

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 <sub>12</sub>	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 <sup>2+</sup>	Ca <sup>2+</sup>	Mg <sup>2+</sup>	Fe <sup>3+</sup>
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%

**1115-XI124-40000**

Please visit for more data at: [www.pakcity.org](http://www.pakcity.org)



**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.
- (b) Discuss mechanical aspects of breathing in man.

04

04

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

04

04

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

03.01

02.02

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

04

02.02

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

01.01.02

01.03

1115-XI124-40000



Roll No. : \_\_\_\_\_

Objective  
Paper Code**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 $\psi_w = -800\text{kPa}$ and $\psi_s = -1400\text{kPa}$ , then $\psi_p$ 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:	<u>Solanum nigrum</u>	<u>Solanum tuberosum</u>	<u>Solanum esculentum</u> ●	<u>Allium cepa</u>
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

1116-XI124-1000

Please visit for more data at: [www.pakcity.org](http://www.pakcity.org)



**BIOLOGY (Subjective) GROUP - II**

Time: 02:40 Hours

Marks: 68

Roll No. \_\_\_\_\_

**SECTION – I****2. Write short answers to any EIGHT parts.**

- How yeast differs from other fungi?
- What is parasexuality? Give its importance.
- Write three general characteristics of animals.
- Name two animals in which hairs have become modified.
- How water enters water vascular canals in echinoderm? Name that structure and its location on body side.
- What are two adaptations for parasitic mode of life in flatworms?
- Why do all biochemical reactions not follow the lock and key model?
- What are enzymes? Give their importance.
- How does enzymes accelerate the rate of metabolic reaction?
- Why photosynthesis is called redox process? Write its equation.
- What is photosystem? Name its two parts.
- How would you identify starch and glycogen solution?

16

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

- Define bioelements. Name the bioelements which occur in traces in human body.
- Distinguish the micromolecules and macromolecules.
- Give two functions of endoplasmic reticulum.
- Define cell. Who discovered the cell?
- What are kelps? Give their structure.
- Differentiate the diatoms and dinoflagellates.
- How algae differ from plants?
- Define water blooms. What is their effect on animals?
- Differentiate the organismic respiration from cellular respiration.
- What are tracheoles in cockroach and state their function?
- Name four parts of heart of fishes.
- Differentiate the osmotic potential and pressure potential.

16

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

- Differentiate the phage virus and a prophage.
- What are plasmids? Give their importance for bacteria.
- How would you clarify microphylls and megaphylls?
- Why calyx and corolla are called non-essential reproductive parts of flower?
- How ovules of gymnosperms differs from that of angiosperms?
- What are arthropyte plants? Give example.
- Write names and position of salivary glands in man.
- Where are the villi located? Give their role.
- How Sundew (Drosera) shows its insectivorous activity?

12

**SECTION – II**

Attempt any THREE questions. Each question carries 08 marks.

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

1116-XI124-1000



# Faisalabad Board-2023

Roll No. : \_\_\_\_\_



Objective  
Paper Code  
**6461**

## 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	The control of pests by some living organism is called:	Pest control	Living control	Biological control	Organismic control
2	The human bone cells contain the amount of water is:	5 %	10 %	15 %	20 %
3	Which of the enzyme has pH = 9?	Pancreatic lipase	Pancreatic amylase	Chymotrypsin	Arginase
4	The haploid number of chromosomes in drosophila melanogaster is:	2	4	8	16
5	The botanical name of tomato is:	Solanum-nigrum	Solanum-tuberosum	Solanum-esculentum	Solanum-melongena
6	Antonie Van Leeuwen Hock was the first to report the microbes:	Bacteria and protozoa	Bacteria and virus	Bacteria and algae	Bacteria and fungi
7	The animal live in the gut of termites is:	Ciliate	Trypanosome	Choanoflagellates	Trichonymphs
8	The multinucleated fungus group is:	Zygomycota	Ascomycota	Basidiomycota	Deuteromycota
9	Prosopis-glandulosa belongs to family:	Rosaceae	Mimosaceae	Fabaceae	Poaceae
10	The red blood cells of mammals are:	Nucleated	Many nucleated	Non-nucleated	Nucleated first then non-nucleated
11	The organ madreporite is found in:	Coelenterates	Annelids	Molluscs	Echinoderms
12	In cyclic phosphorylation electrons from primary acceptor of photosystem-I flows back to:	Pq	Pc	Cytochrome complex	NADP <sup>+</sup>
13	In prokaryotes the chlorophyll is present in:	Photosynthetic membranes	Stroma of chloroplast	Thylakoid membranes	Granum of chloroplast
14	The examples of parasitic plant is:	Lichen	Dodder	Drosera	Neotia
15	How much air, lungs can hold when they are fully inflated:	3.5 litre	1.5 litre	5 litre	4 litre
16	The hydrostatic pressure in xylem is increased when root pressure:	Increased	Decreased	Remain static	Increased first then decreased
17	Antiserum is a serum containing:	Antigens	Antibodies	Platelets	Lymphocytes

