

DEPARTMENT OF ZOOLOGY
NAMBOL L. SANOI COLLEGE, NAMBOL

QUESTION BANK FOR ZOOLOGY (HONOURS)

PREVIOUS YEARS

SEMESTER – VI

PAPER-VI / ZOO 609

UNIT 1. Gametogenesis, Fertilization & Parthenogenesis

MCQ

- a) The first maturation division of the primary oocyte takes place 2018
- i) In the ovary
 - ii) Just after ovulation
 - iii) In the oviduct
 - iv) After oviposition

Very short answers carrying 1 mark

- a) What is obstructive jaundice? 2018
- b) Mention one important function of sertoli cells of testis in mammals. 2019

Short Answer carrying 3 marks

- a) Differentiate oogenesis and spermatogenesis giving three points only. 2018
- b) Explain the significance of fertilization by giving three points. 2019

Long Answer type Questions

- a) Discuss the major events that occur in the process of fertilization. Support your answer with suitable diagrams. Write two points on the importance of fertilization. (12 marks) 2018
- b) Describe the process of oogenesis with illustrated diagrams. Write two points on the significance of parthenogenesis. (12 marks) 2019

UNIT 2. Animal egg, early stages of development, foetal membranes

MCQ

- a) The nitrogenous and metabolic wastes of the foetus are stored in the 2018
- i) Amniotic bag
 - ii) Allantois
 - iii) Yolk sac
 - iv) Coelom

Very short answers carrying 1 mark

- a) Mention one important physiological function of placenta. 2018
- b) Mention one important function of sertoli cell of testis in mammals. 2019

Short Answer carrying 3 marks

- a) Draw and label a neat diagram of chick embryo with four pairs of somites, Hensen's node, primitive streak and head fold. 2018
- b) Differentiate between area opaca and area pellucida giving three points. 2019

Long Answer type Question

- a) Explain the process of gastrulation in frog with the help of necessary diagrams. (12 marks) 2018
- b) Trace the development of extra embryonic membranes in the chick. Support your answer with a neat labelled diagram. Mention their functions. (12 marks) 2019

UNIT 3. . Organogenesis, Tissue interactions & Metamorphosis

MCQ

- a) The insect hormone ecdysone was first isolated from silkworm by 2018
- i) Wigglesworth
 - ii) Carroll Williams
 - iii) Karlson and Butenandt
 - iv) Imms
- b) The pheromones are released into 2019

- i) Target tissue
- ii) Haemolymph
- iii) Coelom
- iv) External environment

Very short answers carrying 1 mark

(1 mark Questions)

Short Answer carrying 3 marks

- a) What are the factors regulating the metamorphosis of insects? 2018
- b) What is the role of dorsal lip of blastopore as primary organizer? Write three points only. 2019

Long Answer type Questions

- a) Describe the development of kidney or brain in a vertebrate with suitable diagrams.
- b) Discuss the organogenesis of kidney or heart in a vertebrate with suitable diagrams.

UNIT 4. Histology

MCQ

- a) The Hansen's node is form by the cells of presumptive 2019
 - i) Lung
 - ii) Heart
 - iii) Notochord
 - iv) kidney
- b) The cell junctions forming fluid tight zip-lock between the cells are called 2019
 - i) Gap junctions
 - ii) Tight junctions
 - iii) Anchoring junctions
 - iv) Desmosomes
- c) The granulocytes are produce in the 2019

- i) Lymph gland
- ii) Spleen
- iii) Thyroid gland
- iv) Bone marrow

Very short answers carrying 1 mark

(1 mark Questions)

- a) In the event of an injury, if the lymphatics are not able to perform their function, what will happen to the red blood corpuscles of that person? 2018
- b) If the zymogen cells of a person is ill-developed, what will happen to the mode of secretion in his stomach? 2018
- c) In the presence of sunlight, what type of gland in the mammalian skin synthesizes vitamin D? 2019

Short Answer carrying 3 marks

- a) Write a note on presumptive area giving three points only. 2018
- b) Draw and label the microscopic structures of intestine of a mammal. 2018
- c) Tabulate three different points between grey matter and white matter of spinal cord. 2019

Long Answer type Questions

- a) i) Discuss the histological structures of spleen of a mammal with figures. (8 marks)
- ii) Draw and label the microscopic structure of an ovary or testis of a mammal. (4marks) 2018
- b) i) Describe the histological structure of stomach of a mammal with illustration. (8marks)
- ii) Draw and label the microscopic structure of skin or lung of a mammal. (4marks) 2019

UNIT 5. Biological Chemistry

MCQ

- a) The nitrogen balance in a vertebrate body is maintained by 2018
- i) Protein
 - ii) Carbohydrate
 - iii) Lipid
 - iv) Fatty acid
- b) A patient of diabetes mellitus is advised to take 2019
- i) A balanced diet
 - ii) Protein- rich diet
 - iii) Fat –rich diet
 - iv) Carbohydrate- rich diet
- c) Lack of which one of the following is the reason for muscle glycogen not being converted back into glucose? 2019
- i) Glucagon
 - ii) Phosphorylase
 - iii) Glucose phosphates
 - iv) Carbonic anhydrase

Very short answers carrying 1 mark

(1 mark Questions)

Short Answer carrying 3 marks

- a) Differentiate between glycogenolysis and glycogenesis giving three points. 2018
- b) Differentiate between lipids and derived lipids. 2018
- c) List the coenzymes based on the functional characters and give one example of each group. 2018
- d) Define ketone body. Write two points on its utilities. 2018
- e) Differentiate between essential and non-essential amino acids. Give only three points. 2019
- f) Write three important biological function of lipid. 2019
- g) What is oxidative decarboxylation? Name the enzyme complex responsible for this process. 2019

h) Define cofactor. Give two example of cofactor.

2019

Long Answer type Questions

a) What is biological oxidation? Describe with special reference to the role of electron transport system. (12marks) 2018

b) Describe the types of protein on the basis of their structural complexity. Write two point on the importance of protein. . (12marks) 2018

c) Enumerate the classification of enzymes giving their catalytic activities. Explain the mechanism of enzyme action. (12marks) 2019

d) Explain the various steps of TCA cycle. Write the importance of this cycle. 2019