(Short Questions)

Question No 2: Write short answer of the following questions (2x10=20)

I. How do arthropods grow?
II. What is the difference between diploblastic and triploblastic organization?
III. What is Metamerism and Tagmatization?
IV. Define Crossing over and Linkage?
V. What is the type of digestion that occurs in cnidarians?
VI. What is Eutely? What is its significance?
VII. How does Tapeworm obtain Nutrition?
VIII. What are the main morphological features of arthropods?
IX. What is Multiple Alleles?
X. How can the excretory system of annelids be described?

(Long Questions)

Question No 3. Explain the following questions? (10x3=30)

I. Write a note on Phylum Annelida? (10)
II. What is Population Genetics? Explain about the Natural Selection. (10)
III. How would you describe the following kinds of Chromosomes Rearrangements?
   a) i. Translocation ii. Inversion iii. Deletion
   b) What is Induced Mutation?
(OBJECTIVE)

MCQ's

(10X1=10)

Q No. 1: Choose the correct option for the statements from the multiple choices given below.

I. The first Invertebrate to develop a true Nervous System
   A. Flat worms
   B. Sponges
   C. Coelenterates
   D. Annelids

II. Gemmules are formed for
   A. Asexual Reproduction
   B. Sexual Reproduction
   C. Body growth
   D. Digestion

III. Name the fresh water sponge
   A. Spongia
   B. Sycon
   C. Euplectella
   D. Spongilla

IV. Sepia is commonly known as
    a. Star fish
    b. Jelly fish
    c. Cuttlefish
    d. Silver fish

V. Most Protozoologist now are regard the Protozoa as a sub-kingdom consisting of
   a. 5 Phyla
   b. 7 Phyla
   c. 10 Phyla
   d. 8

   Phyla

VI. The mode of respiration in earthworm is
   A. Cutaneous
   B. gills
   C. Pulmonary
   D. Subcutaneous

VII. Lung books are the respiratory organs of
    A. Insects
    B. Crustaceans
    C. Arachnids
    D. Peripatus

VIII. In determining the phenotype for the ABO blood system:
    A. O is dominant over A
    B. B is dominant over A
    C. O is recessive
    D. All of the above

IX. Which of the following is called Blood fluke of man?
    A. Taenia
    B. Paragonium
    C. Fasciola
    D. Schistosoma

X. Name the primary host for the lifecycle of Taenia solium
    A. Man
    B. Goat
    C. Snail
    D. Pig
UNIVERSITY OF THE PUNJAB
Second Semester 2015
Examination: B.S. 4 Years Programme

PAPER: Zoology-II (Chordate Diversity)  
Course Code: ZOOL-103, 
TIME ALLOWED: 30 mins. 
MAX. MARKS: 10

Attempt this Paper on this Question Sheet only.

Q1: Multiple choice questions: Four possible answers to each statement have been given below. Encircle the correct answer. Cutting, erasing and overwriting is strictly prohibited:

I. The larva that occurs in the development of Sea Urchin is
   a. Auricularia  
   b. Echinopluteus  
   c. Bipinnaria  
   d. Pluteus

II. Sharks belongs to:
   a. Class Myxini  
   b. Chondrichthyes  
   c. Osteichthyes  
   d. Amphibia

III. Structure which remains unchanged during metamorphosis of Frog’s tadpole is:
   a. Heart  
   b. Lungs  
   c. Intestine  
   d. Nervous System

IV. Swarming generally occurs in
   a. Pyrilla  
   b. Mosquito  
   c. House fly  
   d. Locust

V. Sea Stars belong to Class
   a. Asteroidea  
   b. Ophiuroidea  
   c. Echinoidea  
   d. Crinoidea

VI. *Nasika batrachus santiyadreus* is a/an
   a. Amphibian  
   b. Mammals  
   c. Birds  
   d. Reptiles

VII. Golden age of Reptiles
    a. Cenozoic era  
    b. Archaeozoic era  
    c. Mesozoic era  
    d. Paleozoic era

VIII. Glands are absent in the skin of _________.
     a. Reptiles  
     b. Frogs  
     c. Mammals  
     d. None of above

IX. Which is the World’s largest Fish?
    a. *Cetorhinus maximus*  
    b. *Rhincodon typus*  
    c. *Trimmomon manus*  
    d. *Orcina Orca*

X. In Birds, Frequently the male is more ________ than the female.
    a. Colorful  
    b. Drab  
    c. All of above  
    d. None of above
Question No 2. Shortly answer the following questions. (2x10=20)

I. What are the features of Phylum Hemichordata?
II. What is the difference between carapace and plastron?
III. What are the three structures that characterize the group shared by every Chordate?
IV. What is paedomorphosis?
V. Which is the oldest class of fish?
VI. What is placenta in Mammals and what are its functions?
VII. Describe three characteristics of Echinoderms?
VIII. Give any two flight adaptations in Birds?
IX. Define Thecodont?
X. Under which environments do Echinoderms live?

