

DEPARTMENT OF ZOOLOGY
NAMBOL L. SANOI COLLEGE, NAMBOL

**QUESTION BANK FOR ZOOLOGY (HONOURS) PREVIOUS
YEARS**

SEMESTER – VI
PAPER-VI / ZOO 608

UNIT 1. NUTRITION

MCQ

- (a) Essentially the word digestion means 2017
(i) hydrolysis of food
(ii) oxidation of food
(iii) breakdown of food
(iv) burning of food
- (b) Micronutrients are 2017
(i) as important as macronutrients but required in small amount
(ii) less important than macronutrients
(iii) called micro as they play a minor role
(iv) None of the above
- (c) Beauty vitamin is 2017
(i) vitamin E
(ii) vitamin D
(iii) vitamin K
(iv) All of the above

Very short answer carrying 1mark

- a) The conversion of blood glucose to liver glycogen is a cycle. 2017
Name the cycle of it.
- b) Who introduced the term 'pasteurization'? 2020

Short Answer carrying 3 marks

- a) Write the deficiency symptoms of riboflavin in the diet. 2018
- b) Define Gustation. How many taste buds are present in human being approximately? What is the life span of taste buds? 2018
- c) Write the deficiency symptoms of calciferol in the diet. 2019
- d) How are fats absorbed into the intestine? 2019
- e) Write the names of vitamins for antisterility, antihaemorrhagic and antirachitis. 2017

- f) Write the deficiency symptoms of nicotinic acid in the diet. 2020
- g)) What are the end products of digestion of carbohydrate, proteins and fats? 2020

Long Answer type Questions

- a) Discuss the process of Digestion of food containing carbohydrates in the alimentary canal. (6 marks) 2018
- b) Discuss the process of Digestion of food containing proteins and fats in different parts of the alimentary canal. (6 marks) 2019
- c) Name the glands and their I respective ducts of mammalian salivary glands with relation to digestion. (6 marks) 2017
- d) Describe the process of digestion of food containing proteins in the alimentary canal. How are amino acids absorbed in the gut? (6marks) 2020

UNIT 2. Heart, Blood and Circulation

MCQ

- a) Plasma is 2018
- (i) the blood that has no red blood cells
 - (ii) the liquid portion of the blood including the clotting factors
 - (iii) the liquid portion of the blood minus the clotting factors
 - (iv) the proteins of the blood
- b) The difference between the systolic and diastolic pressures is known as
- i) Blood pressure
 - ii) Pulse pressure
 - iii) Main arterial pressure
 - iv) End- ventricular pressure
- c) First heart sound is 2020
- (i) lubb' sound at the end of systole
 - (ii) 'dup' or 'dub' at the end of systole
 - (iii) lubb' sound at the beginning of ventricular systole
 - (iv) 'dup' sound at the beginning of ventricular systole

Very short answers carrying 1 mark

- a) Why are the thin walled and delicate capillaries less prone to rupture? 2018
- b) Why a person of O blood group cannot accept other blood groups but can donate to any other blood group? 2018
- c) Define null cells. 2018
- d) Why are leucocytes called wandering cells? 2019
- e) What is circulatory shock? 2019
- f) Name the miscellaneous hormone secreted by the heart. 2019

- g) Name the respiratory pigment found in human blood. 2017
- h) Name the instrument which measures arterial blood pressure. 2020

Short Answer carrying 3 marks

- a) Enumerate any two functions of liver. What do you mean by enterohepatic circulation? 2018
- b) What are the advantages of biconcave shape and no nucleus of RBC of mammals? 2018
- c) Define cardiac cycle, SA node and AV node. 2019
- d) Write in short the mechanism of blood coagulation. 2020

Long Answer type Questions

- a) What is heart beat? Describe the origin and conduction of heartbeat. (6 mark) 2018
- b) Write a note on human ABO blood groups. (6 mark) 2019
- c) Write the three major functional classes of blood cells. Which organ is the graveyard of RBCs? Write the life-span of mammalian RBCs and different cells of WBCs. (6 marks) 2017
- d) What is the natural anticoagulant that is produced by the liver? Draw the chemical structure of haemoglobin. (6 marks) 2017
- e) What is heartbeat? Explain the physiology of regulation of heart beat in a vertebrate. (6marks) 2020

UNIT 3. Respiration

Very short answers carrying 1 mark

- a) Write the chemical formula of oxyhaemoglobin. 2017
- b) Increased PO_2 and PH while decreased PCO_2 is represented form of an effect. Name the effect. 2017
- c) According to Halden's effect oxyhaemoglobin behaves as strong acid. Is it true or false. 2017
- d) What is chloride shift? 2017
- e) If you go on high mountains you will suffer from inadequate oxygenation of blood. This is a general condition. What is the term for this general condition? 2017

