**Question bank**

**Bsc vi sem paper I metabolism 2**

1. Name the most active organs in the animal body which have the ability to synthesize triacylglycerol?  
a) Spleen  
b) Kidney  
c) Liver and intestines  
d) Adipose tissues

**Answer: c**

2 Which of the following pathway is not used for triacylglycerol synthesis?  
a) Glycerol 3-phosphate pathway  
b) Glyoxylate pathway  
c) Monoacylglycerol pathway  
d) Kennedy pathway

**Answer: b**

3. Which of the following enzyme is not used in the synthesis of triacylglycerol?  
a) Glycerol-3-phosphate acyltransferase  
b) Acylglycerophophate acyltransferase  
c) Phosphatidic acid phosphohydrolase  
d) Glycogen phosphorylase

**Answer: d**

4. What is lipolysis?  
a) Hydrolysis of triacylglycerol  
b) Formation of lipids  
c) Breakdown of ketone bodies  
d) Formation of ketone bodies

**Answer: a**

5. Which of the following hormone is not used in the hydrolysis of triacylglycerol into the fatty acids in adipose tissues?  
a) Epinephrine  
b) Norepinephrine  
c) Glucagon  
d) Insulin

**Answer: d**

6. Mark the INCORRECT statement about the bile salt.  
a) These are detergent substances  
b) Stored in the gallbladder  
c) It is hydrophobic in nature  
d) It is made up of cholic acid

**Answer: c**

7. Triacylglycerol packed with the apolipoprotein and cholesterol in lipoprotein aggregate is called\_\_\_\_\_\_\_\_\_  
a) Chylomicrons  
b) VLDL  
c) HDL  
d) LDL

**Answer: a**

**8.** What is the outcome of the accumulation of acetyl-CoA in the mitochondria of the liver?  
a) It is used as an energy source  
b) It has broken down in to free fatty acids  
c) It gets converted to oxaloacetate  
d) It forms ketone bodies

**Answer: d**

9. Name the energy source of the brain during starvation?  
a) Fat  
b) Ketone bodies  
c) Protein  
d) Lipids

**Answer: b**

10. What is the biosynthetic source of all steroid hormones?  
a) Cholesterol  
b) Ketone bodies  
c) Carbohydrate  
d) Protein

**Answer: a**

11. brain gets energy from ketone bodies if availability of glucose is

a) constant

b) less

c) high

d) zero

**Answer: b**

12. Number of water soluble molecules ketone bodies include are

1. 1
2. 2
3. 3
4. 4

**Answer: c**

13. ketone bodies are made from

a) acetone

b) hydrochloric acid

c) acetyl CoA

d) acetoacetic acid

**Answer: c**

14. ketone bodies include

a) acetone

b) acetoacetic acid

c) beta hydroxybutyric acid

d) all of above

**Answer: d**

15. the condition in which the rate of synthesis of ketone bodies exceeds the rate of utilization is called

a) ketonemia

b) anaemia

c) diabetes

d) color blindness

**Answer:a**

16. The prosthetic group of acyl carrier protein is \_\_\_\_\_\_\_\_\_\_\_  
a) 4’-phosphopantetheine  
b) 3’-phosphopantetheine  
c) 2’-phosphopantetheine  
d) 1’-phosphopantetheine

**Answer: a**

17. Which of the following is involved in the bio-signaling pathway that includes membrane turnover and exocytosis?  
a) Phosphatidylinositol  
b) Phosphatidyl glycerol  
c) Myoinositol  
d) Phosphatidyl glycerol and myoinositol

**Answer: a**

18.  Which of the following is considered as the structural parent of all sphingolipids?  
a) Sphingosine  
b) Ceramide  
c) Lecithin  
d) Sphingomyelin

**Answer: b**

**19.** The most complex sphingolipid is \_\_\_\_\_\_\_\_\_\_\_  
a) Cerebroside  
b) Gangleoside  
c) Globoside  
d) Ceramide

**Answer: b**

20. Cerebroside is also called as \_\_\_\_\_\_\_\_\_\_\_  
a) Sphingomyelin  
b) N-acylsphingosine  
c) Sphinganine  
d) Gangliosides

**Answer: a**

21. Transamination reaction in amino acid synthesis is catalyzed by enzyme\_\_\_\_\_\_\_\_\_  
a) Nitric oxide synthase  
b) Decarboxylase  
c) Aminotransferase  
d) Glutamate decarboxylase

