. 1520

B. 3040

C. 380

D. 190

Answer: A

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87. In ETC , first ATP is formed when hydrogen passes from

A. NAD to Co Q

B. FMN to NAD

C. FMN to Co Q

D. NAD to FMN

Answer: D

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88. The first stable compound of Krebs cycle is

A. citric acid

B. fumaric acid

C. acetyl CoA

D. oxaloacetic acid

Answer: A

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89. Select suitable name for the process

$$C_6H_{12}O_6 + 2ADP + \Pi \rightarrow 2C_2H_5OH + CO_2 + 2ATP$$

A. aerobic respiration

B. alcoholic fermentation

C. photorespiration

D. lactate fermentation

Answer: B

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90. Number of ATP molecules produced from 1 glucose molecule in aerobic respiration

A. 32

B. 30

C. 28

D. 38

Answer: D

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91. TCA cycle is named after

A. Calvin

B. Krebs

C. Emerson

D. Embden

Answer: B

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92. During EMP-pathway, ATP is produced through

A. cyclic phosphorylation

B. substrate phosphorylation

C. oxidative phosphorylation

D. none of the above

Answer: B

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93. In succulent plants like opuntia, the RQ value will be

A. less than one

B. more than one

C. infinite

D. zero

Answer:

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94. The respiratory quotient (R.Q.) of glucose is

A. 1

B. 0.7

C. 1.5

D. 0.5

Answer: A

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95. How many ATP are produced when one molecule of $FADH_2$ is oxidised to FAD through electron transport system ?

A. 2

B. 3

C. 1

D. 4

Answer: A

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96. What is an Amphibolic pathway?

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97. Acetylation of pyruvate takes place in the

A. Perimitochondrial space

B. mitochondrial matrix

C. cristae

D. F_2 particles

Answer: A

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98. Enyme enolase catalyses the conversion of 2PGA to PEP in presence of _____ which is the co-factor

A. Mn^{2+}

B. Fe^{2+}

C. Mg^{2+}

D. Zn^{2+}

Answer: C

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99. Synthesis of one glucose molecule requires _____ reduced NADP molecules

A. 6

B. 12

C. 18

D. 24

Answer: B

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100. TCA -Cycle enzymes are located in

A. Cristae

B. outer membrane of mitochondria

C. Mitochondrial matrix

D. Mitochondrial intermembrane space

Answer: C

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101. Which of the following metabolites enter the TCA cycle during glucose oxidation ?

A. Oxaloacetic acid

B. Pyruiv acid

C. acetyl CoA

D. Malic acid

Answer: C

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102. Which of the following biomolecules is common to respiration mediated break down of fats, carbohydrates and protein ?

A. Acetyl CoA

B. Glucose - 6 phosphate

C. Frutose 1, 6 - bisphosphate

D. Pyruvic acid

Answer: A

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103. Which of the following metabolites enter the TCA cycle during glucose oxidation ?

A. Oxaloacetic acid

B. Pyruiv acid

C. acetyl CoA

D. Malic acid

Answer: C

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104. In Kreb's cycle, how many oxidation (dehydrogenation) occur?

A. 4

B. 6

C. 2

D. 1

Answer: A

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105. Which statement is wrong for Kreb's Cycle ?

A. There is one point in the cycle where FAD^+ is reduced to $FADH_2$

B. During conversion of succinyl CoA to succinic acid, a molecule of GTP is synthesized

C. The cycle starts with condensetion of acetyl group (acetyl CoA) with pyruvic acid to yield citric acid

D. There are three points in the cycle where NAD^+ is reduced to $NADH + H^+$

Answer: C

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Choose More Than One Options

1. Anaerobic respiration found in case of

A. Monocystis

B. Amoeba

C. Yeast

D. Ascaris

Answer: A::C::D

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2. Glutamic acid produced from

A. E, coli

B. Micrococcus

C. Arthrobacter

D. Clostridium

Answer: B::C

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3. Amylase produced from

A. Ascobolus

B. Aspergillus oryzae

C. Aspergillus niger

D. Saccaromyces cerevisae

Answer: B::C

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4. The carrier of plastid electron transport system are

A. Plastoquinone

B. Cytochrome C

C. Co - enzyme Q

D. Succinate ubiquinone oxidoreductase

Answer: C::D

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5. The end products of glycolysis are

A. PEP

B. Pyruvic acid

C. OAA

D. ATP

Answer: B::D

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6. Fermentation of glucose by yeast cell produces

A. pyruvic acid

B. ethanol

C. citric acid

D. carbon dioxide

Answer: B::D

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7. The end products of glycolysis are

A. ATP

B. $NADH_2$

C. Carbon dioxide

D. Pyruvic acid

Answer: A::B::D

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8. The end products of alocoholic fermentation are

A. ethyl alcohol

B. H_2O

C. CO_2

D. $NADH_2$

Answer: A::B::C

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9. The electron carrier in ETC in aerobic respiration are

A. Fe-S complex

B. NADH and FAD

C. Cyanine

D. Cytochromes

Answer: B

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10. The tricarbolic acids in TCA - cycle are

A. citric acid

B. oxaloacetic acid

C. acetyl CoA

D. fumaric acid

Answer: A::B

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Fill In The Blanks

1. _____is the process of respiration which occurs in the absence of oxygen.

