2022 (A) Roll No. _____

Paper Code Number: 4463 INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II GROUP-I TIME ALLOWED: 20 Minutes

OBJECTIVE MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) An enzymes, α – galactosidase can be used to treat human:
(A) Genetic diseases (B) Metabolic diseases (C) Nutritional disease (D) Lysosome storage diseases

(2) Endosymbiont hypothesis was proposed by:
(A) Cuvier (B) Lynn Margulis (C) Lyell (D) Malthus

(3) The organisms which inhabit the root nodules of legume plants are:
(A) Bacteria (B) Fungi (C) Algae (D) Cyanobacteria

(4) Desert ecosystem of Mianwali and Bhakkar is called:
(A) Cholistan (B) Thar (C) Thal (D) Sahara

(5) Treasure of all types of resources is:
(A) Climate (B) Water (C) Weath[illegible] (D) Environment

(6) Flame cells are the parts of excretory syste[illegible]
(A) Cockroach (B) Earthworm (C) Hydr[illegible] (D) Planaria

(7) Muscle fatigue is caused [illegible]
(A) Lactic acid (B) Fumaric acid (C) [illegible] (D) Ethyl alcohol

(8) The active conducting portion of wood in older trees is:
(A) Bark (B) Heart wood (C) Sap wood (D) Callus

(9) Resting membrane potential of a neuron is:
(A) + 50 mV (B) – 60 mV (C) + 80 mV (D) – 70 mV

(10) The human embryo is referred to as the fetus from beginning of:
(A) 3rd week (B) 3rd month (C) 6th month (D) 6th week

(11) Intercalary meristems are situated at:
(A) Base of internode (B) Shoot apex (C) Root apex (D) Top of internode

(12) Optimum temperature for growth of plants is:
(A) 5 – 10°C (B) 10 – 20°C (C) 25 – 30°C (D) 30 – 40°C

(13) The Okazaki fragments in eukaryotes have number of nucleotides?
(A) 1000 – 2000 (B) 100 – 200 (C) 100 – 1000 (D) 10 – 100

(14) With the use of hi[illegible]logical stains for DNA, a network of very fine threads can be visualized which is called:
(A) Chromosomes (B) Spindle fibre (C) Mitotic apparatus (D) Chromatin

(15) Chiasmata formation takes place during:
(A) Pachytene (B) Leptotene (C) Diplotene (D) Zygotene

(16) ABO blood group system is encoded by a single polymorphic gene I on chromosome:
(A) 19 [illegible] (C) 3 (D) 29

(17) An ex-vivo method of gene therapy is being tried for the treatment of:
(A) Familial hypercholesterolemia (B) Cancer (C) SCID (D) Cystic fibrosis

Ans. M.22A.GI:1d,2b,3a,4c,5d,6d,7a,8c,9d,10b,11a,12c,13b,14d,15a,16b,17c

2022 (A) Roll No: _____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II GROUP-I

TIME ALLOWED: 2.40 Hours

SUBJECTIVE MAXIMUM MARKS: 68

NOTE: Write same question number and its part number of answer book, as given in the question.

SECTION-I

2. Attempt any eight parts. 8 x 2 = 16

(i) Give osmoregulation in fresh water protozoa and fresh water fish.
(ii) Give role of protonephridium and flame cells in Planaria.
(iii) Can we consider skin as an excretory organ?
(iv) What are tactic movements? Give an example.
(v) How locomotion takes place in cockroach?
(vi) Differentiate between plantigrade and digitigrade locomotions in mammals.
(vii) What is parthenocarpy? How it can be induced artificially?
(viii) State ovulation. How it is induced?
(ix) Where desert ecosystems are found in Pakistan?
(x) How productivity of an aquatic ecosystem can be determined?
(xi) Enlist some main types of pollution (At least 4).
(xii) What do you know about Hydro electric power?

3. Attempt any eight parts. 8 x 2 = 16

(i) What is neuron coordination important?
(ii) What characteristics do the brain and spinal cord have in common?
(iii) Why Hormones are called chemical messengers?
(iv) Investigate the reason for O–ve (Negative) individuals as the
(v) Write the differences between dominance and
(vi) What is probability? How probability
(vii) Write the role of restriction
(viii) What are the
(ix) What is Taq polym
(x) During
(xi) What is the concept of trophic levels?
(xii) Differentiate between consumers and decomposers.

4. Attempt any six parts. 6 x 2 = 12

(i) How embryonic induction occurs? Who reported it?
(ii) Compare cleavage and gastrulation.
(iii) State chromosome theory of inheritance? Who had proposed this theory?
(iv) Enlist names of chromosomes on the bases of location of centromere.
(v) Differentiate between a nucleotide and a nucleoside.
(vi) Discuss diakinesis phase of meiosis.
(vii) Differentiate between necrosis and apoptosis.
(viii) Differentiate between species and population.
(ix) What are endangered species? Give example.

SECTION-II

NOTE: Attempt any three questions. 3 x 8 = 24

5.(a) Discuss the nature of excretory products in relation to the habitat of animals. 4
(b) Describe the events of nitrogen cycle in detail. 4

6.(a) How does the process of Ecdysis take place? Give its various
(b) Describe various types of Mutatio 4

7.(a) How is nervous system of planaria be of Hydra? 4
(b) Write a note on wild life. Expl stability of ecosystem. 4

8.(a) Discuss role of phytochromes in 4
(b) Write a note on 4

9.(a) Discuss role of nucleus in development. How it controls the developmental process. 4
(b) Give endosymbiont and membrane invagination hypothesis in detail. 4