

**Model Paper**

Roll No. -----

**Government College University, Faisalabad**

**B.Sc (Part-I)**

**Annual 2017**

Subject: Zoology

**Paper: (A)**

Course Code: ZOO-301

Course Title: Principle in Animal Life

**Subjective Part:**

Time Allowed: 02:30 Hours

Maximum Marks: 20

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**Note: Answer the question of Part II & Part III on separate Answer sheet provided**

**Part-II**

**Answer any three of the following:**

**4+4+4=12**

Q.3: What is an electrolyte, an acid, a base, and buffers? What is the relationship between pH and H<sup>+</sup> ion concentration?

Q.4: How cells convert energy? Differentiate between substrate level phosphorylation and Chemiosmosis.

Q.5: Differentiate between Spermatogenesis and Oogenesis.

Q.6: Why is DNA replication semi-conservative and describe the functions of DNA polymerase?

Q.7: Why gene flow and mutation important to evolution?

Q.8: Write a note on molecular evolution.

**Part-III**

**Attempt one of the following:**

**(8)**

Q.9: What an essay on eukaryotic chromosomes.

Q.10: What are the various categories of learning? Give an example of each type.

**(8)**

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Government College University, Faisalabad

B.Sc (Part-I)

Annual 2017

Subject: Zoology

Paper: (A)

Course Code: ZOO-301

Course Title: Principle in Animal Life

**Objective Part:**

Time Allowed: 30 mints

Maximum Marks: 15

Note: Cutting and overwriting are not allowed in Objective part

- 1) In part 1 all question are compulsory. Answer these questions on the question sheet only.
- 2) Answer any three question from part-II any one question from part-III
- 3) Answer the questins of part-II and part-III on separate answer sheet provided

**Q.1: Make TRUE of FALSE statement. Give correct statement if it is false: 1x5=5**

Statement	True/False	Correct Statement
a. Mammals like reptiles were common during Carboniferuos period.		
b. Pseudoscience is the representation of ideas or beliefs as scientific without scientific basis		
c. Flagella may have arisen through the invagination of prokaryotes similar to spiral shaped bacteria called spirochetes		
d. The scanning electronic microscope (SEM) is used to study surfaces rather than thick sections of the cells.		
e. During Krebs cycled 8 NADH molecules as reproduced.		

**Q.2: Tick the correct option from the MCQ given below:****1x10=10**

1. Which of the following zoogeographical region does “ Sahara desert: belong to  
(i) Neotropical (ii) Nearctic (iii) Ethiopian (iv) Oriental
2. Hyracotherium (Eohippus) was a dog sized animal with four prominent toes on each foot, was evolved during which epoch?  
(i) Oligocene (ii) Eocene (iii) Miocene (iv) Pliocene
3. Which hormone in mammals is responsible for the development and maintenance of secondary sexual characteristics?  
(i) Aldosterone (ii) Testosterone (iii) both of these (iv) None of these
4. Compounds with the same molecular formula but different structures are

- (i) Proteins      (ii) Carbohydrates      (iii) Monomers      (iv) Isomers
5. Asiatic black bear (*Ursus thibatanus*) is present in Asia but now endangered due to  
(i) Over collection of medicines      (ii) Over population for pet markets      (iii) Habitat loss and poaching      (iv) none of these
6. The white blood cells of a frog engulf and digest harmful bacteria is an example of  
(i) Exocytosis      (ii) Phagocytosis      (iii) Pinocytosis      (iv) None of these
7. Axonemes of microtubules consist of pair of microtubules  
(i) 7      (ii) 8      (iii) 9      (iv) 10
8. How many number of alleles are now appears to determine Rh phenotype?  
(i) 10      (ii) 20      (iii) 30      (iv) 40
9. Dinosaurs replaced mammal-like reptiles and the first true mammals appeared during \_\_\_\_\_ period of Mesozoic Era.  
a) Quaternary      b) Tertiary      c) Jurassic      d) Triassic
10. \_\_\_\_\_ are evidence of plants and animals that existed in the past and have become incorporated into the earth's crust  
a) Fossil      b) Leftover      c) Sediments      d) Scavenger

# Model Paper

Roll No. -----

Government College University, Faisalabad

**B.Sc (Part-I)**

**Annual 2017**

Subject: Zoology

**Paper: (B)**

Course Code: ZOO-302

Course Title: Invertebrates Diversity (Classification, phylogeny and Organization)

**Objective Part:**

Time Allowed: 30 mints

Maximum Marks: 15

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**Note: Attempt Part-I on the question sheet and part-ii on answer sheet provided.**

**Important Note:** Attempt this part in the given time of 1 hour and hand over to center superintendent. Who will provide answer sheet for part-II

## Part-I

Q.1: Tick the correct option form the MCQ given below:

1x10=10

1. Liver fluke is found in the:

(a) intestine of human (b) Liver and bile duct of man (c) Liver and bile duct of sheep (d) Intestine of sheep