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2. During glycolysis_____molecules of $NADH_2$ are formed.

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3. Enzymes taking part is glycolysis is located in _____

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4. During respiration pyruvic acid is formed by the process of _____

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5. The universal hydrogen accpetor is _____

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6. The final electron acceptor in respiratino is _____

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7. Mitochondrial matrix has the enzyme of _____

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8. R.Q for glucose is _____

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9. Tricarboxylic acid cycle is another name of _____

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10. Fermentation of glucose by yeast cell produces _____and _____

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11. Acetyl Co-A is formed from _____ and coenzyme A.

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12. In Prokaryotes _____ moelcules of ATP are formed per molecule of glucose oxidised.

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13. Breakdown of glucose is _____while formation of glucose form non carbohydrate source is called _____.

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14. External respiration is a physical process , but internal respiration is a _____process.

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15. In _____ respiration, proteins are used as repiratory fuels.

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True Of False Statement Questions

1. Pyruvic acid is reduced during its conversion into acetyl Co-A.

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2. R.Q $= \frac{\text{Volume of} O_2 \text{consumed}}{\text{Volume of} CO_2 \text{evolved}}$

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3. acetyl Co-A facilitates oxidative phosphorylation.

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4. Anaerobic repiration occurs in complete absence of oxygen.

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5. Pyruvic acid is the ultimate product of glycolysis.

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6. Both anabolism and catabolism should be included for measuring total metabolism in human.

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7. Pyruvic acid enter the Krebs cycle directly.

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8. Glycolysis occurs in mitochondria and cytoplasm in case of eukaryotic cell and prokaryotic cell respectively.

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9. Zymase converts surcose into glucose and frustose.

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10. In mitochondria , the intermitochondrial space has highest H^+ concentration.

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Very Short Answer Type Questions

1. Name the unit of oxidative phosphorylation.

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2. Give the location of enzymes of TCA cycle.

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3. Give the full form of EMP pathway.


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4. Which organic compound act as link between glycolysis and Krebs cycle ?


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5. Name the first product of TCA cycle.


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6. Name the first product of TCA cycle.

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7. What is the first electron carrier on the Route II of ETC.

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8. By which process, the fatty acid changesx into acetyl Co-A.

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9. What is pneunmatophore ?

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10. What is lenticel ?

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11. What are alveoli ?

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12. What are the calorific values of carbohydrate, protein and fat ?

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13. How much of CO_2 is present in our inspired and expired air ?

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14. Where does glycolysis occur ? What is the end product of glycolysis ?

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15. Where does Krebs cycle occur ? How much ATP are produced in Krebs cycle per molecule of glucose ?

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16. Where does citric acid cycle take place ?

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17. Name the primary respiratory substrate.

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18. How much moleclules of ATP are net gained in glycolysis ?

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19. Name the enzyme required for synthesis of ATP.

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20. What is the site of ETS in respiration ?

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21. What is the site of ETS in repiration ?

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22. Write the name of acetic acid (vinger) producing bacteria.

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23. Name a bacteria that is used for preparation of milk products.

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24. What are the end products of alcoholic fermentation ?

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25. Which product is toxic to liver cell ?

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26. How much energy is required to form 1 molecule of ATP from ADP and Pi ?

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27. From substrate level phosphorylation how many ATP molecules are formed in glycolysis ?

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28. Write the connecting link between glycolysis and Krebs cycle .

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29. Write the product of oxidative decarboxylation of pyruvate .

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30. Write the final electron aceptor in aerobic respiration .

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31. In one ATP, how many high energy bonds are present ?

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32. How many ATP molecules will be gained from oxidation of 1 molecule of pyruvic acid through TCA

cycle ?

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33. By which process energy is released in cytoplasm ?

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34. Write the sugars that normally enters glycolysis .

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Short Answer Type Questions

1. What Krebs cycle is called TCA Cycle ?

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2. What is EMP Pathway ?

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3. Why respiration is called a catabolic process ?

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4. What is glycolysis ?

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5. What is alcoholic fermentation ?

Watch Video Solution

6. What is muscular fatigue ? How this can be removed ?

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7. How many high energy bonds are present in one molecule of ATP ?

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8. Why it is not easier to breath through a long tube ?

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9. What are the functions of CO_2 in our body ?

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10. What is RQ ?

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11. What is Acetyl Co-A ?