**Answer: a**

22. Intermediates of which of the following metabolic pathway have not been used in the synthesis of amino acids?  
a) Glycolysis  
b) Fatty acid biosynthesis  
c) Citric acid cycle  
d) Pentose phosphate pathway

**Answer: b**

23. Name the amino acid which does not take part in transamination during amino acid catabolism.  
a) Proline  
b) Threonine  
c) Lysine  
d) Serine

**Answer: d**

24.  Name those living organisms which secrete nitrogen in the form of urea?  
a) Ureotelic  
b) Uricotelic  
c) Ammonotelic  
d) Nitroso compounds

**Answer: a**

25. Name the type of cell in which synthesis of urea cycle takes place?  
a) Pancreatic cell  
b) Hepatocyte  
c) Bowman’s gland cell  
d) Urinary epithelium cell

**Answer: b**

26. **. Urea is formed from which toxic material?**

A. CO2

B. Ammonia

C. Uric acid

D. All of the above

**Answer: b**

27. **Which of the following is the rate limiting step of urea cycle?**

A. Synthesis of citrulline

B. Synthesis of carbamoyl phosphate

C. synthesis of arginine

D. Synthesis of ornithine

**Answer: b**

28. **Which of the following is the first reaction of urea cycle?**

A. Formation of ornithine

B. Formation of urea

C. Formation of arginosuccinate

D. None of the above

**Answer: d**

**29. Which of the following compounds are formed in urea cycle?**

A. Arginosuccinate

B. Ornithine

C. Fumerate

D. All of the above

**Answer: d**

30. **Which of the following is the significance of urea cycle?**

A. Regulates BP

B. Regulates blood volume

C. Regulate blood flow

D. Regulate blood Ph

**Answer: d**

31. Salvage pathway is used in the synthesis of \_\_\_\_\_\_\_\_\_\_\_  
a) Amino acid  
b) Carbohydrate  
c) Nucleotide  
d) Fatty acid

**Answer: c**

32. Name the precursor of RNA?  
a) Glutamine  
b) Cytidine  
c) Orotidylate  
d) Uridylate

**Answer: d**

33. The activity of which of the following enzyme is inhibited by the chemotherapeutic agent during deoxyribonucleotide synthesis?  
a) Dihydrofolate reductase  
b) Ribonucleotide reductase  
c) Thymidylate synthase  
d) CTP synthetase

**Answer: a**

34. Which of the following is not the precursor of a purine ring?  
a) Glutamine  
b) Lysine  
c) Glycine  
d) Aspartate

**Answer: b**

**35.** During purine synthesis the activity of amidotransferase enzyme is inhibited by the antitumor agent, mark the correct one.  
a) Aminopterin  
b) Methotrexate  
c) Texol  
d) Azaserine

**Answer: d**

36.  What is the final product of purine degradation in mammals?  
a) Guanine  
b) Inosine  
c) Uric acid  
d) Hypoxanthine

**Answer: c**

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| 37 The sugar in RNA is \_\_\_\_\_\_\_\_\_\_ , the sugar in DNA is \_\_\_\_\_\_\_\_\_\_ |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | deoxyribose, ribose | | [**B.**](javascript:%20void%200;) | ribose, deoxyribose | | [**C.**](javascript:%20void%200;) | ribose, phosphate | | [**D.**](javascript:%20void%200;) | ribose, uracil | |

**Answer:**  **B**

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| 38. Nucleoside is a pyrimidine or purine base |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | covalently bonded to a sugar | | [**B.**](javascript:%20void%200;) | ionically bonded to a sugar | | [**C.**](javascript:%20void%200;) | hydrogen bonded to a sugar | | [**D.**](javascript:%20void%200;) | none of the above | |

**Answer:** **A**

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| 39 Which pyrimidine base contains an amino group at carbon 4? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Cytosine | | [**B.**](javascript:%20void%200;) | Thymine | | [**C.**](javascript:%20void%200;) | Uracil | | [**D.**](javascript:%20void%200;) | Adenine | |

**Answer:**  **A**

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| --- | --- |
|  | 40. A nucleotide consists of |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | a sugar, a base and a phosphate | | [**B.**](javascript:%20void%200;) | a sugar and a phosphate | | [**C.**](javascript:%20void%200;) | paired bases | | [**D.**](javascript:%20void%200;) | a sugar, a base and three phosphates | |

**Answer:**  **A**