A

Roll No. : _____

Objective
Paper Code
6463

Intermediate Part First

BIOLOGY (Objective) GROUP - I

Time: 20 Minutes Marks: 17

Q.No.1 **You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.**

S.#	Questions	A	B	C	D
1	Production of glucose is most closely associated with:	Aerobic respiration	Anaerobic respiration	Krebs cycle	Calvin cycle
2	Which group would you assign to a plant which produces spores and embryo but lack seed and vascular tissue?	Angiosperm	Bryophyte	Algae	Gymnosperm
3	Normal pH of human blood is:	6.4	7.4	8.4	4.7
4	The systolic pressure of normal human is:	70 mm Hg	90 mm Hg	100 mm Hg	120 mm Hg
5	Spiracles are found in:	Fishes	Cockroach	Frog	Birds
6	Dipeptides are broken down into amino acid by an enzyme called:	Erypsin	Trypsin	Lactase	Maltose
7	Pyruvic acid is produced as result of:	Calvin cycle	Glycolysis	Electron transport chain	Krebs cycle
8	Syrinx is organ of voice of:	Goat	Crow	Toad	Snake
9	Commercially shark-liver oil is extracted and used as source of vitamin:	B	C	B_{12}	A & D
10	Loose smut of wheat is caused by:	Phytophthora	Rhizopus	Puccinia	Ustilago
11	Kelps are largest of known algae which belongs to:	Diatoms	Red algae	Brown algae	Green algae
12	When tuft of flagella is present at one pole of bacteria, which term we will use?	Lophotrichous	Amphitrichous	Peritrichous	Atrichous
13	Pigs are source of hepatitis type:	B	C	D	E
14	The attachment of two subunits of ribosomes is controlled by:	Fe^{2+}	Ca^{2+}	Mg^{2+}	Fe^{3+}
15	If non-protein part of an enzyme is loosely attached to the protein part, it is known as:	Coenzyme	Holoenzyme	Activator	Prosthetic group
16	How many hydrogen bonds are present in adenine and thymine pair in DNA?	Two	Three	One	Six
17	Which one of these is percentage of oxygen by mass of human being?	10%	65%	18%	1%

Intermediate Part First

Roll No. _____

BIOLOGY (Subjective) GROUP - I

Time: 02:40 Hours Marks: 68

SECTION – I

2. **Write short answers to any EIGHT parts.** 16

(i) Define specific heat capacity of water.
(ii) Differentiate between cofactor and activator.
(iii) What is feedback inhibition of enzymes?
(iv) How substrate concentration affects enzyme activity?
(v) What is nuclear mitosis? In which organisms it is found?
(vi) Differentiate between ectomycorrhizae and endomycorrhizae.
(vii) Differentiate between Radiata and Bilateria.
(viii) What is mantle? Write its function.
(ix) Differentiate the spiral and determinate cleavage.
(x) What is Archaeopteryx? Write its reptilian and avian characters. (one each)
(xi) What is compensation point?
(xii) Define action spectrum and absorption spectrum.

3. **Write short answers to any EIGHT parts.** 16

(i) How organelle is different from organ?
(ii) What is the biological control? Give an example.
(iii) Write first two salient features of cell theory.
(iv) Define endocytosis and exocytosis.
(v) How kingdom protista was created?
(vi) Differentiate micronucleus and meganucleus in ciliates.
(vii) Compare slime molds with fungi.
(viii) Why brown algae are important?
(ix) What is the importance of photorespiration?
(x) It is said that "smokers invite Cancer". How?
(xi) How artificial pace maker works?
(xii) Differentiate antigen and antibody.

4. **Write short answers to any SIX parts.** 12

(i) Write the scientific name of brinjal and onion.
(ii) What are super blue green algae? Give their importance.
(iii) What is meant by phylogenetic system of classification?
(iv) Why seed is considered a crucial adaptations for terrestrial life of plants?
(v) Why bryophytes are called amphibious plants?
(vi) What is meant by heterogamy?
(vii) What is botulism? Give its cause.
(viii) Can we live without large intestine? Comment.
(ix) What do you know about detritivores? Give an example.

SECTION – II

Attempt any THREE questions. Each question carries 08 marks.

5. (a) Explain the biological method for solving biological problems. 04
   (b) Discuss mechanical aspects of breathing in man. 04

6. (a) Write an account on acylglycerol. 04
   (b) Write characteristics of Basidiomycota. 04

7. (a) Write structure and function of cell wall. 03,01
   (b) Write notes on (i) Food Poisoning (ii) Ulcer. 02,02

8. (a) Explain four viral diseases common in Pakistan. 04
   (b) Describe the characteristics and functions of white blood cells. 02,02

9. (a) Discuss the habitat, structure and reproduction of nostoc. 01,01,02
   (b) What is respiration? Explain the anaerobic respiration in detail. 01,03