Short Answer carrying 3 marks

Long Answer type Questions

- a) What are the three forms of carbon dioxide transported to the lungs? Explain Haldane effect. (6 marks) 2017

- b) What is O₂ dissociation curve? Why is it sigmoid in shape? What are the advantages of this shape? Write the meaning of the terms eupnea, dyspnea, apnea and hypernea. (12 marks) 2018
- c) Describe the mechanisms of inspiration and expiration. State Haldane effect and chloride shift. (12 marks) 2019
- d) What is respiration? Describe the transport of oxygen and carbon dioxide. (12 marks) 2020

UNIT 4. Excretion

MCQ

Very short answers carrying 1 mark

Short Answer carrying 3 marks

Long Answer type Questions

- a) Define micturition and Laplace's law. Describe the role of kidneys in maintaining acid-base balance. (12marks) 2018
- b) Define micturition. Describe the physiology of urine formation in man. (12marks) 2018
- c) What is the first step of urine formation? What is the main function of Henle's loop? Name the four basic processes of mechanism of urine Formation. (12 marks) 2017
- d) What is the main function of kidney? Describe the role of kidney in water regulations, salt and acid-base balance. (12 marks) 2020

UNIT 5. Muscle, Nerve and sense organ

MCQ

- a) The basic contractile unit of muscle is 2017
- (i) sarcomere
 - (ii) sarcolemma
 - (iii) myofibril
 - (iv) myosin
- b) The cell organelle absent in the cytoplasm of a neurone is 2018
- (i) mitochondrion
 - (ii) Golgi body
 - (iii) centrosome

- (iii) Nucleus
- c) Muscle contraction requires 2019
- i) Proteins
 - ii) ATP, Mg^{2+} and Ca^{2+}
 - iii) Stimulus
 - iv) All of the above
- d) Cori cycle is associated with 2019
- i) Lactic acid
 - ii) Pyruvic acid
 - iii) Oxalic acid
 - iv) Citric acid
- e) Acetylcholine is a/an 2020
- (i) toxin
 - (ii) vitamin
 - (iii) enzyme
 - (iv) chemical transmitter

Very short answers carrying 1 mark

- a) Write the full form of EEG. 2018
- b) What are chemical messengers? 2019
- c) What term is used for a continued state of contraction caused by many rapidly repeating stimuli in a muscle? 2020

Short Answer carrying 3 marks

- a) Draw a well-labelled diagram of cross section of the spinal cord. 2018
- b) Write a short note on organ of Corti. 2019
- c) If we suddenly go from bright light into darkness, we are able to see things only after a few minutes. In this period of time, which cells are reappeared? Name a compound made up of a protein and a 5 pigment for vision. 2017
- d) Taste buds are more in children than adults. Why? Name the largest papillae for gustato-receptors. 2017
- e) Write a short note on Cori cycle. 2020
- f) Describe the mechanism of hearing by the human ear. 2020

Long Answer type Questions

- a) Define nerve impulse. How is the nerve impulse originated and propagated through a non- myelinated nerve fibre? (12 marks) 2018

- b) Describe the ultrastructure of a myofibril of a striated muscle fibre and discuss the molecular mechanism of muscle contraction. (12 marks) 2019
- c) Name the cytoplasm of the muscle fibre. Write the composition of skeleton muscle. Name the nine proteins present in the skeleton muscles.(12 marks) 2017
- d) Describe the mechanism of transmission of the nerve impulse through a nerve fibre. (12 marks) 2020

UNIT 6. Endocrinology

MCQ

- a) Fight or flight response is mediated by 2018
 (i) thyroid hormone
 (ii) steroid hormone
 (iii) parathyroid hormone
 (iii) adrenal medullary hormone
- b) The name hormone' was first coined by 2018
 (i) Berthold
 (ii) Claude Bernard
 (iii) Bayliss and Starling
 (iv) Brown Sequard
- c)Every time you eat a cookie or candy bar, your blood sugar increases. This triggers an increase in which of the following hormones? 2018
 (i) Thyroxine
 (ii) Epinephrine
 (iii) Adrenocorticotropin
 (iv) Insulin
- d)Cushing's disease is caused by
 i) GH
 ii) Thyroxine
 iii) Insulin
 iv) Glucocorticoids
- e) Secretion of progesterone by corpus luteum is initiated by 2019
 i) Testosterone
 ii) Thyroxine
 iii) MSH
 iv) LH
- f)In non-mammalian vertebrates, endocrine gland is responsible for maintaining circadian rhythms. The endocrine gland is 2017
 (i) pineal
 (ii) thymus

- (iii) parathyroid
- (iv) heart
- g) Female sex hormone is 2020
 - (i) estrogen
 - (ii) androgen
 - (iii) insulin
 - (iv) adrenaline

