Roll No. LHR-G1-12-18 (To be filled in by the candidate)

(Academic Sessions 2015 – 2017 & 2016 – 2018)

BIOLOGY 218-(INTER PART – II) Time Allowed : 20 Minutes

Q.PAPER – II (Objective Type) GROUP – I Maximum Marks : 17

PAPER CODE = 8467

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	How many types of finches did Darwin collect on Galapagos Island : (A) 13 types (B) 20 types (C) 25 types (D) 30 types
2	Which of the following chromosomal abnormalities lead to tallness, aggressiveness, mental defect and anti social behaviour : (A) XXY (B) XO (C) XXXY (D) XYY
3	Which of the following receptors produce the sensation of pain : (A) Nociceptors (B) Chemoreceptors (C) Pacinian corpuscles (D) Mechanoreceptors
4	A gene with multiple phenotypic effect is called : (A) Polygenic (B) Multiple allele (C) Epistatic (D) Pleiotropic
5	Which of the following polymerase synthesize tRNA : (A) RNA polymerase – I (B) RNA polymerase – II (C) RNA polymerase – III (D) DNA polymerase
6	Animals excreting urea are called : (A) Ureotelic (B) Ammonotelic (C) Uricotelic (D) Excretotelic
7	The increase of environmental temperature due to high amount of CO_2 is known as : (A) Global warming (B) Acid rains (C) Ozone depletion (D) Stone cancer
8	In spermatophytes, important step in land adaptation is the evolution of : (A) Seed coat (B) Pollen tube (C) Fruit (D) Flower
9	Meiosis occurs only in : (A) Haploid cells (B) Diploid cells (C) Triploid cells (D) Pentaploid cells
10	Bats and humming birds are called : (A) Ectotherms (B) Endotherms (C) Heterotherms (D) Mesotherms
11	The death of the cell due to tissue damage is called : (A) Necrosis (B) Phagocytosis (C) Metastasis (D) Apoptosis
12	In plants, turgor pressure is generated by high osmotic pressure of the : (A) Vacuole (B) Cytoplasm (C) Tonoplast (D) Cell membrane
13	An association between organisms of different species in which one partner gets benefit and other is harmed : (A) Mutualism (B) Symbiosis (C) Parasitism (D) Commensalism
14	A collection of bacterial and phage viruses clones containing a particular segment of DNA from the source cell is called : (A) Recombinant DNA (B) Expressing system (C) Genomic library (D) Genome
15	The arctic tundra stretches across Northern North America, Northern Europe and : (A) Cyprus (B) Siberia (C) Morocco (D) Nepal
16	Soyabean is an example of, plants : (A) Short day (B) Long day (C) Day neutral (D) Day independent
17	In plants movement in response to stimulus of touch is called : (A) Phototactic (B) Chemotactic (C) Nyctinasty (D) Thigmotropism

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(Academic Sessions 2015 – 2017 & 2016 – 2018)

BIOLOGY 218-(INTER PART – II) Time Allowed : 2.40 hours

PAPER – II (Essay Type) GROUP – I Maximum Marks : 68

SECTION – I

LHR-G1-12-18

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

(i) What is lithotripsy?
(ii) What are xerophytes? Give two adaptations of xerophytes.
(iii) Draw and label the urea cycle.
(iv) What is the difference between tetanus and muscle tetany?
(v) Differentiate the compact bone and spongy bone. Give only two differences.
(vi) Give the name of hormones which are involved in epinasty and hyponasty.
(vii) Differentiate the internal and external fertilizations.
(viii) What is meant by apomixes?
(ix) What is profundal zone? Give its one character.
(x) What are alpine and boreal?
(xi) What is soil? Give its basic constituents.
(xii) What is wild life? Give its important role.

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

(i) Write two commercial applications of Gibberellins.
(ii) Differentiate between reflex action and reflex arc.
(iii) Define feed back mechanism.
(iv) Define law of segregation.
(v) What is epistasis? How it differs from dominance?
(vi) What is the sex limited trait? Give an example.
(vii) What are restriction enzymes? Give an example.
(viii) Define genomic library.
(ix) What are two goals of human genome project?
(x) Define biosphere and ecosystem.
(xi) Differentiate between primary and secondary succession.
(xii) Define commensalisms. Give one example.

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

(i) Differentiate between primary and secondary growth.
(ii) Define growth correlations.
(iii) Differentiate between heterochromatin and euchromatin.
(iv) What is central dogma?
(v) What are mutagens? Give one example.
(vi) What is mitotic apparatus? Give its function.
(vii) Write symptoms of Down's syndrome.
(viii) What are vestigial organs? Give one example.
(ix) Differentiate between endangered and threatened species.

SECTION – II

Note : Attempt any THREE questions.

