



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)

Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Arrear Examination – May 2025 I Semester

Batch : 2024
Major : Optometry

Time: 3 Hours
Max. Marks: 100

22BOPD01 DSE-I Biochemistry

Course Outcomes:

CO1: To acquire knowledge on structure, properties and biological functions of carbohydrates, lipids and proteins.

CO2: To apprehend the significance of Vitamins, mineral and enzymatic functions in human body.

CO3: To collate the uptake and digestion of macronutrients and role of hormones in human body and study the significance of biochemical tests.

CO4: To elucidate the role of biochemical analysis in order to understand the diseases of human body.

CO5: To comprehend the biochemistry of ocular systems.

10 x 1= 10

Part A

Choose the Correct Answer

- Examples of Monosaccharides include all of these except
a) Glucose b) Galactose c) Fructose d) Maltose CO1K1
- Identify unsaturated fatty acid
a. Lauric b. Linoleic c. Palmitic d. Stearic CO1K1
- All of these are cofactors except
a. Mg b. K c. Zn d. NAD⁺ CO2K1
- Mineralocorticoids is secreted by
a) hypothalamus b) pituitary c) thyroid d) adrenals CO2K1
- One of these is both an exocrine and endocrine Gland
a. Liver b. Pituitary c. Thymus d. Pancreas CO3K1
- Excretion of Glucose in urine is called
a. proteinuria b. hematuria c. glycosuria d. Urolithiasis CO3K1
- Maple syrup urine disease (MSUD) is inborn error related to
a. Lactose b. Sucrose c. Glycogen d. Branched chain Amino acids CO4K1
- Inborn error of metabolism related to Melanin
a. Albinism b. MSUD c. Phenylketonuria d. Alkaptonuria CO4K1
- The derivative of which vitamin is present in Photoreceptors
a. Vit C b. Vit A c. Vit D d. Vit k CO5K1
- Crystallins are proteins located in
a) Cornea b) Iris c) Retina d) Lens CO5K1

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- | | |
|---|-------|
| 11. a. Discuss Classification and functions of Carbohydrates.
(or) | CO1K2 |
| 11. b. Describe Proteins and its biological significance. | CO1K2 |
| 12. a. Classify Vitamins.
(or) | CO2K2 |
| 12. b. Show the importance of Iron in diet. | CO2K2 |
| 13. a. Discuss on composition and functions of CSF.
(or) | CO3K2 |
| 13. b. Explain any two clinical disorders related to Hormone. | CO3K2 |
| 14. a. Discuss on causes and complications of Obesity.
(or) | CO4K3 |
| 14. b. Discuss on Anemia. | CO4K2 |
| 15. a. Explain the structure of eye with a diagram.
(or) | CO5K2 |
| 15. b. Discuss the functions and metabolism of Lens. | CO5K3 |

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or two pages

- | | |
|--|-------|
| 16. a. Discuss on types of lipids and its metabolism
(or) | CO1K3 |
| 16. b. Discuss on Plasma proteins and Immunoglobulins | CO1K3 |
| 17. a. Elaborate on enzymes, classification and mechanism of action
(or) | CO2K2 |
| 17. b. Discuss the significance of Thyroid Function Test | CO2K2 |
| 18. a. Explain Hormones and their mechanism of action
(or) | CO3K3 |
| 18. b. Explain Clinical significance of blood sugar test and synovial fluid test | CO3K2 |
| 19. a. Explain the pathophysiology of Diabetes and its complications
(or) | CO4K2 |
| 19. b. Describe Phenylketonuria and Albinism | CO4K3 |
| 20. a. Explain the Role and biochemical composition of Tear Film
(or) | CO5K2 |
| 20. b. Explain Visual cycle in detail | CO5K3 |