1115-XI123-38000





# Faisalabad Board-2023

Intermediate Part First

**BIOLOGY** (Subjective) **GROUP - I**

Time: 02:40 Hours

Marks: 68

Roll No. \_\_\_\_\_

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## SECTION – I

### 2. Write short answers to any EIGHT parts.

16

- Lipids has double amount of energy as compared to same amount of carbohydrates. Why?
- At pH2 pepsin works while arginase does not work. Why?
- What are reversible inhibitors?
- Differentiate between prosthetic group and coenzyme.
- What is candidosis?
- How genetic recombination occurs in imperfect fungi?
- Differentiate between ostia and osculum.
- Define polymorphism.
- What are beneficial insects?
- What is syrinx and where it is situated?
- How entry of  $\text{CO}_2$  into leaves is controlled?
- Calvin cycle is called  $\text{C}_3$  pathway. Justify it.

### 3. Write short answers to any EIGHT parts.

16

- What do you know about biome?
- Give the two advantages of tissue culture techniques.
- Differentiate between primary cell wall and secondary cell wall.
- Suggest any two functions of Golgi complex.
- What do you know about kelps?
- How does locomotion take place in apicomplexans?
- What do you know about choanoflagellates?
- Give the special features of giant amoeba.
- Differentiate between protonema and paraphyses?
- Explain the term double fertilization.
- Differentiate between symplast pathway and apoplast pathway.
- Suggest the location and function of coronary artery.

### 4. Write short answers to any SIX parts.

12

- What are pocks?
- Define plasmids. How these are important?
- What is saliva? Give its ingredients.
- Compare saprophytic and parasitic mode of nutrition.
- What are omnivores? Give example.
- Differentiate between epiglottis and glottis.
- What are spiracles? Give their function.
- Write two factors which affect transport of oxygen in blood.
- How does respiration occur in earthworm?

## SECTION – II

Attempt any THREE questions. Each question carries 08 marks.

- (a) How can you solve biological problem with help of biological method? 04  
(b) Write a note on blood plasma. 04
- (a) Write a note on importance of water. 04  
(b) Discuss economic losses due to fungi. 04
- (a) Illustrate various methods to control bacteria in home, industry as well as in medical fields. 04  
(b) Write significance of alternation of generation in plants. 04
- (a) What are small pox and herpes simplex diseases? 04  
(b) Draw the sketch of electron transport chain and chemiosmosis, coupling ETC and formation of ATP by chemiosmosis. 04
- (a) What are plastids? Describe their different types. 04  
(b) Describe digestion of food in planaria. 04

1115-XI123-38000



Roll No. : \_\_\_\_\_

## Faisalabad Board-2023



Objective  
Paper Code  
**6466**

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	The oyster mushroom is considered as:	Parasitic fungi	Saprotrophic fungi	Carnivorous fungi	Omnivorous fungi
2	The type of algae takes part in coral reef formation is:	Brown	Green	Golden	Red
3	Which type of respiration is found in bacterium E.Coli?:	Aerobic	Anaerobic	Micro aerophilic	Facultative anaerobic
4	The mysterious brain infection is caused by:	Virion	Prion	Bacteria	Fungi
5	The protein present in microtubules is:	Actin	Myosin	Tubulin	Tropomyosin
6	The vitamins are essential raw material for the synthesis of:	Activator	Co-factor	Co-enzyme	Prosthetic group
7	Monosaccharides which rare in nature and occur in some bacteria are:	Troises	Tetroses	Pentoses	Hexoses
8	The stomach can digest the:	Proteins	Fats	Starch	Cellulose
9	Which is agranulocyte?	Basophilis	Eosinophilis	Monocyte	Neutrophilis
10	The volume of blood in a body weight of 72 kg is:	5 litres	6 litres	7 litres	8 litres
11	About 70% of CO <sub>2</sub> is carried as:	Carbonates	Bicarbonate	Carbonic acid	Acetic acid
12	Pepsinogen is secreted by:	Mucous cells	Parietal cells	Zymogen cells	Oxyntic cells
13	The first action spectrum was obtained by:	Van Neil	Engelmann	Melvin Calvin	Van Mohl
14	Chlorophyll-b is found along with chlorophyll-a in:	Bacteria	Cyanobacteria	Bryophytes	Embryophytes
15	The length of giant squid in meters is equal to:	5	10	15	20
16	The exclusively marine phylum is:	Protozoa	Porifera	Coelenterata	Echino dermata
17	The scientific name of egg plant is:	Capsicum annum	Solanum tuberosum	Solanum melangena	Solanum nigreem

1116-XI123-2000



**SECTION – I**

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

16

- (i) Differentiate between amylose and amylopectin.
- (ii) Do you think that Koshland changed the idea of enzyme action?
- (iii) Write any two properties of enzymes.
- (iv) How does heat influence the rate of enzyme action?
- (v) What are two main ecological importances of Lichen's?
- (vi) Differentiate parasitic fungi from saprophytic fungi.
- (vii) Differentiate protostomes from deuterostomes.
- (viii) Why arthropods have reached the peak of invertebrate evolution?
- (ix) How does swim bladder help the fish to survive in aquatic environment?
- (x) Write any four characters of birds.
- (xi) Define compensation point.
- (xii) How is daily rhythmic activity of stomata governed?