Roll No. : _____

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6464

Intermediate Part First

BIOLOGY (Objective) GROUP - II

Time: 20 Minutes Marks: 17

Q.No.1 **You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.**

S.#	Questions	A	B	C	D
1	If $\psi_w = -800\,kPa$ and $\psi_s = -1400\,kPa$, then ψ_p will be:	600 kPa	– 600 kPa	– 2200 kPa	2200 kPa
2	How many liters of blood are present in man whose body weight is 96kgs?	6	7	8	9
3	When carbon dioxide pressure increases, the capacity of haemoglobin to hold oxygen is:	Decreased	Increased many folds	Remained constant	Doubled
4	Dipeptides are broken down into amino acids by:	Lipase	Pepsin	Trypsin	Erypsin
5	The NADPH molecule reduces the sugar during in:	Cyclic phosphorylation	Non cyclic phosphorylation	Calvin cycle	Electron transport chain
6	The molecular formula of chlorophyll "b" is:	$C_{55}H_{72}O_5N_4Mg$	$C_{55}H_{70}O_6N_4Mg$	$C_{50}H_{72}O_5N_4Mg$	$C_{50}H_{70}O_6N_4Mg$
7	The left aortic arch is present in:	Cat	Crow	Frog	Cockroach
8	Polymorphism is the characteristics of phylum:	Mollusca	Arthropoda	Coelenterata	Porifera
9	The earliest group of vascular plants belongs to:	Psilopsida	Lycopsida	Sphenopsida	Pteropsida
10	Citric acid is obtained from a species of:	Aspergillus	Penicillium	Saccharomyces	Neurospora
11	Polysiphonia is an example of:	Green algae	Red algae	Brown algae	Golden algae
12	Which type of the bacterium E.coli is?	Aerobic	Anaerobic	Microaerophilic	Facultative anaerobic
13	The scientific name of tomato is:	Solanum nigram	Solanum tuberosum	Solanum esculentum	Allium cepa
14	Organelles found in both prokaryotic and eukaryotic cells are:	Endoplasmic reticulum	Mitochondria	Ribosomes	Lysosomes
15	Vitamins are the essential raw material for the synthesis of:	Prosthetic group	Coenzyme	Activator	Apoenzyme
16	The secondary structure of protein is found in:	Trypsin	Insulin	Glucagon	Keratin
17	Tentative explanation of observation is called as:	Hypothesis	Deduction	Theory	Law

Intermediate Part First

BIOLOGY (Subjective) GROUP - II

Roll No. _____

Time: 02:40 Hours Marks: 68

SECTION – I

2. **Write short answers to any EIGHT parts.** 16
   (i) How yeast differs from other fungi?
   (ii) What is parasexuality? Give its importance.
   (iii) Write three general characteristics of animals.
   (iv) Name two animals in which hairs have become modified.
   (v) How water enters water vascular canals in echinoderm? Name that structure and its location on body side.
   (vi) What are two adaptations for parasitic mode of life in flatworms?
   (vii) Why do all biochemical reactions not follow the lock and key model?
   (viii) What are enzymes? Give their importance.
   (ix) How does enzymes accelerate the rate of metabolic reaction?
   (x) Why photosynthesis is called redox process? Write its equation.
   (xi) What is photosystem? Name its two parts.
   (xii) How would you identify starch and glycogen solution?
3. **Write short answers to any EIGHT parts.** 16
   (i) Define bioelements. Name the bioelements which occur in traces in human body.
   (ii) Distinguish the micromolecules and macromolecules.
   (iii) Give two functions of endoplasmic reticulum.
   (iv) Define cell. Who discovered the cell?
   (v) What are kelps? Give their structure.
   (vi) Differentiate the diatoms and dinoflagellates.
   (vii) How algae differ from plants?
   (viii) Define water blooms. What is their effect on animals?
   (ix) Differentiate the organismic respiration from cellular respiration.
   (x) What are tracheoles in cockroach and state their function?
   (xi) Name four parts of heart of fishes.
   (xii) Differentiate the osmotic potential and pressure potential.
4. **Write short answers to any SIX parts.** 12
   (i) Differentiate the phage virus and a prophage.
   (ii) What are plasmids? Give their importance for bacteria.
   (iii) How would you clarify microphylls and megaphylls?
   (iv) Why calyx and corolla are called non-essential reproductive parts of flower?
   (v) How ovules of gymnosperms differs from that of angiosperms?
   (vi) What are arthrophyte plants? Give example.
   (vii) Write names and position of salivary glands in man.
   (viii) Where are the villi located? Give their role.
   (ix) How Sundew (Drosera) shows its insectivorous activity?

SECTION – II

Attempt any THREE questions. Each question carries 08 marks.

5. (a) Suggest measures to conserve deteriorating environment of Pakistan. 04
   (b) Air is better respiratory medium than water. Justify. 04
6. (a) Define lipids. Explain phospholipids with their structural formula. 01,02,01
   (b) Describe different ways in which fungi are useful and harmful to human. 02,02
7. (a) What are lysosomes? If some lysosomal enzymes are absent, what happens? Explain it with examples. 01,03
   (b) The digestive tract of a sheep is different from that of cats. How? 04
8. (a) Give biological classification of corn. Also write the importance of binomial nomenclature. 02,02
   (b) How evolution of heart took place in vertebrates? 04
9. (a) Write characteristics and economic importance of cyanobacteria. 04
   (b) Discuss and draw Calvin cycle. 04