

Roll No. LHR-G1-12-19 (To be filled in by the candidate)

(Academic Sessions 2015 – 2017 to 2017 – 2019)

**BIOLOGY**

219-(INTER PART – II)

Time Allowed : 20 Minutes

Q.PAPER – II ( Objective Type )

GROUP – I

Maximum Marks : 17

**PAPER CODE = 8463**

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	The simplest form of learning is : (A) Habituation (B) Imprinting (C) Insight learning (D) Latent learning
2	The particular array of chromosomes that an individual possesses is called : (A) Genome (B) Genepool (C) Karyotype (D) DNA-Duplex
3	The change in frequency of alleles at a locus that occurs by chance is called : (A) Genepool (B) Genetic (C) Genetic drift (D) Mutation
4	Upper layer of earth's crust is : (A) Dust (B) Sand (C) Land (D) Soil
5	The malpighian tubules remove nitrogenous wastes from the : (A) Lymph (B) Haemolymph (C) Coelomic fluid (D) Hind gut
6	Hypophosphatemic rickets is an X-linked : (A) Dominant trait (B) Co-dominant trait (C) Over-dominant trait (D) Recessive trait
7	The disease which causes immobility and fusion of vertebral joints is called : (A) Arthritis (B) Rickets (C) Sciatica (D) Spondylosis
8	The pairing of homologous chromosomes is completed in phase of meiosis : (A) Leptotene (B) Zygotene (C) Pachytene (D) Diplotene
9	Which of the following biome is most fragile : (A) Tundra (B) Desert (C) Grassland (D) Forest
10	Discharge of egg from ovary is called : (A) Gametogenesis (B) Oogenesis (C) Ovulation (D) Menstrual cycle
11	Bats and humming birds are called : (A) Ectoderm (B) Endotherms (C) Ecotherms (D) Heterotherms
12	Clear cytoplasm, in an ascidian zygote produces : (A) Muscle cells (B) Larval epidermis (C) Gut (D) Notochord
13	Corpus luteum secretes a hormone called : (A) Progesterone (B) Oestrogen (C) Oxytocin (D) Testosterone
14	Cell death due to tissue damage is called : (A) Apoptosis (B) Necrosis (C) Metastasis (D) Suicide
15	The sclerenchyma cells found in seed coats and nutshells are called : (A) Fibers (B) Sclereides (C) Tracheids (D) Vessels
16	The enzyme luciferase is produced in an insect called : (A) Housefly (B) Firefly (C) Butterfly (D) Tsetsefly
17	Primary succession, which starts in a pond ecosystem is termed as : (A) Derosere (B) Hydrosere (C) Ecosere (D) Xerosere

192-219-I-(Objective Type)- 6625 (8463)

Roll No

**LHR-C21-12-A**

( To be filled in by the candidate)

(Academic Sessions 2015 – 2017 to 2017 – 2019 )

**BIOLOGY**

219-(INTER PART – II)

Time Allowed : 2.40 hours

PAPER – II ( Essay Type )

GROUP – I

Maximum Marks : 68

**SECTION – I**

**2. Write short answers to any EIGHT (8) questions :** 16

- (i) Differentiate between osmoconformers and osmoregulators.
- (ii) Define counter current multiplier.
- (iii) Skin does not come within the definition of excretory organ. Comments.
- (iv) What is jet propulsion? Explain with an example.
- (v) Differentiate between effective stroke and recovery stroke.
- (vi) What is sleep movement? Also write an example.
- (vii) Give any two requirements to produce recombinant DNA.
- (viii) Give the role of restriction endonucleases.
- (ix) List the name of eight cities of Pakistan where desert ecosystem occurs.
- (x) Differentiate between alpine and boreal coniferous forests.
- (xi) How man is responsible to increase the number of endangered species?
- (xii) Differentiate between deforestation and afforestation.

**3. Write short answers to any EIGHT (8) questions :** 16

- (i) How do plants respond to environmental stresses?
- (ii) List the four types of hormones with examples.
- (iii) Differentiate between CNS and PNS.
- (iv) Define vernalisation. Which parts of plants received its effects?
- (v) Differentiate between oviparous and viviparous.
- (vi) Explain the role of gonadotropins in human female.
- (vii) Write formula to calculate recombination frequency.
- (viii) Define codominance with an example.
- (ix) In grasshoppers male has 23 chromosomes, while female has 24 chromosomes. Work out.
- (x) Differentiate between food chain and food web.
- (xi) Differentiate between autecology and synecology.
- (xii) What roles are played by links of food chain.

**4. Write short answers to any SIX (6) questions :** 12

- (i) Write any four causes of aging.
- (ii) What are neoblasts and what is their role in development?
- (iii) Write any two differences between normal cells and cancer cells.
- (iv) How meiosis plays its role in producing genetic variations?
- (v) Why cap and tail is added to eukaryotic RNA, when it leaves from nucleus to cytoplasm?
- (vi) Write two characteristics of DNA polymerase III.
- (vii) Define promoter and what is its role?
- (viii) What is membrane invagination hypothesis?
- (ix) Describe briefly, how molecular biology supports evolution.

