



BIOLOGY

BOOKS - TRUEMAN BIOLOGY

Cellular Respiration

Assertion And Reason

1. [A] : Krebs cycle is considered as amphibolic pathway.

[R]: Catabolic pathways converge on it and anabolic pathways diverge from it

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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2. [A]: Glucose oxidation is a slow process.

[R]: It consists of only two subprocesses.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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3. Assertion. All the enzymes participating in the Krebs cycle reactions occur in the matrix of mitochondria.

Reason. Krebs cycle generates GTP in animal as well as plant cells.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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4. [A]: RQ indicates type of substrate oxidised in cell respiration.

[R]: Proteins are used in protoplasmic respiration.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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5. [A] : Fermentation is a wasteful process.

[R]: It yields only 5% of the energy provided by aerobic respiration.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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6. [A]: Glycolysis yields 2ATP & 2NADH only.

[R]: Glycolysis is an anaerobic process & can't oxidise substrate fully.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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7. [A]: Glycolysis occurs in the cytoplasm and converts some of the energy stored in glucose bonds to ATP and NADH.

[R]: In glycolysis, glucose is rearranged and split into three carbon intermediates, each of

which is rearranged further to eventually yield two molecules of pyruvic acid.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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8. [A] : The mechanism of ATP formation in mitochondria is almost similar to that of chloroplast.

[R]: In mitochondria there is proton gradient formation inside intermembrane space whereas in chloroplast proton gradient is formed in thylakoid lumen.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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9. [A] : Poisons like cyanide inhibit Na^+ efflux and K^+ influx during cellular transport.

[R] ATP supply required for the Na^+ and K^+ exchange pump is stopped.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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10. [A] : During catabolism of food through Krebs cycle, energy is generated by ETS.

[R]: Energy is released from electrons, as they pass along a series of reactions

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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11. [A]: Glycolysis occurs in the cytoplasm and converts some of the energy stored in glucose to ATP and NADH.

[R]: Glucose, in glycolysis is splitted into two molecules of 3-C compound.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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12. [A] : PGAL is isomerised to produce DHAP.

[R]: isomerisation is catalysed by the enzyme phosphate triose isomerase.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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