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

16

- (i) Name and define the method used to protect walnut tree from pest.
- (ii) The environmental pollution is a national problem in Pakistan. Why?
- (iii) Cell membrane offers a barrier between cell content and environment. Justify it.
- (iv) Golgi complex is concerned with cell secretions. Why?
- (v) Why fungus like protists are not fungi?
- (vi) Water mold played infamous role in human history. Justify it.
- (vii) Write two uses of chlorella.
- (viii) What are red tides?
- (ix) Define protonema.
- (x) What is the role of meristematic tissue in hornworts?
- (xi) Differentiate between source and sink.
- (xii) The heart of fish is single circuit. Why?

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

12

- (i) What are the symptoms of AIDS?
- (ii) Differentiate between prions and virions.
- (iii) What is hunger pang? Also write its causes.
- (iv) How is gastric juice production regulated?
- (v) Differentiate between oxyntic cells and zymogen cells.
- (vi) What is diving reflex and how it is activated?
- (vii) Suggest the various characteristics of respiratory surface.
- (viii) What is respiratory distress syndrome?
- (ix) How does respiration take place in Earthworm?

**SECTION – II** Attempt any THREE questions. Each question carries 08 marks.

5. (a) Discuss biological method. 04  
 (b) Give comparison between closed and open circulatory system. 04
6. (a) What are polysaccharides? Discuss in detail. 04  
 (b) Give economic losses due to fungi. 04
7. (a) Discuss the structure of bacterial cell wall. Also give comparison between Gram positive and negative bacteria. 04  
 (b) Discuss the life cycle of Moss. 04
8. (a) Explain five kingdom system of classification in detail. Discuss its modification as well. 04  
 (b) Discuss various photosynthetic pigments in detail. 04
9. (a) What role plays cytoskeleton in the cell? 04  
 (b) Discuss parasitic nutrition and its various types. 04

1116-XI123-2000



## Faisalabad Board-2022

Roll No. : \_\_\_\_\_

Objective  
Paper Code  
**6465**

Intermediate Part First - 903  
**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	Yeasts are unicellular:	Algae	Protozoans	Fungi	Bacteria
2	Entamoeba histolytica causes:	Dysentery	Fever	Cholera	Hepatitis
3	Bacterial pathogenicity is due to:	Capsule	Cell wall	Cyst	Slime
4	Bacteriophage replicates only in cells:	Animal	Plant	Bacteria	Fungi
5	The number of chromosomes in drosophila melanogaster is:	08	14	16	26
6	Enzymes lower down the energy of:	Kinetic	Activation	Potential	Ionic
7	Cotton is the pure form of:	Glycogen	Waxes	Cellulose	Amino acids
8	In human body the amount of iron is:	4%	0.4%	0.4%	0.004%
9	Which is not granulocytes?	Monocytes	Neutrophils	Eosinophils	Basophils
10	The right atrium receives deoxygenated blood from these parts of the body except:	Brain	Liver	Lungs	Kidneys
11	The respiratory system is the most efficient in:	Man	Birds	Reptiles	Fish
12	Which animal has no need for a gall bladder?	Cat	Dog	Lion	Goat
13	Functional group of chlorophyll 'a' is:	CH <sub>3</sub>	CHO	COOH	OH
14	Lactic acid is formed in these except during extreme physical activities:	Man	Fish	Horse	Cat
15	These are arachnids except:	Scorpion	Beetles	Ticks	Mites
16	Which one is not a pseudocoelomate?	Ascaris	Earthworm	Ancylostoma	Round worms
17	An ovule is an integumented indehiscent:	Micro-sporangium	Seed	Sporogonium	Mega-sporangium

13-XI132029-30000



**BIOLOGY (Subjective) GROUP - I**

Time: 02:40 Hours

Marks: 68

**SECTION – I****2. Write short answers to any EIGHT parts.**

16

- How basic proteins play their role in combined form with nucleic acids?
- Why enzymes need optimum pH for their proper functioning? Give one example.
- Why some enzymatic reactions occur in series to form the final products? Explain briefly.
- Which model for enzyme substrate interaction is more supported? Discuss briefly that model.
- Name four diseases caused by fungi.
- How karyogamy is different from plasmogamy?
- Write four characteristics of mammals.
- Give economic importance of mollusca.
- Define the term regeneration and name animal which exhibit it.
- What are coral reefs and where they are found?
- Differentiate between chlorophyll-a and chlorophyll-b.
- What are the differences between alcoholic and lactic acid fermentation?

