



Hambal

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)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – November 2024

III Semester

Class : II UG

Major : Biochemistry and Biotechnology

Time: 3 Hours

Max. Marks: 100

23BBTC03 Mammalian Physiology

Course Outcomes:

- CO1: The various physiological systems in the human body.
CO2: The functional anatomy of different organs in each system.
CO3: The complex mechanisms of the processes of digestion, absorption, excretion, gas exchange, reproduction and neuromuscular coordination.
CO4: Integrated System physiology that will enable understanding of the biochemical basis of disease.
CO5: Qualitative and quantitative analysis of Biochemical parameters

Part A

10 x 1 = 10

Choose the Correct Answer

- Which of the following is not passed on to the lumen of Bowman's capsule during glomerular filtration? CO1 K1
 - Glucose
 - Proteins
 - Water
 - Fat molecules
- Choose the first enzyme to mix with food in the digestive tract of human? CO1 K2
 - Pepsin
 - Cellulase
 - Trypsin
 - Amylase
- What is the function of platelets in blood? CO2 K1
 - Blood clotting
 - Oxygen transport
 - Immune defense
 - pH regulation
- Which is represented by P wave of the ECG from the following? CO2 K1
 - Ventricular depolarization
 - Ventricular repolarization
 - Atrial depolarization
 - Atrial systole
- Identify from the following that helps in maintaining the shape of the eye CO3 K1
 - Neuroglia
 - Vitreous humor
 - Aqueous humor
 - Perikaryon
- Which of the following functions by filtering and keeping the mucus and dirt away from our lungs? CO3 K2
 - Bronchioles
 - Hairs in the lungs
 - Cilia
 - Alveoli
- Choose the common connective tissue layer holding together the skeletal muscle bundles. CO4 K1
 - Aponeurosis
 - Fascia
 - Endomysium
 - Perimysium
- Which divides the cerebral cortex lobes into left and right hemisphere of brain? CO4 K2
 - Corpus callosum
 - Pons
 - Pia matter
 - Diencephalon
- Name the process by which most of the oogonia degenerated before the birth CO5 K1
 - Zona pellucida
 - Granulose cells
 - Zona pelvienne
 - Atresia
- Show the most abundant hormone that is produced by the anterior pituitary CO5 K2
 - LH
 - TSH
 - GH
 - ACTH

Part B **5 x 6 = 30**
Answer ALL questions
Each answer should not exceed 400 words or two pages

- 11.a. Sketch on the functional anatomy of digestive tract. CO1 K3
(or)
- 11.b. Discuss on the mechanism of formation of urine. CO1 K2
- 12.a. Outline the structure and functions of heart. CO2 K4
(or)
- 12.b. Summarize on erythropoiesis and blood transfusion. CO2 K5
- 13.a. Explain how the respiration is regulated? Discuss on hypoxia. CO3 K3
(or)
- 13.b. Detail the anatomy, mechanism and abnormalities of touch senses. CO3 K3
- 14.a. Focus on the disorders of skeletal muscles. CO4 K4
(or)
- 14.b. Infer on cerebrospinal fluid and its functions. CO4 K4
- 15.a. Outline the process of spermatogenesis. CO5 K4
(or)
- 15.b. Classify hormones and discuss on its functions. CO5 K4

Part C **5 x 12 = 60**
Answer ALL questions
Each answer should not exceed 800 words or four pages

- 16.a. Comment on the structure of kidney and its role in maintaining acid-base balance. CO1 K3
(or)
- 16.b. Outline the digestion and absorption of carbohydrates, proteins and lipids. CO1 K4
- 17.a. Illustrate the mechanism of blood coagulation and its significance. CO2 K4
(or)
- 17.b. Summarize on the Cardiac cycle and electrocardiogram CO2 K5
- 18.a. Explain the anatomy, physiology, mechanism and abnormalities of vision. CO3 K4
(or)
- 18.b. Assess on the mechanism of respiration and diffusion of gases. CO3 K5
- 19.a. Conclude on the structure and functions of brain. CO4 K4
(or)
- 19.b. Illustrate on the mechanism of muscle contraction and relaxation. CO4 K4
- 20.a. Discuss on the action of hormones during menstruation, pregnancy, parturition and lactation. CO5 K2
(or)
- 20.b. Outline the mechanism of steroid and provide the concept of messengers with cAMP. CO5 K4