Question No 3. Explain the following questions? (10x3=30)

I. Explain the salient features of phylum Echinodermata. Classify the phylum up to class giving diagnostic characters of each class and one example each.
II. Write a note on bony fishes with examples?
III. How many orders of amphibians? Describe each order in detail?
Question No 2. Shortly answer the following questions. (2x10=20)

I. Describe properties of IgA?
II. What are Homeotherms and Heterotherms?
III. Fauna of Tundra Ecosystem?
IV. What is the role of Fire in an Ecosystem?
V. What is Genetic Drift?
VI. Write three major functions of Carbohydrates?
VII. How pH and Temperature effect the Enzyme Activity?
VIII. What are the functions of IgG?
IX. Write the two Paleontological Evidences about Evolution?
X. What is the Selection Pressure?

Question No 3. Explain the following questions in detail? (10x3=30)

I. Discuss about types of Polysaccharides and their functions? (10)
II. Explain the Population Dynamics? (10)
III. Write a detail note on Lipids and their function? (10)
UNIVERSITY OF THE PUNJAB

Third Semester 2015
Examination: B.S. 4 Years Programme

PAPER: Zoology-III (Biochemistry)  TIME ALLOWED: 30 mins.
Course Code: ZOOL-201  MAX. MARKS: 10

Attempt this Paper on this Question Sheet only.

OBJECTIVE

Q. No. 1. Multiple choice questions: Four possible answers to each statement have been given below. Encircle the correct answer. Cutting, erasing and overwriting is strictly prohibited:

1. Charles Elton described the concept of _____________ as: The Carnivore animals prey upon the Herbivores.
   A. Food Web  B. Food Chain  C. Ecosystem  D. Community

2. Many Fats develop an unpleasant odor and taste when they are allowed to contact with air at room temperature is called ____________.
   A. Acidity  B. Basicity  C. Rancidity  D. None of above

3. Which of the following Monosaccharides is not a Carboxylic Acid?
   A. Glucose  B. 6-Phospho-gluconate  C. Gluconate  D. Gluconate

4. In which condition Gene Ratio remains constant in a Species?
   A. Gene Flow  B. Mutation  C. Random Mating  D. Sexual Selection

5. Which of the following statements are true regarding Enzyme Inhibition?
   A. It may be reversible or Irreversible  B. Reversible can be Competitive or Non-competitive
   C. Both A and B  D. It is always Reversible

(P.T.O.)
6. The most common Monomer of Carbohydrate is

A. Glucose          B. Nucleotides
C. Amino acids      D. Maltose

7. A Lipid is formed by the Condensation Reactions between

A. Carbon and Hydrogen  B. Fatty acid and Alcohol
C. Fatty acid and Amino acids  D. All of these

8. The Rate-Determining step of Michaelis Menten kinetics is

A. The Complex Formation step
B. The Complex Dissociation step to produce Product
C. The Product Formation step
D. Both A and C

9. Fishes in a Pond Ecosystem occupy which level?

A. Primary Consumer  B. Secondary Consumer
C. Tertiary Consumer  D. All of above

10. The known function of __________ the first Antibodies produced during an infection which is effective against Microbes and Agglutinating Antigens.

   a. IgA          b. IgD
   c. IgG          d. IgM
Objective Type

QNo.1:- Choose the correct option for the statement from the options given below (10X1=10)

I. Most primitive nervous system is found in
   a) Hyrda                        b) Amoeba
   c) Sponge                      d) Earthworm

II. Chemically Hormones are
   a) Carbohydrate                b) Protein
   c) Steroids                    d) Calcitonin

III. No. of spinal nerves, present in frog are:
   a) 8 pairs                    b) 10 pairs
   c) 12 pairs                   d) 31 pairs

IV. Parietal eye is only found in some:
    a) Amphibians                 b) Reptiles
    c) Birds                      d) Mammals

V. Georeceptors gives an animals information about its orientation relative to
   a) up and down                 b) right and left
   c) front and back             d) space and air

VI. Pacinian Corpuscles and the organ of Ruffini are receptors for
    a) Touch and pressure         b) Touch and smell
    c) Touch and sight            d) Touch and hear

VII. Which one of the following organelles contains small circular DNA?
    a) Endoplasmic reticulum      b) Mitochondria
    c) Lysosomes                  d) Golgi apparatus

VIII. The prolactin along with estrogen stimulates full development of ------
    a) Feathers                   b) Brood Patch
    c) Beak                       d) None of a, b, c

IX. In insects the Hemolymph pressure assists in -------
    a) Blood Sucking              b) Molting of old cuticle
    b) Skin Coloration            d) Breeding behavior

X. The pea-sized glands is called-----
    a) Adrenal Gland              b) Parathyroid Gland
    c) Thyroid Gland              d) Prolactin
Subjective Type

Q.No.2: Write Short Answer of the Following Questions (2x10=20)

i. Give the role of hygroseceptors. Give their locations in insects?

ii. What are skin sensors of damaging stimuli?

iii. What is the structure and function of micro-tubules?

iv. Give location and role of Ultimobranchial glands?

v. What is Significance of Mitochondria as semi-autonomous body?

vi. What is autonomic nervous system?

vii. Briefly describe breathing in birds.

viii. Describe the function of lipids.

ix. What is tonicity? Give its different from.

x. Write down the name of any two cranial nerves and their function.

Q.No.3: Question with brief answers. (30)

i. Describe the structure and function of hormones in Molluscs, Annelids, Arthropods and Echinoderms. (10)

ii. Write in detail the structure and function of Lysozomes and Peroxisomes. (10)

iii. Explain the followings
   a. Describe different transport systems of different invertebrates (5)
   b. What is the function of small intestine in mammals? (5)