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

16

- Why organ system is less complex in plants as compared to animals?
- What are adverse effects of use of chemicals during its use to control pests?
- What is difference between cisternae and cristae?
- Why mitochondria are called self-replicating organelle?
- From where the Giant Amoeba obtain energy?
- How ciliates differ from protozoans?
- Name the parasitic flagellates and disease caused by it and how it is transmitted?
- Why fungus like protists are not fungi?
- Differentiate between antheridiophore and archegoniophore.
- Write names of two extinct and two living members of psilopsida.
- Define guttation. What factors affect it?
- Write role of lymphatic system in defense of body.

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

12

- Write short note on polio.
- Define plasmids. What is its use?
- Write any two digestive functions of liver.
- What is ulcer? Write few lines on it.
- Differentiate ectoparasites and endoparasites with examples.
- What is the function of parabronchi in birds?
- Define photorespiration. Give its consequences.
- Define Calvin Benson Cycle.
- What the role spiracles play in cockroach respiration?

**SECTION – II**

Attempt any THREE questions. Each question carries 08 marks.

- Why is some diseases vaccination is used while for others preventive measures are adopted?
  - Discuss major solutes and their role in blood plasma.
- Explain the importance of carbon in living organisms.
  - Describe different methods of asexual reproduction in fungi.
- How does physical methods differ from chemical methods to control bacteria?
  - How does evolution of microphyll differ from evolution of megaphyll?
- Write a note on five kingdom classification system of Robert Whittaker.
  - Sketch the process of glycolysis. (No description required)
- What is endoplasmic reticulum? Write its types and functions.
  - Describe digestion of food in small intestine.

04

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## Faisalabad Board-2022

Roll No. : \_\_\_\_\_



Objective  
Paper Code  
**6462**

Intermediate Part First - 004

### 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	Branch of biology which deals with the study of distribution of animals in nature is called:	Biogeography	Zoogeography	Phytogeography	Palaeontology
2	Lipoproteins are structural framework of:	Chromosomes	Nucleoid	Membranes	Chromatin
3	During metabolic reactions, these substances can be used again and again:	Co-factor	Enzymes	Enzymes and coenzymes	Prosthetic group
4	A lipoprotein membrane (crista) contains F1-Particles and different:	Nucleotides	RNA	Electron carriers	Nucleoli
5	CD <sub>4</sub> -receptor is present on:	Plasma cells	Helper T-cells	B-Lymphocytes	Natural killer cells
6	When a bacterium posses a single flagellum at one pole is termed as:	Atrichous	Lophotrichous	Amphitrichous	Monotrichous
7	Entamoeba histolytica causes:	Intestinal parasite	Lung parasite	Brain parasite	Blood parasite
8	Reindeer moss is a:	Moss	Animal	Lichen	Plant
9	All seed producing plants are called:	Arthrophytes	Angiosperms	Pteridophytes	Spermatophytes
10	Sponges are protandrous hermaphrodite because:	Female sex cells develop first	Ovaries develop first	Sperm cells develop first	Testes develop first
11	A solid double ventral nerve cord is present in earthworm, hence earthworm is dissected from:	Ventral side	Dorsal side	Lateral side	Ventrolateral
12	Pyruvate decarboxylase activity is inhibited by; optimal concentration of:	ATP	NAD <sup>+</sup>	NADH	Citrate
13	Two molecules of reduced NAD produces _____ molecules of ATP in respiratory chain.	3	6	4	2
14	A neurotic disorder in slightly older girls is called:	Anorexia nervosa	Dyspepsia	Obesity	Bulimia nervosa
15	Emphysema is the breakdown of:	Bronchi	Alveoli	Trachea	Bronchioles
16	Highest blood pressure is in aorta is generated by contraction of:	Right ventricle	Left atrium	Right atrium	Left ventricle
17	During filling of heart chambers, walls of chambers are relaxed indicate:	Atrial diastole	Cardiac diastole	Ventricular systole	Ventricular diastole

14-XI142020-5000



**BIOLOGY ( Subjective ) GROUP - II**

Time: 02:40 Hours      Marks: 68

**SECTION – I**



16

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

- (i) Why cellulose is digested in herbivores but not in humans?
- (ii) Why pepsin is secreted in form of pepsinogen?
- (iii) Name an enzyme which act in acidic medium and also give its pH.
- (iv) Why inorganic ions cannot be used as co-enzyme?
- (v) Differentiate between ectomycorrhizae and endomycorrhizae.
- (vi) What are predator fungi? Give an example.
- (vii) Differentiate between diploblastic and triploblastic organisms.
- (viii) How coral reefs are formed?
- (ix) Write two adaptations of parasites for parasitic mode of life.
- (x) Write two harmful effects of insects.
- (xi) Write the molecular formulas of chlorophyll a and b.
- (xii) What is lactic acid fermentation? Also write its equation.

