M.Sc. BOTANY
Paper: CBO-201

1. Which is a reducing sugar?

(a).Galactose

(b).Gluconic acid

(c). Sucrose

(d) β-methyl galactosidase

2. Name the simplest amino acid

(a). Alanine

(b).Tyrosine

(c).Asparagine

(d). Glycine

3. Mineral associated with cytochrome is

(a).Mg

(b). Cu and Ag

(c). Fe

(d). Cu

4. The most common secondary structure of proteins is

(a). β-pleated sheet

(b). β-pleated sheet parallel

(c).β-pleated sheet non-parallel

(d). α-helix

5. The term enzyme was coined by

(a). Urey Miller

(b). Pasteur

(c). Kuhne

(d). Buchner

6. β-oxidation occurs in

(a). Nucleus

(b). Cytoplasm

(c).Mitochondria

(d). Chloroplast

7. Koshland's theory of enzyme action is known as

(a). Lock and key theory

(b). Reduced fit theory

(c). Induced fit theory

(d). Enzyme coenzyme theory

8. A high content of triglycerides are found in

(a). VLDL

(b). LDL

(c).HDL

(d). Chylomicrons

9. Haemoglobin has

(a). Primary structure

(b). Secondary structure

(c). Tertiary structure

(d). Quaternary structure

10. Which is the most abundant biomolecule on earth?

(a). Mineral salts

(b). Proteins

(c).Lipids

(d). Carbohydrates

11. The fastest enzyme is

(a). DNA gyrase

(b). Pepsin

(c). DNA polymerase

(d). Carbonic anhydrase

12. Which of the following is a phospholipid?

(a). Sterol

(b). Cholesterol

(c). Lecithin

(d). Steroid

13. The simplest amino acid is

(a) Glycine
(b) Alanine
(c) Asparagine
(d) Tyrosine

14. Amino acids are mostly synthesised from

(a) fatty acids
(b) mineral salts
(c) α-ketoglutaric acid
(d) volatile acids

15. Amino acids with the aliphatic 'R' group are

(a) Glycine, alanine, leucine
(b) Serine, threonine, cysteine
(c) Lysine, arginine, histidine
(d) Phenylalanine, tyrosine and tryptophan

16. An amino acid yielding acetyl CoA during catabolism is

(a) ketogenic
(b) glucogenic
(c) essential
(d) both glucogenic and ketogenic

17. The first amino acid of any polypeptide chain in eukaryotes is

(a) valine
(b) methionine
(c) glycine
(d) alanine

18. Amino acids with aromatic side chain are
    (a) tryptophan, asparagine, tyrosine
    (b) tryptophan, threonine, tyrosine
    (c) phenylalanine, tryptophan, serine
    (d) phenylalanine, tryptophan, tyrosine
19. The naturally occurring proteins consist of
    (a) D-amino acids
    (b) L-amino acids
    (c) both (a) and (b)
    (d) none of these.
20. This molecule acts as molecular chaperons to assist the folding of proteins
    (a) Vitamins
    (b) Carbohydrates
    (c) Amides
    (d) Lipids
21. Which of these is not a lipid?
    (a) Fats
    (b) Oils
    (c) Proteins
    (d) Waxes
22. Beta-oxidation of fatty acids occurs in
    (a) Peroxisome
    (b) Peroxisome and Mitochondria
    (c) Mitochondria
    (d) Peroxisome, Mitochindria and ER
23. An example of _____ is Carnauba wax
    (a) Soft wax
    (b) Liquid wax
    (c) Hard wax
    (d) Archaebacterial wax
24. In fats, the number of OH groups can be expressed as
    (a) Reichert-Meissil number
    (b) Polenske number
    (c) Iodine number
    (d) Acetyl number
25. This is an example of derived lipids
    (a) Terpenes
    (b) Steroids
    (c) Carotenoids
    (d) All of the above

26. The specific gravity of lipid is

(a) 1.5

(b) 1.0

(c) 0.8

(d) 0.2

27. The enzymes are sensitive to

(a). Changes in pH

(b). Changes in temperature

(c). Both a and b

(d). None of these

28. Consider this reaction. A+B→C+D+ energy.

(a). This reaction is exergonic

(b). An enzyme could still speed the reaction

(c). A and B are reactants; A and D are Products

(d). All of these are correct.

29. Which of the following vitamins provides the cofactor for pyruvate dehydrogenase?

(a) Folate (b) Niacin

(c) Riboflavin (d) Thiamin

30. Which of the following vitamins provides the cofactor for reduction reactions in fatty acid synthesis?

(a) Folate (b) Niacin

(c) Riboflavin (d) Thiamin

31. Which of the following vitamins provides the cofactor for transamination of amino acids?

(a) Vitamin B6 (b) Niacin

(c) Riboflavin (d) Thiamin

32. Which of the following vitamins provides the cofactor for transfer of one-carbon units?

(a) Folate (b) Niacin

(c) Riboflavin (d) Thiamin

33. Which of the following vitamins is essential for gluconeogenesis from lactate?

(a) Biotin (b) Folate

(c) Pantothenic acid (d) Vitamin B6

34. Which of the following vitamins is essential for fatty acid synthesis?

(a) Biotin (b) Folate

(c) Vitamin B6 (d) Vitamin B12

35. Deficiency of which one of these vitamins may lead to haemolytic anaemia?

(a) Vitamin B6 (b) Vitamin B12

(c) Vitamin D (d) Vitamin E