Very short answers carrying 1 mark

- f) How can cretinism be prevented in the offspring? 2018
- g) Define trophic hormone. 2018
- h) What do T3 and T4 stand for? 2019
- i) Why recombinant insulin found in the market has not produced immunogenic reactions on human body? 2019
- j) Which organ secretes erythropoietin and rennin hormones? 2019
- k) Name the scientist who discovered hormone. 2020
- l) Researchers have found increased levels of hormones in the blood of students preparing for final exam. These hormones are produced in response to stress. Name the endocrine gland which secretes this hormone. 2020

Short Answer carrying 3 marks

- a) Differentiate between pituitary dwarfism and hypothyroid dwarfism. Give three points. 2018
- b) Draw and label the histology of thyroid gland. 2018
- c) "A temporary endocrine gland produces hormones for the maintenance of healthy pregnancy, preparation for labour and breastfeeding." Name the endocrine gland, mention the hormones secreted and write one function of the gland. 2018
- d) What is hashimoto's disease and how is it caused? 2019
- e) Is heart an endocrine gland? Write the names of two hormones secreted by heart. 2019
- f) Who was the father of endocrinology? Unit Who discovered Islets of Langerhans? Name a hormone secreted by kidney. 2017
- g) The pituitary gland is often described as the leader of endocrine gland orchestra. Give three reasons 2017
- h) Name the abnormal condition when mammary gland of a man become female-like. Why is adrenaline hormone known as emergency hormone? (6 marks) 2017
- i) Is heart an endocrine gland? Write two thit names of hormones secreted by heart.(6 marks) 2017
- j) Why are parathyroid glands essential? 2020
- k) If androgens are not secreted by the testes, what will be the possible

- effects to a man? Write three effects. 2020
- l) Write one function of each of the following hormones: 2020
Gastrin; Secretin; Villikinin

Long Answer type Questions

- a) What is diabetes mellitus? How is it caused? Enlist the hormones secreted from pancreas. Write the functions of insulin. (12 marks) 2018
- b) Write a brief account about pituitary as master gland of endocrine glands. (12 marks) 2018
- c) Describe the position, structure and hormone secreted by the thyroid gland. Write down about the hypersecretion and hyposecretion of thyroid gland. (12 marks) 2018
- d) What are endocrine glands? Describe the structure and function of pituitary gland. (12 marks) 2019
- e) A few weeks after birth the baby starts developing the signs like sluggish movements and cracking sounds while crying, stunted growth with bloated body, the tongue becomes so big that it hangs down with dripping of saliva and the tongue produces characteristic guttural breathing. Name the disease, causes and related factors with its endocrine gland. (6 marks) 2017
- f) A syndrome is characterized by the following features : Obesity, moon-face, torso, buffalo hump, pot belly, purple striae, thinning of skin, acanthosis, facial redness, hirsutism and hypertension. Name the syndrome, causes and its related endocrine gland. 2017
- g) Describe histological structure of thyroid gland. Discuss the functions of thyroxine. 2020
- h) What do you mean by exocrine and endocrine glands? Describe the structure and functions of islets of Langerhans. 2020

UNIT 7. Immunology

MCQ

- a) Immunoprecipitation involves the purification of 2018
i) antigen
(ii) antibody
(iii) antigen and antibody
(iv) antigen-antibody complex
- b) HAART treatment is associated with 2020
(i) anxiety
(ii) ulcer
(iii) AIDS
(iv) diabetes
- c) The cells active in the production of antibodies are 2020
(i) Kupffer's cells

- (ii) plasma cells
- (iii) mast cells
- (iv) Langerhans' cells

Very short answers carrying 1 mark

(1 mark Questions)

- a) What is natural passive immunity? 2018
- b) Write one useful outcome of antigen-antibody interactions. 2019
- c) "A protein that is produced by B-lymphocytes in response to the presence of an antigen." What is the term of it? 2017
- d) There are several reasons for non availability of HIV vaccine for the last 30 years. Give one of your best explanations in support of this. 2020
- e) Write the term used for disintegration of RBCs with subsequent discharge of it haemoglobin due to increased osmotic pressure inside RBCs. 2020

Short Answer carrying 3 marks

- a) What are CDY cells and how does HIV affect CDY cells? 2018
- b) Write the molecular formulas of any three of IgA, IgE, IgM and IgD. 2019
- c) Indicate the region where the cleavage takes place when treated with the enzymes papain and pepsin in an immunoglobulin molecule and identify their fragments with diagram. 2019
- d) Write three features that differentiate the acquired immunity from innate immunity. 2020

Long Answer type Questions

- a) Name the world AIDS capital. In which country AIDS was first noticed? Which type of virus causes AIDS? What is the name of committee for the nomenclature of this virus? (6 marks) 2017