16

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

- (i) What is hydroponic culture technique? Give its uses.
- (ii) How and when a hypothesis becomes a theory?
- (iii) Do you know about the body in the nucleus which is stained dark?
- (iv) Can you compare the process of pinocytosis with phagocytosis?
- (v) How the pathogen of malaria completes its life cycle?
- (vi) Can you give economic importance of algae?
- (vii) Which type of pigments are present in algae?
- (viii) Give two characteristics of red algae.
- (ix) What is protonema? In which group of bryophyte it is produced?
- (x) Give four examples of ferns.
- (xi) What is pressure potential?
- (xii) Define active immunity.

12

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

- (i) What is provirus?
- (ii) Differentiate between prokaryotic and eukaryotic cytoplasm.
- (iii) What is dyspepsia? Give its two symptoms.
- (iv) What is appendicitis?
- (v) Define peristalsis.
- (vi) What are vocal cords?
- (vii) Why is respiration important to living organisms?
- (viii) Why myoglobin is termed as muscle haemoglobin?
- (ix) Why most of the cetaceans have high concentration of myoglobin in muscles?

**SECTION – II      Attempt any THREE questions. Each question carries 08 marks.**

5. (a) How can we protect ourselves from the incurable diseases? 04  
 (b) What is transpiration? Explain the stomatal transpiration. 04
6. (a) Write a note on primary and secondary structure of proteins. 04  
 (b) Give economic losses due to fungi. 04
7. (a) There is diversity in respiration of bacteria. Prove it. Give examples. 02,02  
 (b) To, what does alternation of generations refer in plants (Bryophytes)? How it is significant? 02,02
8. (a) Define viruses and describe their characteristics. 01,03  
 (b) Discuss Krebs cycle with sketch in detail. 04
9. (a) Differentiate between prokaryotic and eukaryotic cells. 04  
 (b) Write a note on absorption of food in ileum of human. 04

14-XI122-5000



## Faisalabad Board-2021

Roll No. : \_\_\_\_\_

Objective  
Paper Code  
**6467**

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	A flower is a modified:	Shoot	Leaf	Root	Petal
2	Example of free living fresh water flat worm is:	Dugesia	Fasciola	Taenia	Hydra
3	Pseudocoelom body cavity is found in:	Ascaris	Earthworm	Neries	Mosquito
4	Photosystem I has chlorophyll 'a', which absorbs maximum light of:	400nm	500nm	600nm	700nm
5	Glycolysis is the breakdown of glucose upto the formation of:	Lactic acid	Alcohol	Pyruvic acid	Acetic acid
6	Which has parasitic nutrition?	Cuscuta	Mycorrhiza	Nitrogen fixing bacteria	Lichens
7	When an oxygen tension is 115mm mercury, how much haemoglobin is saturated in percentage?	92%	94%	96%	98%
8	Pressure flow theory was proposed by:	Ernst Munch	Sacks	Dixon	Hook
9	Leucaemia is the result of uncontrolled production of:	Leucocytes	Thrombocytes	Erythrocytes	Platelets
10	In deductive reasoning we move from:	General to general	General to specific	Specific to specific	Specific to general
11	Which is not carbohydrate?	Wood	Cotton	Paper	Wax
12	An enzyme with its co-enzyme or prosthetic group removed is designated as:	Holo enzyme	Co-enzyme	Apoenzyme	Activator
13	Which is not found in secondary wall?	Salts	Silica	Chitin	Cellulose
14	Which is an insect?	Cray fish	Silver fish	Jelly fish	Star fish
15	Bacteria without any flagella is called:	Atrichous	Lophotrichous	Monotrichous	Peritrichous
16	Entamoeba histolytica causes in humans:	Sleeping sickness	Amoebic dysentery	Malaria	Cholera
17	It is non-hyphal unicellular fungi:	Bacteria	Rust	Yeast	Smut

39-XI121-12000





## BIOLOGY (Subjective) GROUP - I

Time: 02:40 Hours

Marks: 68

## SECTION – I

## 2. Write short answers to any EIGHT parts.

16

- Define peptide and polypeptide bond.
- Define apoenzyme and holoenzyme.
- Differentiate between binding and catalytic site of enzyme.
- What do you mean by induce fit model? Who proposed it?
- Write the ecological importance of fungi.
- Define spore and conidia.
- Write about Hookworm and pinworm.
- Differentiate between acoelomate and coelomate.
- Write about some affinities which echinoderms show with hemichordata.
- Differentiate between ostia and osculum.
- What is the source of oxygen during photosynthesis?
- Define carotenoids. How they are helpful in photosynthesis?