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12. What is surfectant ?

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13. Why more carbonic acid is produced in RBC than in plasma ?

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14. How much amount of O_2 is carried by 1 gm of haemoglobin ? Where glycolysis occur ?

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15. Why acetyl Co-A is called gateway step or link reaction ?

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16. What are putrefaction and fermentation ?

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17. Why pyruvic acid is called pivotal metabolite ?

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18. State the significance of glycolysis in respiration.

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19. Discuss the external and internal respiration in human body.

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20. What are complete anaerobes and partial anaerobes?

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21. (a) How many high energy bond phosphates are there in 1 moles of ATP ? (b) How many of ATP are generated when 1 mole of glucose is completely oxidized through aerobic system ?

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22. Explain briefly why mature human erythrocytes cannot carry out the Krebs/citric acid cycle.

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23. How many ATP molecules are produced from a glucose molecule during the process of respiration.

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24. What are the end products of aerobic and anaerobic respiration ?

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25. What is cellular respiration ?

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26. What is oxidative phosphorylation ?

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27. What is protoplasmic respiration ?

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28. What is substrate level phosphorylation ?

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29. What is floating respiration ?

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30. How much to energy is obtained during hydrolysis of ATP to ADP.

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31. What are the electron carrier in ETC in aerobic repiration ?

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32. What are the tricarboxylic acids in TCA cycle?

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33. In the reactions of Krebs cycle no O_2 is required. Inspite of that the reactions of this cycle stop in absence of O_2 why ?

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34. Which pathway is called of alternative oxidation of glucose ?

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35. Write the two decarboxylation steps in Krebs cycle.

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36. Write the location of cytochrome C? Write is function.

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37. Define glycolysis.

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38. Write the carriers of ETS in aerobicv respiration.

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39. State the difference between Krebs cycle and electron transport system .

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40. Why R.Q. value of rice and castor oil seeds differ from each other ?

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41. Why Krebs pathway called a TCA cycle ?

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42. State how photosynthesis and cellular respiration are interlinked .

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43. Describe the common steps between aerobic and anaerobic respiration .

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44. What is yeast ? Living yeast cells are placed in dilute sugar solution for some time . What are the possible changes that would take place in- (i) sugar solution and (ii) individual yeast cell ?

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45.

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46. Briefly state about ATP with its function .

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47. What is Crabtree and Pasteur effect ?

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48. Explain the anabolic nature of Kreb's cycle.

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49. State the differences between internal and external respiration .

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50. What are the differences between respiration and breathing .

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Long Answer Type Questions

1. What is respiration ? Why respiration is called a catabolic process ? What are the difference between respiration and breathing ? What is the significance of respiration ?

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2. What are the differences between respiration and combustion ? What do you mean by respiratiory substrate ? How energy released from respiration is utilized ? What do you mean by respiratory quotient ?

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3. What is glycolysis ? Write down the sequences of reactions that occurs in glycolysis in tabular form .

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4. Define catabolism .

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5. Mention the difference between respiration and photosynthesis .

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6. What is fermentation ? Mention the different applications of fermentation.

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7. What is the process of energy production in cytoplasm of living cell ? Describe its chemical reactions .

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8. What are the differences between external and internal respiration ?

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9. What is the end product of glycolysis ? Why Krebs cycle is called TCA cycle ? What will be the value of R.Q. in case of protein and fat as respiratory substrates ? What is photorespiration ?

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10. What is fermentation ? What are the differences between the alcoholic fermentation and anaerobic respiration ?

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11. State the differences between photosynthesis and respiration.

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12. Describe the pentose- phosphate pathway along with its proper schematic representation.

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13. Describe the amiphibolic pathway with its proper scheme .

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14. What are the importance of respiration ?

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Ncert Questions

1. Differentiate between

(a) Respiration and Combustion

(b) Glycolysis and Krebs cycle

(c) Aerobic respiration and Fermentation .

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

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3. Give the schematic representation of glycolysis ?

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4. Define Aerobic respiration

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5. In anaerobic respiration, the pyruvic acid in muscles will form

A. Acetaldehyde

B. lactic acid

C. acetic acid

D. alcohol

Answer:

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6. Explain ETS .

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7. Distinguish between the following :

(a) Aerobic respiration and Anaerobic respiration .

(b) Glycolysis and Fermentation.

(c) Glycolysis and Citric acid Cycle .

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8. What are the assumptions made during the calculation of net gain of ATP?

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9. Explain, why the process of glycolysis and cellular respiration releases the energy of glucose in small quantities rather than all at once.

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10. Define R.Q. What is its value for fats ?

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11. What is oxidative phosphorylation ?

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12. Which one is true for ATP?

A. ATP is prosthetic part of an enzyme

B. ATP is an enzyme

C. ATP is organic ions of enzyme

D. ATP is a coenzyme

Answer:

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