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) Ectotherms (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

Roll No LHR-G1-12A (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 osmoconfermers 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