## 3. Write short answers to any EIGHT parts.

16

- Differentiate between physiology and morphology.
- Differentiate between freshwater Biology and marine Biology briefly.
- What are Golgi apparatus? Give its function.
- What are cristae and polysome?
- Write two differences between fungi and oomycetes.
- What are kelps? Give their importance.
- Write the importance of algae.
- Give two examples of unicellular green algae.
- Differentiate between microphyll and megaphyll.
- What is alternation of generations? How it is important for plant life?
- Differentiate between diffusion and osmosis.
- What are lymph nodes? What is their function?

## 4. Write short answers to any SIX parts.

12

- Differentiate between mumps and measles.
- Define Pilli. Also give its function.
- What is trypsin?
- What is saprophytic nutrition?
- Differentiate between villi and microvilli.
- Define lung capacities.
- What is myoglobin?
- Define tuberculosis.
- How pH affects haemoglobin to combine with oxygen?

## SECTION – II Attempt any THREE questions. Each question carries 08 marks.

- Write a note on biological method. 04
  - Discuss any eight functions of blood. 04
- Discuss in detail primary structure of proteins. 04
  - Write a note on animal diseases caused by fungi. 04
- Discuss growth and reproduction in bacteria. 04
  - Describe evolution of seed in plant. 04
- Describe the life cycle of bacteriophage. 04
  - Make a sketch of non-cyclic phosphorylation. 04
- What are lysosomes? Give their importance with special emphasis on Tay-Sach's disease. 04
  - Give the role of stomach in digestion of food. 04

39-XI121-12000



## Faisalabad Board-2021

Objective  
Paper Code  
**6468**

Intermediate Part First  
**BIOLOGY ( Objective ) GROUP - II**  
Time: 20 Minutes Marks: 17

Roll No. : \_\_\_\_\_



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	The body cavity of Nematoda is called as:	Blastocoel	Haemocoel	Pseudocoel	Coelom
2	The phylum which is exclusively marine is:	Echinodermata	Pisces	Porifera	Amphibia
3	In respiratory chain, the coenzyme Q is oxidized by cytochrome:	Cyt-b	Cyt-a	Cyt-ab	Cyt-c
4	The end product of glucose breakdown in glycolysis is:	Acetate	Pyruvate	Oxalate	Fumarate
5	The inactive pepsinogen is secreted by cells:	Oxyntic	Zymogenic	Mucous	Gastric
6	The lungs are covered by double-layered thin membranous sacs called:	Pleura	Alveoli	Air sacs	Pericardium
7	Types of blood cells which stay from 10 - 20 hours in the blood are called:	Monocytes	Lymphocytes	Neutrophils	Leukocytes
8	The substance which inhibit blood clotting is:	Histamine	Heparin	Disprin	Fibrin
9	Pasteurization is widely used for preservation of:	Vegetable	Fruit	Meat products	Milk products
10	The branch of biology which deals with the study of chemical component and chemical process in living organism is called:	Biochemistry	Biogenetic	Bioecology	Biology
11	The competitive inhibitor of succinic acid is:	Succinic acid	Fumaric acid	Citric acid	Malonic acid
12	Which is not found in primary wall?	Cellulose	Hemicellulose	Lignin	Pectic
13	A disease, which is highly contagious is:	Measles	Mumps	Herpes	AIDS
14	Grape-like cluster of cocci-bacteria is called as:	Diplococcus	Streptococcus	Staphylococcus	Diplobacillus
15	Which is not a ciliate?	Paramecium	Vorticella	Stentor	Trypanosoma
16	Which is used to give flavour, aroma and colour to cheese?	Yeast	Puccinia	Penicillium	Agaricus
17	All seed producing plants are called:	Bryophytes	Tracheophytes	Pteridophytes	Spermatophytes

40-XI121-32000



# Faisalabad Board-2021

Intermediate Part First

Roll No. \_\_\_\_\_

## BIOLOGY (Subjective) GROUP - II

Time: 02:40 Hours

Marks: 68



### SECTION – I

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

16

- (i) Write briefly the protective function of water.
- (ii) Differentiate between coenzyme and prosthetic group.
- (iii) Define inhibitors. Give an example.
- (iv) What is induced fit model of enzyme action?
- (v) Differentiate between spore and conidia.
- (vi) What are predator fungi? Give an example.
- (vii) Differentiate between radial and bilateral symmetry.
- (viii) What are parabronchi? Write their function.
- (ix) What are nematocysts? Give their function.
- (x) What is placenta and its role?
- (xi) Why Calvin cycle is also called as  $C_3$  pathway.
- (xii) Define chemiosmosis.

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

16

- (i) Define embryology.
- (ii) What is biotechnology?
- (iii) What is unit membrane model of cell membrane?
- (iv) What is primary cell wall? Give its chemical composition.
- (v) Define kingdom Protista.
- (vi) How zooflagellates obtain their food?
- (vii) Give two examples of brown algae.
- (viii) What is chlorella? Where it is found?
- (ix) What is alternation of generation?
- (x) What is double fertilization?
- (xi) What are plasmodesmata?
- (xii) Define transpiration.

