

Zoology (Hons.) Paper-V

Answer five questions, selecting two from each Group. Q.No. 1 is compulsory.

- I. Select the correct option in each of the following :
- (a) Choose the polar amino acid out of the options given below :
(i) Alanine (ii) Methionine (iii) Phenylalanine (iv) Arginine
 - (b) Which one of the following amino acids come under non-polar category ?
(i) Proline (ii) Cysteine (iii) Glycine (iv) Histidine
 - (c) Insuline Hormone is made up of :
(i) Protein (ii) Carbohydrate LNMUonline.com
(iii) Lipid (iv) Fatty acid
 - (d) Which is a hexose sugar ?
(i) Ribose (ii) Arabinose
(iii) Lactose (iv) Fructose
 - (e) Glycogen sugar is :
(i) Monosaccharide (ii) Disaccharide
(iii) Polysaccharide (iv) None of the above
 - (f) Propionic acid is an example of :
(i) Saturated fatty acid (ii) Unsaturated fatty acid
(iii) Polyunsaturated fatty acid (iv) Hormone
 - (g) Linoleic acid contains :
(i) Two double bonds (ii) Three double bonds
(iii) Four double bonds (iv) No double bond
 - (h) Ascorbic acid is a :
(i) Fat soluble vitamin (ii) Water soluble vitamin
(iii) Constituent of Vit-B complex (iv) None of the above
 - (i) Riboflavin is :
(i) Vitamin A (ii) Constituent of vitamin B complex
(iii) Vitamin C (iv) Vitamin D
 - (j) Enzymes are :
(i) Carbohydrate catalyst (ii) Protein catalyst
(iii) Lipid catalyst (iv) None of the above
 - (k) Ricket disease is caused due to deficiency of :
(i) Vitamin A (ii) Vitamin C
(iii) Vitamin D (iv) Vitamin E
 - (l) Metal component of the respiratory pigment Haemocyanin is :
(i) Iron (ii) Copper (iii) Nickel (iv) None of above
 - (m) W.B.C concentration per ml in human blood comes under one of the following ranges :
(i) 3,000 to 6,000 (ii) 5,000 to 10,000
(iii) 150 to 350 (iv) 1 lakh to 2 lakh
 - (n) Hepatic phase of erythropoiesis takes place in :
(i) Red Bone Marrow (ii) Yellow Bone Marrow
(iii) Liver (iv) Liver and Spleen
 - (o) Glycolysis takes place in :
(i) Cytoplasm (ii) Mitochondria
(iii) Golgi body (iv) Endoplasmic Reticulum
 - (p) Gastric HCl is produced by :
(i) Chief cells (ii) Oxyntic cells (iii) G Cells (iv) None of the above
 - (q) Gaseous exchange in lungs occurs by :
(i) Osmosis (ii) Simple diffusion
(iii) Active Transport (iv) Passive Transport
 - (r) In human body urea is produced from Ammonia in :
(i) Kidney (ii) Blood (iii) Urinary bladder (iv) Liver
 - (s) Insulin is secreted by :
(i) Thyroid gland (ii) Adrenal medulla
(iii) Pituitary gland (iv) Islets of Langerhans
 - (t) In muscle, the sarcomere is the area between :
(i) Two H-bands (ii) Two Z-bands (iii) Two A-bands (iv) M lines

Group-A

- 2. What is glycolysis ? Trace the sequence of biochemical reaction resulting into its end product.
- 3. What is a Vitamin ? Give an account of water soluble vitamins with diseases due to their deficiencies.
- 4. Define Protein. Give an account of types of proteins with suitable example.
- 5. Describe the major electrolytes found in the human body and give in short their biochemical functions. LNMUonline.com

Group-B

- 6. What is a respiratory pigment ? Describe respiratory pigments found in the animals with their functions.
- 7. Describe different digestive enzymes present in the human body and illustrate their functions.
- 8. Give an account of structure and function of the pituitary gland of the mammal.
- 9. Write short notes on the following :
 - (a) Types of Muscles and their distribution
 - (b) Homoiothermy and Poikilothermy
 - (c) Functional unit of kidney
 - (d) Mechanism of transport of CO₂ in the blood