BIOLOGY

NCERT - FULL MARKS BIOLOGY(TAMIL)

RESPIRATION

Question

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. What are the main steps in aerobic respiration? Where does it take place?

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5. Give the schematic representation of an overall view of Krebs cycle.

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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. Discuss "The respiratory pathway is an amphibolic pathway."

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10. Define RQ. What is its value for fats?

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11. What is oxidative phosphorylation ?

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12. What is the significance of step-wise release of energy in respiration?

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Evaluation

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:

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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:

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

A. succinic acid

B. pyruvic acid

C. acetyl CoA

D. citric acid

Answer:

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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 explanation 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:

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

A. Shifting of phosphate from 3C to 2C

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

C. Dephosphorylation from the substrates

D. All of these

Answer:

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

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

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

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

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

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11. Breathing is controlled by

A. cerebrum

B. medulla oblongata

C. cerebellum

D. pons

Answer:

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12. Intercostal muscles are found between the

A. vertebral column

B. sternum

C. ribs

D. glottis

Answer:

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13. The respirfltory structures of insects are

A. tracheal tubes

B. gills

C. green glands

D. lungs

Answer:

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14. Asthma is caused due to

A. bleeding in pleural cavity.

B. infection of nose

C. damage of diaphragm

D. infection of lungs

Answer:

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15. The Oxygen Dissociation Curve is

A. sigmoid

B. straight line

C. curved

D. rectangular hyperbola

Answer:

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16. The Tidal Volume of a normal person is

A. 800 mL

B. 1200 mL

C. 500 mL

D. 1100 - 1200 mL

Answer:

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17. During inspiration, the diaphragm

A. expands

B. unchanged

C. relaxes to become domed-shaped

D. contracts and flattens

Answer:

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18. CO_2 is transported through blood to lungs as

A. carbonic acid

B. oxyhaemoglobin

C. carbamino haemoglobin

D. carboxy haemoglobin

Answer:

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19. When 1500 mL air is in the lungs, it is called

A. vital capacity

B. tidal volume

C. residual volume

D. inspiratory reserve volume

Answer:

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20. Vital Capacity is

A. TV + IRV

B. TV + ERV

C. RV + ERV

D. TV + TRV + ERV

Answer:

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21. After a long deep breath, we do not respire for some second due to

A. more CO_2 in the blood

B. more O_2 in the blood

C. less CO_2 in the blood

D. less O_2 in the blood

Answer:

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22. Which of the following substances in tobacco smoke damage the gas exchange system?

A. carbon monoxide and carcinogens

B. carbon monoxide and nicotine

C. carcinogens and tar

D. nicotine and tar

Answer:

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23. Which of the following best describes the processof gas exchange in the lungs?

A. Air moves in and out of the alveoli during breathing.

B. Carbon dioxide diffuses from deoxygenated blood in capillaries into the alveolar air.

C. Oxygen and carbon dioxide diffuse down their concentration gradients between blood and alveolar air.

D. Oxygen diffuses from alveolar air into deoxygenated blood.

Answer:

24. Make the correct pairs.

Columan–I	Column–II
(P) IC	i. maximum volume of air breathe in after forced.
(Q) EC	ii. Volume of air present after expiration in lungs.
(R) VC	iii. Volume of air inhaled after expiration.
(S) FRC	iv. Volume of air exhaled after inspiration.

A. P-i, Q-ii, R-iii, S - iv

B. P - ii, - iii, R-iv, S-i

C. P - ii, Q - iii, R-i, S - iv

D. P - iii , Q - iv, R-i, S-ii

Answer:

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25. Name the respiratory organs of flatworm,earthworm, fish, prawn, cockroach and cat.

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26. Which structure seals the larynx when we swallow?

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27. Resistance in the airways is typically low. Why? Give two reasons.

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28. How the body makes long-term adjustments when living in high altitude?

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29. Sketch a flow chart to show the path way of air flow during respiration.

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30. Why is pneumonia considered a dangerous disease?

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31. Explain the conditions which creates problems inoxygen transport.

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