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

12

- (i) Give biological classification of corn.
- (ii) Write four phases in bacterial growth curve.
- (iii) Distinguish between saprophytic and parasitic nutrition.
- (iv) Name various types of salivary glands and give ingredients of saliva.
- (v) Differentiate between Diarrhoea and Constipation.
- (vi) What is Asthma? Give its effects.
- (vii) Differentiate between haemoglobin and myoglobin.
- (viii) Give composition of inhaled and exhaled air.
- (ix) Give two factors which affect capacity of haemoglobin to combine with oxygen.

### SECTION – II Attempt any THREE questions. Each question carries 08 marks.

**5. (a) Write note on protection and conservation of environment.**

04

**(b) Write any eight functions of blood.**

04

**6. (a) Write a note on carbohydrates.**

04

**(b) Discuss two mutualistic symbiotic associations of fungi.**

04

**7. (a) Describe physical and chemical methods to control micro-organisms.**

04

**(b) Describe different adaptations of bryophytes to land habitat.**

04

**8. (a) Write a note on life cycle of AIDS.**

04

**(b) Write non-cyclic phosphorylation.**

04

**9. (a) Write a note on plastids.**

04

**(b) Discuss nutrition in insectivorous plants.**

04

40-XI121-32000



# Faisalabad Board-2019

Roll No. : \_\_\_\_\_

Objective  
Paper Code  
**6465**

Intermediate Part First (New Scheme)  
**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	Histamine is produced by:	Neutrophils	Eosinophils	Basophils	Monocytes
2	Single circuit heart is found in:	Amphibians	Fishes	Reptiles	Mammals
3	Spiracles are found in:	Hydra	Cockroach	Birds	Fishes
4	Which is fluid feeder?	Aphid	Earthworm	Sheep	Man
5	Most abundant protein on earth is:	Rubisco	Haemoglobin	Albumen	Fibrinogen
6	Haem portion of haemoglobin contains:	Mg <sup>++</sup>	Fe <sup>++</sup>	Ca <sup>++</sup>	N
7	Garden snail belongs to:	Gastropoda	Cephalopoda	Pelecypoda	Arthropoda
8	Fresh water sponge is:	Sycon	Leucosolenia	Spongilla	Euplectella
9	Polytrichum is a:	Club moss	Moss	Liverwort	Hornwort
10	They are ecologically important as bioindicators of air pollution:	Lichen	Mycorrhizae	Yeast	Viruses
11	Tests of actinopods are made up of:	Calcium	Silica	Sodium	Potassium
12	Bacteria without any flagella are called:	Peritrichous	Monotrichous	Lophotrichous	Atrichous
13	Organelle of symbiotic origin is:	Cell wall	Cell membrane	Mitochondria	Vacuole
14	Resolution of electron microscope ranges between:	1 - 2 $\mu$ m	1 - 5 nm	1 - 3 Angstrom	2 - 4 Angstrom
15	Co-enzyme is closely related to:	Lipids	Minerals	Vitamins	Water
16	Human tissues have 85% water in cells of:	Blood	Liver	Bone	Brain
17	The number and variety of species in a place is called:	Population	Community	Diversity	Biodiversity

39-XI119-13000





# Faisalabad Board-2019

Intermediate Part First (New Scheme)

**BIOLOGY** ( Subjective ) **GROUP - I**

Time: 02:40 Hours

Marks: 68

Roll No. \_\_\_\_\_

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## SECTION – I

2. Write short answers to any EIGHT parts.

16

- Define protective role of water.
- What are inhibitors? Give one example.
- Differentiate between pepsin and pepsinogen.
- What are reversible inhibitors?
- Write resemblances of fungi with plants.
- What are rust and smut diseases of plants?
- Define protandrous animals.
- Differentiate between parazoa and cemetazoa.
- What is the commercial importance of sponges?
- Name three classes of phylum Annelida.
- What is the role of antenna complex in photosynthesis?
- Give the function of spectrophotometer.

3. Write short answers to any EIGHT parts.

16

- What is hydroponic culture technique? Give its possible applications.
- Define hypothesis.
- Give salient features of cell theory.
- Write four important functions of endoplasmic reticulum.
- What are kelps?
- Give the importance of physarum polycephalum.
- What are choanoflagellates? How are they related to sponges?
- Give four general characters of algae.
- What is meant by arthropod?
- What are paraphyses and protonema?
- Define plasmolysis and deplasmolysis.
- Define immunity.

4. Write short answers to any SIX parts.

12

- What are prions?
- What is mesosome?
- What is assimilation?
- Define nutrition.
- What is botulism?
- Define photorespiration.
- What is operculum?
- What are parabronchi?
- What is asthma?