5. (a) Describe in detail excretion in plants. 4
   (b) Discuss the flow of energy in food chain of an ecosystem. 4

6. (a) Discuss arrangement of vertebrae in vertebral column. Also describe rib cage. 4
   (b) Explain the process of DNA replication with the help of a diagram. 4

7. (a) Discuss peripheral nervous system of man. 4
   (b) Describe deforestation. 4

8. (a) Write a note on birth. 4
   (b) Explain the ABO blood group system. 4

9. (a) Describe the phenomenon of growth correlation. 4
   (b) How comparative embryology support the process of evolution? 4

Roll No. LHR-G2-12-18 (To be filled in by the candidate)

(Academic Sessions 2015 – 2017 & 2016 – 2018)

BIOLOGY 218-(INTER PART – II) Time Allowed : 20 Minutes

Q.PAPER – II (Objective Type) GROUP – II Maximum Marks : 17

PAPER CODE = 8466

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 interphase of meiosis lacks the stage : (A) G_0 (B) G_1 (C) G_2 (D) S
2	The leaf unrolling is promoted by red light in : (A) Monocot (B) Dicots (C) Ferns (D) Gymnosperms
3	Which one of the following is endangered in Pakistan : (A) Indian rhino (B) Indus dolphin (C) Cheer pheasant (D) Tiger
4	A network of closed tubules without internal opening is called : (A) Metanephridium (B) Protonephridium (C) Nephridium (D) Sub meta nephridium
5	The individuals who born with abnormal organs or body parts is called : (A) Malformed (B) Malignant (C) Falignant (D) Malfunction
6	A chromosome with equal length of its arms : (A) Acrocentric (B) Telocentric (C) Metacentric (D) Sub meta centric
7	The plantigrade animals used to walk on their : (A) Digits (B) Tips of toes (C) Soles (D) Belly
8	The blood vessel supplying the blood to Bowman's capsule is : (A) Afferent arterioles (B) Efferent arterioles (C) Renal artery (D) Renal vein
9	A gene with a multiple phenotypic effect is : (A) Polygenic (B) Bombay type (C) Monogenic (D) Pleiotropic
10	The zoological name of leopard cat is : (A) Felis-domestica (B) Felis-leo (C) Felis pardous (D) Felis bengalensis
11	The average cell cycle in humans is : (A) 12 hours (B) 24 hours (C) 36 hours (D) 48 hours
12	The part of human limbic system : (A) Amygdala (B) Thalamus (C) Cerebrum (D) Pons
13	A single chlorine atom can react with ultraviolet rays and destroy as many as ozone molecules : (A) One million (B) Two million (C) One billion (D) Two billion
14	The corpus luteum secretes a hormone : (A) Oxytocine (B) Progesterone (C) Oestrogen (D) Testosterone
15	The sclerenchyma has thick secondary walls usually impregnated with : (A) Chitin (B) Pectin (C) Silica (D) Lignin
16	Cystic fibrosis patients lack a gene that codes for a trans-membrane carrier of : (A) Sodium ion (B) Potassium ion (C) Carbonate ion (D) Chloride ion
17	The term niche was first proposed by Joseph Grinnell an American : (A) Embryologist (B) Ecologist (C) Ornithologist (D) Physiologist

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BIOLOGY 218-(INTER PART – II) Time Allowed : 2.40 hours

PAPER – II (Essay Type) GROUP – II Maximum Marks : 68

LHR-G2-12-18

SECTION – I

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

(i) Define anhydrobiosis.
(ii) Differentiate between haemodialysis and peritoneal dialysis.
(iii) Define counter current multiplier mechanism.
(iv) Define antagonistic movement of muscles.
(v) Differentiate between ligament and tendon.
(vi) Compare hinge joint with ball and socket joint.
(vii) What is vernalization?
(viii) What is apomixes?
(ix) What is grazing? How grazers affect the texture of soil?
(x) Where the desert ecosystem are found in Pakistan?
(xi) Name two pathogenic and two congenital diseases.
(xii) Differentiate between renewable and non-renewable resources.

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

(i) What is chlorosis? How it is caused?
(ii) Differentiate between active and resting membrane potential.
(iii) What is Parkinson's disease?
(iv) Define gene linkage and gene linkage groups.
(v) What is heterogametic individual? Give example.
(vi) Give significance of test cross.
(vii) What is gene pharming?
(viii) What is palindromic sequence?
(ix) Define gene therapy. Name two main methods of gene therapy.
(x) Define synecology.
(xi) What are lichens?
(xii) Differentiate between primary and secondary succession.

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

(i) Define teratology and teratogens.
(ii) What are intercalary meristems? Give their role.
(iii) Differentiate between sense and anti sense strands of DNA.
(iv) Define point mutations. Give one example.
(v) Where codon and anticodon are situated?
(vi) How cytokinesis occur in plants?
(vii) Write a brief note on turner's syndrome.
(viii) Define the term Neo-Darwinism.
(ix) What are endangered species? Give two examples from Pakistan.

SECTION – II

Note : Attempt any THREE questions.

5. (a) Discuss major homeostatic functions of the liver. 4
   (b) Define succession. Explain the different stage of xerosere. 4

6. (a) What is the sliding filament model of muscle contraction? What does it explain? 4
   (b) What hypothesis did beadle and tatum test in their experiment on neurospora? 4

7. (a) Write any four differences between nervous and chemical coordination. 4
   (b) Describe wild life as renewable resources. 4

8. (a) Write a note on tissue culture and cloning. 4
   (b) Discuss sex-linkage in humans with one example. 4

9. (a) What is aging? Describe its causes and symptoms. 4
   (b) Describe the evidences of evolution by comparative anatomy. 4