2. Ciliated larvae of monogeneans are called:

(a) Trochophore larva (b) onconiracidium (c) Muller's larva (d) Mircidium

3. The Rotifers derives their name from the characteristics ciliated organ:

(a) Lorica (b) Corona (c) Mastax (d) All of these

4. The scientific name of common pin worm is :

(a) Ascaris (b) Enterobius vermicularis (c) w.banerofti (d) trichinellasprialis

5. Leeches belong to class:

(a) Mongogenea (b) Polychaeta (c) Oligochaeta (d) Hirudinea

6. Earth worms are

(a) Monoecious (b) dioecious (c) Asexual (d) Parasites

7. Scorpion is the member of sub-phylum:

(a) Chelicerata (b) Crustacea (c) Uniramia (d) Merostomata

8. Mating of spiders involves complex behaviours that include:

(a) Chemical signals (b) visual signals (c) Tactile signals (d) All of these

9. \_\_\_\_\_ are evidence of plants and animals that existed in the past and have become incorporated into the earth's crust

b) Fossil b) Leftover c) Sediments d) Scavenger

10. Structures and processes that are derived from a common ancestor are said to be

a) Analogous b) Homologous c) Convergent d) Divergent

Q.2: (a) Assign larvae of the following animals/groups.

1/2x5=2.5

1. Sponges\_\_\_\_\_
2. Bivalves (mussels)\_\_\_\_\_
3. Anurans\_\_\_\_\_
4. Snails\_\_\_\_\_
5. Starfish\_\_\_\_\_

(b) Assign respiratory structures to the following animals.

1/2x5=2.5

1. Hibernating frog\_\_\_\_\_
2. Eel\_\_\_\_\_
3. Sparrow\_\_\_\_\_
4. Spider\_\_\_\_\_
5. Leech\_\_\_\_\_

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**Government College University, Faisalabad**

**B.Sc (Part-I)**

**Annual 2017**

Subject: Zoology

**Paper: (B)**

Course Code: ZOO-302

Course Title: Invertebrate Diversity (Classification, phylogeny and Organization)

**Subjective Part:**

Time Allowed: 02:30 Hours

Maximum Marks: 20

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Note: Answer the questions of Part-II on separate answer sheet provided.

**Part-II**

Q.3 Give brief answer to any ten of the following questions.

1x10=10

1. What are three kinds of a sexual reproduction in protozoa?
2. Give various stages in the life cycle of plasmodium?
3. What are the characteristics of protostomes?
4. Give two salient features of class hirudinea.
5. Define swim bladder, give its functions.
6. What do you know about pheromones?
7. Differentiate percocial and altricial birds.
8. How insects molts?
9. What are nematocysts? Give their functions.
10. enlist the chambers present in frog's heart.
11. what do you know about respiratory tree?
12. Why is the uric acid an adaptive excretory product for insects?
13. What is aestivation?
14. Name any three symbiotic life styles.
15. What do you know about echolocation?

Q.4: Describe canal system in porifera.

5

or

State parasitic adaptations in Platyhelminthes.

5

Q.5 Characterize class osteichthyes.

5

or

Discuss glands in mammals.

5

**Model Paper**

Roll No. -----

**Government College University, Faisalabad**

**B.Sc (Part-II)**

**Annual 2017**

Subject: Zoology

**Paper: (A)**

Course Code: ZOO-401

Course Title: Chordates, Diversity (Classification, phylogeny and Organization)

**Objective Part:**

Time Allowed: 30 mints

Maximum Marks: 15

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**Note: Attempt Part-I on the question sheet and part-ii on answer sheet provided.**

**Important Note:** Attempt this part in the given time of 1 hour and hand over to center superintendent. Who will provide answer sheet for part-II

**Part-I**

Q.1: Tick the correct option form the MCQ given below:

1x10=10

1. Liver fluke is found in the:

(a) intestine of human    (b) Liver and bile duct of man    (c) Liver and bile duct of sheep    (d) Intestine of sheep

2. Ciliated larvae of monogeneans are called:

(a) Trochophore larva                      (b) onconiracidium                      (c) Muller's larva                      (d) Miracidium

3. The Rotifers derives their name from the characteristics ciliated organ:

(a) Lorica                      (b) Corona                      (c) Mastax                      (d) All of these

4. The scientific name of common pin worm is :

(a) Ascaris                      (b) Enterobius vermicularis                      (c) w.banerofti                      (d) trichinellasprialis

5. Leeches belong to class:

(a) Mongogenea                      (b) Polychaeta                      (c) Oligochaeta                      (d) Hirudinea

6. Earth worms are

(a) Monoecious                      (b) dioecious                      (c) Asexual                      (d) Parasites

7. Scorpion is the member of sub-phylum:

(a) Chelicerata                      (b) Crustacea                      (c) Uniramia                      (d) Merostomata

8. Mating of spiders involves complex behaviours that include:

(a) Chemical signals                      (b) visual signals                      (c) Tactile signals                      (d) All of these

10. \_\_\_\_\_ are evidence of plants and animals that existed in the past and have become incorporated into the earth's crust

                    (a) Fossil                      (b) Leftover                      (c) Sediments                      (d) Scavenger

10. Structures and processes that are derived from a common ancestor are said to be

                    (a) Analogous                      (b) Homologous                      (c) Convergent                      (d) Divergent

Q.2: (a) Assign larvae of the following animals/groups.

