



Roll No. _____ (To be filled in by candidate)

Paper Code	4	4	6	7
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Sessions; 2015-2017 & 2016-2018

Biology (Objective Type)

Marks: 17

Time: 20 Minutes

NOTE: Write answers to the questions on the objective answer sheet provided. Four possible answers

A, B, C and D to each question are given. Which answer you consider correct, fill the corresponding circle A, B, C or D given in front of each question with Marker or pen ink on the answer sheet provided.

- 1.1. All the genes found in a breeding population constitute:
 - (A) genotype
 - (B) Genome
 - (C) Gene frequency
 - (D) Gene pool
2. Primer for PCR contains about:
 - (A) 05 bases
 - (B) 10--20 bases
 - (C) 30 bases
 - (D) 40 bases
3. Archaeobacteria can tolerate temperature:
 - (A) 45°C
 - (B) 85°C
 - (C) 100°C
 - (D) 120°C
4. Biome is a large:
 - (A) Simple community
 - (B) Complex community
 - (C) Regional community
 - (D) Climax community
5. Desert ecosystem of Mianwali and Bhakkar is called:
 - (A) Thal
 - (B) Thar
 - (C) Cholistan
 - (D) Sahara
6. Treasure of all type of resources is:
 - (A) Weather
 - (B) Climate
 - (C) Environment
 - (D) Water
7. A dilute solution compared to cell concentration is termed as:
 - (A) Hypertonic
 - (B) Hypotonic
 - (C) Isotonic
 - (D) Paratonic
8. Number of NH₃ molecules required to produce one molecule of urea is:
 - (A) 1
 - (B) 2
 - (C) 3
 - (D) 4
9. The bone which provides attachment site for muscles is:
 - (A) Compact bone
 - (B) Spongy bone
 - (C) Cartilage
 - (D) Hip bone
10. Which one is not a joint disease?
 - (A) Arthritis
 - (B) Sciatica
 - (C) disc slip
 - (D) Spondylosis
11. Vehicle for transport of male gamete in land plants is:
 - (A) Water
 - (B) Pollen tube
 - (C) Pollen grain
 - (D) Wind
12. Reproduction is necessary for the survival of:
 - (A) Individual
 - (B) Species
 - (C) Population
 - (D) Community
13. Apoptosis is:
 - (A) Division of cells
 - (B) Death of cells by tissue damage
 - (C) Suicide of cells
 - (D) Weakness of cells
14. Cell cycle involves:
 - (A) growth of cell
 - (B) replication of DNA
 - (C) Cell division
 - (D) growth of cell , replication of DNA and cell division
15. Resting membrane potential of a neuron is:
 - (A) -50mV
 - (B) -60mV
 - (C) -70mV
 - (D) -80mV
16. Optimum temperature for growth of plants is:
 - (A) 30--40°C
 - (B) 25--30°C
 - (C) 10--20°C
 - (D) 5--10°C
17. Particular array of chromosomes that an individual possesses is called:
 - (A) Holotype
 - (B) Karyotype
 - (C) Neotype
 - (D) Paratype

RWP

2018
Inter (Part-II)-A-2018

Roll No. _____ (to be filled in by the candidate)

Sessions; 2015-2017 & 2016-2018

Biology (Essay Type)

Time: 2:40 Hours

Section - I

Marks: 68

2. Write short answers of any eight parts from the following.

2x8=16

- i. What is blubber and in which animals is it found?
- ii. Differentiate between osmoregulation and thermoregulation.
- iii. What is Pyrexia?
- iv. How does digitigrade differ from unguligrade?
- v. What is ball and socket joint?
- vi. Define remodeling.
- vii. Give two examples of short day plant.
- viii. Write cause and symptoms of syphilis.
- ix. Give types of organisms present in profundal zone.
- x. Name different zones of fresh water lakes.
- xi. What is fossil fuel?
- xii. Define demography.

3. Write short answers of any eight parts from the following.

2x8=16

- i. What is reflex action?
- ii. Differentiate between thermoreceptors and nociceptors.
- iii. Define succession and give one example
- iv. Differentiate between genotype and phenotype.
- v. What is a test cross? Who devised it?
- vi. Differentiate between co-dominance and over-dominance.
- vii. What are restriction enzymes? Who first isolated them?
- viii. What are transgenic bacteria?
- ix. What is gene therapy? How cancer cells are killed by gene therapy?
- x. Differentiate between biosphere and Niche.
- xi. What are abiotic components of an ecosystem? Give examples.
- xii. Differentiate between action membrane potential and resting membrane potential.

4. Write short answers of any six parts from the following.

2x6=12

- i. Write down the role of temperature as an external factor in plant growth.
- ii. What role is played by clear cytoplasm and yellow cytoplasm in animal development?
- iii. How many chromosomes are found in sugarcane and mouse?
- iv. Define translation.
- v. What is the difference between R, and S, type of bacteria?
- vi. What are the events of S-Phase?
- vii. Write down the events of metaphase of mitosis.
- viii. How does genetic drift effect the gene frequency?
- ix. Write the names of four extinct species of animals in Pakistan.

Section - II

NOTE: Answer any three questions from the following.

8x3=24

5. (a) Describe food web in detail. Also draw the diagram.
- (b) Describe the process of concentration of excretory products in human nephron.
6. (a) Discuss deformities of skeleton due to genetic and hormonal causes.
- (b) Describe Frederick Griffith's experiment.
7. (a) What are receptors? Describe its types.
- (b) Describe importance of forests.
8. (a) Write a note on sexually transmitted disease.
- (b) Define and discuss Test Cross.
9. (a) Describe role of nucleus in development.
- (b) Describe non-random mating and selection as factors affecting gene frequency.

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