

Examrace

MCQs on Ketogenesis Past Year Paper Higher Questions and Answers

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Ketogenesis is the process of catabolism of fatty acid and ketogenic amino acids. Energy is released in the process and ketone bodies are also produced. Excess ketone bodies may lead to ketoacidosis. Ketogenesis is the preferred mode to derive energy, when there is less amount of carbohydrate in the diet, e.g. during starvation or fasting.

1. Brain derives energy from ketogenesis, if glucose is

- (a) less
- (b) high
- (c) constant
- (d) zero

Answer: A

2. Which of the following amino acids are exclusively ketogenic?

- (a) Asparagine
- (b) Threonine
- (c) Proline
- (d) Leucine

Answer: D

3. Activated fatty acid is transported to mitochondria from cytosol by

- (a) Creatinine
- (b) Carnitine
- (c) Creatine
- (d) Clathrin

Answer: B

4. Ketone bodies are formed from

- (a) Acetone

- (b) Acetyl CoA
- (c) Acetoacetate
- (d) HCl

Answer: B

5. When the rate of synthesis of ketone bodies is more than its utilization, it leads to

- (a) color blindness
- (b) diabetes
- (c) anemia
- (d) ketonemia

Answer: D

6. Urine of a person contains abnormal quantities of _____ during prolonged fasting

- (a) amino acids
- (b) ketones
- (c) glucose
- (d) fats

Answer: B

7. Ketogenesis occurs primarily in _____ of liver cells

- (a) Mitochondria
- (b) Cytosol
- (c) Endoplasmic reticulum
- (d) Golgi apparatus

Answer: A

8. Organs that can utilize energy formed in ketogenesis are

- (a) Brain
- (b) Skeletal muscle
- (c) Heart
- (d) All of the above

Answer: D

9. Which of the following are ketone bodies

- (a) acetoacetate
- (b) acetone
- (c) β -hydroxy butyrate
- (d) all of the above

Answer: D

10. Which of the following produce acetyl CoA directly

- (a) Lysine
- (b) Phenylalanine
- (c) Isoleucine
- (d) Alanine

Answer: C

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