1/2x5=2.5

1. Sponges\_\_\_\_\_
2. Bivalves (mussels)\_\_\_\_\_
3. Anurans\_\_\_\_\_
4. Snails\_\_\_\_\_
5. Starfish\_\_\_\_\_

(b) Assign respiratory structures to the following animals.

1/2x5=2.5

1. Hibernating frog\_\_\_\_\_
2. Eel\_\_\_\_\_
3. Sparrow\_\_\_\_\_
4. Spider\_\_\_\_\_
5. Leech\_\_\_\_\_

**Model Paper**

Roll No. -----

**Government College University, Faisalabad**

**B.Sc (Part-II)**

**Annual 2017**

Subject: Zoology

**Paper: (A)**

Course Code: ZOO-401

Course Title: Chordates, Diversity (Classification, phylogeny and Organization)

**Subjective Part:**

Time Allowed: 02:30 Hours

Maximum Marks: 20

---

**Note: Answer the questions of Part-II on separate answer sheet provided.**

**Part-II**

Q.3 Give brief answer to any ten of the following questions.

1x10=10

1. What are three kinds of a sexual reproduction in protozoa?
2. Give various stages in the life cycle of plasmodium?
3. What are the characteristics of protostomes?
4. Give two salient features of class hirudinea.
5. Define swim bladder, give its functions.
6. What do you know about pheromones?
7. Differentiate percocial and altricial birds.
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14. Name any three symbiotic life styles.
15. What do you know about echolocation?

Q.4: Describe canal system in porifera.

5

Or

State parasitic adaptations in Platyhelminthes.

5

Q.5: Characterize class osteichthyes.

5

Or

Discuss glands in mammals.

5

# Model Paper

Roll No. -----

Government College University, Faisalabad

**B.Sc (Part-II)**

**Annual 2017**

Subject: Zoology

**Paper: (B)**

Course Code: ZOO-402

Course Title: Animal Form and Function (A Comparative Perspective)

**Objective Part:**

Time Allowed: 30 mints

Maximum Marks: 15

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Note: Cutting and overwriting are not allowed in Objective part

- 1) In this part all question are compulsory. Answer these questions on the question sheet only.
- 2) Answer any three question from part-II any one question from part-III
- 3) While attempting part II and Part III. Write the same Question No. Which is on question paper

Importance Note: Attempt this part is the given time of 1 hour and hand over of the superintendent. Who will provide you Answer sheet for part-II and Part-III

## Part-I

Q.1: Multiple choice questions. Ticks mark the right answer. (10)

1. Tissues found in our body are derived from

- (a) Embryonic ectoderm      (b) Embryonic endoderm      (c) Embryonic mesoderm      (d) All of these

2. In taxidermy the skin is

- (a) Classified      (b) Preserved with help of chemicals      (c) Diseased      (d) Used in classification of animals

3. The important properties of neurons are

- (a) Excitability      (b) Conductivity      (c) Both a and b      (d) None of these

4. The electrical potential that exists across a cell membrane is

- (a) Resting membrane potential      (b) Active membrane potential  
(c) Automatic potential      (d) None of these

5. Receptors are the organs that carry/control

- (a) Impulses from brain to effector organs      (b) Impulses from environment to brain  
(c) Control the environmental conditions for animal      (d) none of the above functions

6. A chemical that acts on nearby cells is called

- (a) Neurotransmitter      (b) Hormone      (c) Local chemical messenger      (d) Pheromone

7. Respiration in sponges

- (a) Occurs anaerobically      (b) Occurs when water comes in and goes out.

- (c) Occurs with help of gills                      (d) Does not occur at all
8. Which one is the most concentrated source of food energy
- (a) Carbohydrates                      (b) Liquids              (c) Both a and b              (d) None of these
9. The ability of the plasma membrane to let some substances in and keep others out is called
- a) Homeostasis              b) Selective permeability              c) Osmosis              d) Diffusion
10. The type of connective tissue that stores lipids is called \_\_\_\_\_
- a) Adipose tissue              b) Storage tissue              c) Connective tissue              d) Blood tissue

Q.2: Identify and label the diagram.

5

## Diagram Picture

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Subject: Zoology

**Paper: (B)**

Course Code: ZOO-402

Course Title: Animal Form and Function (A Comparative Perspective)

**Subjective Part:**

Time Allowed: 02:30 Hours

Maximum Marks: 20

---

Note: attempt any Three questions from Part-II and one from Part-III

**Part-II**

Q.3: Write a note on any three of the following: (4+4+4=12)

(1) Neurotransmitter (II) Neuron (III) Myelin sheath

Q.4: Describe how sliding filament model explain muscle contraction.

Q.5: Write a note on hormones of thyroid gland and heir function in mammals.

Q.6: Describe structure of human heart and draw a labeled diagram.

Q.7: Write a note on digestion in bivalve mollusks.

**Part-III**

Q.8: Write a detailed note on temperature regulation in fishes. (8)

Q.9: Explain the types of egg on the basis of distribution of yolk. (8)