**SECTION – II**

**Note :** Attempt any THREE questions.

5. (a) Describe the excretion in cockroach. Also draw labelled diagram. 3,1  
(b) How the flow of energy in food chain of an ecosystem takes place? 4
6. (a) Explain sliding filament model. How the bridges are controlled? 2,2  
(b) Explain work of Beadle and Tatum on Neurospora with help of a figure. 2,2
7. (a) Explain the role of hormones produced by posterior lobe of pituitary gland. 4  
(b) Describe importance of forests. 4
8. (a) Describe male reproductive system in man. 4  
(b) Explain the phenomenon of sex determination in humans. 4
9. (a) Explain Darwin theory of natural selection. 4  
(b) Write a note on regeneration. 4

192-219-I-(Essay Type)-26500

Roll No. CHR-012-12-19 (To be filled in by the candidate)  
(Academic Sessions 2015 – 2017 to 2017 – 2019)

**BIOLOGY**

219-(INTER PART – II)

Time Allowed : 20 Minutes

Q.PAPER – II ( Objective Type )

GROUP – II

Maximum Marks : 17

**PAPER CODE = 8464**

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	The disease caused due to destruction of adrenal cortex is : (A) Cushing (B) Diabetes (C) Alzheimer (D) Addison
2	Walther Fleming first observed chromosomes in the dividing cells in the Larvae of : (A) Frog (B) Insect (C) Sea Urchin (D) Salamander
3	Principles of geology was published by : (A) Darwin (B) Lyell (C) Linnaeus (D) Lamarck
4	Agriculture was started some years ago : (A) 40,000 (B) 30,000 (C) 20,000 (D) 10,000
5	Among vertebrates uric acid is the chief nitrogenous waste in birds and : (A) Fishes (B) Amphibians (C) Reptiles (D) Mammals
6	If there is 40% recombination frequency between two genes, then distance between them in unit map is : (A) 30 (B) 40 (C) 50 (D) 60
7	The stabbing pain in leg is : (A) Arthritis (B) Herniation (C) Sciatica (D) Spondylosis
8	The most critical phase of mitosis is : (A) Prophase (B) Metaphase (C) Anaphase (D) Telophase
9	Grassland ecosystem in Pakistan is found in : (A) Chilas (B) Chitral (C) Dir (D) Swat
10	The hormone which suppress ovulation is : (A) Testosterone (B) Estrogen (C) Progesterone (D) Gastrin
11	The absorption of sodium in the ascending limb of the loop of Henle is controlled by a hormone known as : (A) Antidiuretic (B) Aldosterone (C) Progesterone (D) Testosterone
12	A blue light sensitive protein pigment found in plants is : (A) Cytochrome (B) Phytochrome (C) Photochrome (D) Florigen
13	Photoperiod affects flowering when shoot meristem start producing : (A) Floral buds (B) Leaves (C) Lateral buds (D) Both B and C
14	The phase of meiosis during which nuclei disappear in the cell is called : (A) Leptotene (B) Pachytene (C) Diplotene (D) Diakinesis
15	The internal hydrostatic pressure in plants is : (A) Osmotic (B) Root (C) Turgor (D) Solute
16	Patients of cystic fibrosis often die due to numerous infection of the : (A) Digestive tract (B) Respiratory tract (C) Reproductive tract (D) Excretory tract
17	In root nodules, the organisms present are : (A) Bacteria (B) Cyanobacteria (C) Algae (D) Fungi

229-219-II-(Objective Type)- 3125 (8464)

Roll No CHR-G12-12-19 ( To be filled in by the candidate)  
(Academic Sessions 2015 – 2017 to 2017 – 2019 )

**BIOLOGY**

219-(INTER PART – II)

Time Allowed : 2.40 hours

PAPER – II ( Essay Type )

GROUP – II

Maximum Marks : 68

**SECTION – I**

**2. Write short answers to any EIGHT (8) questions :** 16

- (i) Differentiate between ectotherms and endotherms.
- (ii) Why the leaves are said to be excretophore?
- (iii) Differentiate between protonephridia and metanephridia.
- (iv) Write two characteristics of collenchyma tissue.
- (v) Define phototactic movements with example.
- (vi) How callus is formed?
- (vii) What are palindromic sequences?
- (viii) Compare ex-vivo and in-vivo gene therapy.
- (ix) Write two adaptations for terrestrial ecosystem.
- (x) Differentiate between alpine and boreal forests.
- (xi) What is the importance of ozone layer?
- (xii) Differentiate between deforestation and reforestation.

**3. Write short answers to any EIGHT (8) questions :** 16

- (i) Write down two uses of auxins.
- (ii) How communication across the synapse occurs?
- (iii) Define habituation. Give one example.
- (iv) Write down the mechanism of pollen tube evolution in spermatophytes.
- (v) What do you know about diploid parthenogenesis?
- (vi) What is oestrous cycle?
- (vii) Define gene and allele.
- (viii) Differentiate <sup>between</sup> autosomes and sex-chromosomes.
- (ix) What is a multifactorial trait? Give an example.
- (x) Define the term ecosystem.
- (xi) What is the difference between ectoparasite and endoparasite?
- (xii) Define grazing. What is the result of over grazing?

**4. Write short answers to any SIX (6) questions :** 12

- (i) What is the difference between primary and secondary growth?
- (ii) What is discoidal cleavage?
- (iii) What is mitotic apparatus?
- (iv) Differentiate between necrosis and apoptosis.
- (v) Define Hardy-Weinberg theorem.
- (vi) What are analogous organs? Give an example.
- (vii) What is the difference between template strand and sense strand?
- (viii) What is point mutation? Give an example.
- (ix) What is membrane invagination hypothesis?

**SECTION – II**

**Note : Attempt any THREE questions.**

5. (a) Describe adaptations for thermoregulation in plants. 4  
(b) Describe nitrogen cycle in detail. 4
6. (a) Describe sliding filament model of muscle contraction. 4  
(b) Describe the process of translation in prokaryotes. 4
7. (a) Differentiate between instinctive and learning behaviour. 4  
(b) Write a note on ozone layer depletion. 4
8. (a) Write a note on vernalisation. 4  
(b) Define and explain test cross. 4
9. (a) Write a comprehensive note on aging. 4  
(b) Give evidences in support of evolution from comparative embryology and molecular biology. 2,2

229-219-II-(Essay Type)-12500