

Roll No. \_\_\_\_\_ (To be filled in by the candidate)

(Academic Sessions 2018 – 2020 to 2020 – 2022)

**BIOLOGY**

222-(INTER PART – II)

Time Allowed : 20 Minutes

Q.PAPER – II ( Objective Type )

GROUP – II

Maximum Marks : 17

PAPER CODE = 8468

LHR-42-22

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	Among the scientists who believed in divine creation was : (A) Charles Darwin (B) Alfred Wallace (C) Carolus Linnaeus (D) Jean Lamarck
2	Particular array of chromosomes that an individual possesses is called : (A) Holotype (B) Karyotype (C) Neotype (D) Paratype
3	The total gestation period ( pregnancy) is usually about : (A) 250 days (B) 260 days (C) 270 days (D) 280 days
4	Number of linkage groups in man is : (A) 20 (B) 22 (C) 21 (D) 23
5	The most critical phase of mitosis is : (A) Prophase (B) Metaphase (C) Anaphase (D) Telophase
6	The structures that lack secondary wall are : (A) Fibers (B) Sclerenchyma (C) Parenchyma (D) Collenchyma
7	Treasure of all type of resources is : (A) Weather (B) Climate (C) Environment (D) Water
8	In microcephaly, the individuals are born with small : (A) Eyes (B) Legs (C) Hands (D) Skull
9	A powerful tool of forensic science is a test : (A) RNA (B) DNA (C) mRNA (D) tRNA
10	The most concentrated environment is termed as : (A) Hypertonic (B) Isotonic (C) Hypotonic (D) Peritonic
11	Bivalents or tetrads are formed in : (A) Zygotene (B) Leptotene (C) Pachytene (D) Diakinesis
12	The dissolving cells are called : (A) Stem cells (B) Osteoclast (C) Osteoblast (D) Osteocytes
13	The study of single population's relationship to environment is called : (A) Autecology (B) Synecology (C) Ecology (D) Gerantology
14	Viral infections can be diagnosed by : (A) PCR (B) Cloning (C) Translation (D) Transformation
15	In Sindh, the desert ecosystem is called : (A) Thal (B) Sahara (C) Thar (D) Ghobi
16	Acetabularia is unicellular : (A) Fungus (B) Alga (C) Yeast (D) Protozoa
17	Hormone that suppresses ovulation is : (A) Testosterone (B) Oestrogen (C) Progesterone (D) Gastrin



Roll No 2

(To be filled in by the candidate)

(Academic Sessions 2018 – 2020 to 2020 – 2022)

**BIOLOGY**

222-(INTER PART – II)

Time Allowed : 2.40 hours

PAPER – II (Essay Type)

GROUP – II

Maximum Marks : 68

SECTION – I

LHR-G2-22

**2. Write short answers to any EIGHT (8) questions :**

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- (i) What components of internal environment are affected by external fluctuations? How are these corrected?
- (ii) What may happen to a cell when placed in a hypotonic environment and then in a hypertonic environment?
- (iii) Justify the statement, "Excretion of uric acid in some terrestrial animals is an adaptation to conserve water".
- (iv) Compare sapwood and heartwood.
- (v) Write the name of unpaired bones of human cranium and face.
- (vi) What is osteoporosis? How is it treated?
- (vii) How do plants detect light or dark period?
- (viii) What is vernalin? How is it produced in plants?
- (ix) What do you mean by the productivity of an ecosystem? How is it determined?
- (x) What kind of soil conditions are found in grassland ecosystem?
- (xi) What is nutrient cycle? How is this cycle disturbed?
- (xii) Write the sources and harmful effects of CFCs and SO<sub>2</sub>.

**3. Write short answers to any EIGHT (8) questions :**

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- (i) How plants respond to stimuli?
- (ii) In what way nerve impulse triggers the action potential?
- (iii) How different modalities of sensation work?
- (iv) What are multiple alleles? Mention their presence in diploid and haploid organisms.
- (v) What is test cross? Write down its uses.
- (vi) Differentiate between gene linkage and linkage group.
- (vii) Write two possible ways to get genes.
- (viii) What are plasmids? Give their two examples.
- (ix) Write down the two uses of PCR amplification.
- (x) Differentiate between autecology and synecology.
- (xi) How the trophic levels are involved in the flow of energy?
- (xii) What is prey and predator interaction? Write its significance.

**4. Write short answers to any SIX (6) questions :**

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- (i) How are area pellucida and area opaca developed?
- (ii) The number of older individuals are expected to rise in humans, discuss.
- (iii) Why does every genetic code consists of three nucleotides?
- (iv) What do you know about the minimal medium used by Beadle and Tatum?
- (v) Describe promoter area in transcription.
- (vi) Describe mitotic apparatus.
- (vii) Describe Turner's syndrome.
- (viii) Differentiate between homologous and analogous structures.
- (ix) Define Hardy Weinberg Theorem.

**SECTION – II**

**Note : Attempt any THREE questions.**

5. (a) Explain in detail the adaptations in plants to high and low temperature. 4
- (b) What is food web? Give its significance. Draw a food web. 4
6. (a) Explain some major functions of skeletal system in maintenance of human life. 4
- (b) Discuss chemical nature of DNA with reference to nucleoside and nucleotide composition. 4
7. (a) Describe major factors which restore resting membrane potential in a neuron after passage of a nerve impulse. 4
- (b) Discuss the importance of forests for human. 4
8. (a) Discuss sexually transmitted diseases. How can these be controlled? 4
- (b) Write an essay on crossing over. 4
9. (a) Discuss abnormal development due to environmental factors and metabolic defects. 4
- (b) Explain natural selection and artificial selection as evidence of evolution. 4