## SECTION – II

Attempt any THREE questions. Each question carries 08 marks.

5. (a) Give a detailed account of cloning.

04

(b) Discuss cardiac cycle in detail.

04

6. (a) What are carbohydrates? Give details of monosaccharides with suitable structural illustrations.

04

(b) Describe economic gains due to fungi.

04

7. (a) Give use and misuse of antibiotics.

04

(b) Discuss the life cycle of an angiospermic plant.

04

8. (a) Give detail of life cycle of bacteriophage with diagram.

04

(b) Explain non-cyclic phosphorylation along with diagram.

04

9. (a) Give structure and function of mitochondria.

04

(b) Write notes on (i) Anorexia nervosa (ii) Bulimia nervosa

04

39-XI119-13000



## Faisalabad Board-2019

Roll No. : \_\_\_\_\_

Objective  
Paper Code  
**6464**

Intermediate Part First (New Scheme)  
**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	In birds, the organ of voice is called:	Syrinx	Larynx	Vocal card	Parabronchi
2	Marsupium is character of:	Opossum	Dolphin	Duck bill platypus	Bat
3	The number of chloroplast in each mesophyll cell is about:	20 – 100	20 – 120	20 – 200	20 – 220
4	The breaking of the terminal phosphate of ATP releases energy about:	2 K cal	3.7 K cal	17.3 K cal	7.3 K cal
5	pH of fresh saliva is nearly:	6	7	8	9
6	Number of spiracle in cockroach is:	10 pairs	6 pairs	10 pairs	8 pairs
7	Plasma proteins in the blood are about:	~9%	9 – 11%	11 – 13%	0.9%
8	The rate of transpiration doubles by every rise of temperature about:	5°C	10°C	15°C	20°C
9	The number of plant species in biodiversity is:	53.1%	17.6%	19.9%	9.4%
10	Number of amino acids in each turn of $\alpha$ -helix is:	3	3.6	0.36	36
11	Salivary amylase work best at pH:	6.80	5.50	4.00	2.00
12	Attachment of two units of ribosomes is controlled by:	$\text{Ca}^{++}$	$\text{Mg}^{++}$	$\text{Fe}^{++}$	$\text{Fe}^{+++}$
13	Genus for corn plant is:	Zea	Cassia	Allium	Solanum
14	Pili are made of special protein called:	Flagellin	Tubulin	Fibrinogen	Pilin
15	Cell wall of oomycetes contain mostly:	Chitin	Cellulose	Glycan	Pectin
16	The species of mushroom which are edible are about:	100	1000	200	2000
17	In angiosperm, megaspore develop into female gametophyte which consists of:	3 cells	5 cells	7 cells	9 cells

40-XI119-12000



**SECTION – I**

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

16

- (i) Define heat capacity.
- (ii) What is lock and key model?
- (iii) Define apoenzyme.
- (iv) What is prosthetic group?
- (v) What is nuclear mitosis?
- (vi) Write the scientific name of yeast.
- (vii) What are gemmules?
- (viii) What is radula?
- (ix) What is nymph?
- (x) What do you know about flame cells?
- (xi) What are accessory pigments?
- (xii) What is compensation point?

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

16

- (i) Differentiate between molecular biology and biotechnology.
- (ii) Define community.
- (iii) What is Tay-Sachs's disease?
- (iv) Differentiate between chromoplast and leucoplast.
- (v) What are giant amoeba?
- (vi) How ciliates differ from protozoa?
- (vii) What are foraminiferans?
- (viii) What is kelp?
- (ix) Why bryophytes are called amphibians of plants?
- (x) Define alternation of generation.
- (xi) Define immunity.
- (xii) What is systemic circulation?

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

12

- (i) Compare prophage with provirus.
- (ii) What is ecological importance of bacteria?
- (iii) Differentiate between secretin and gastrin.
- (iv) Enlist the steps involved in holozoic nutrition.
- (v) Write only two functions of oral cavity.
- (vi) Define photorespiration.
- (vii) What are parabronchi? Give their function.
- (viii) Give a brief description of respiratory distress syndrome.
- (ix) Describe lung capacities.

**SECTION – II** Attempt any THREE questions. Each question carries 08 marks.

5. (a) Write a note on cloning.  
(b) Describe the composition of blood plasma.
6. (a) Give composition and types of RNA in detail.  
(b) Describe loose smut of wheat in detail.
7. (a) Describe different shapes of bacteria.  
(b) Give adaptive characters of bryophytes to land habitat.
8. (a) Give lytic cycle of bacteriophage.  
(b) Describe the process of glycolysis.
9. (a) Give structure and function of endoplasmic reticulum.  
(b) Explain digestion in amoeba.

04

04

04

04

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04

04

04

04



# Faisalabad Board-2018

Roll No. : \_\_\_\_\_

**Objective**  
**Paper Code**  
**6461**

**Intermediate Part First (New Scheme)**  
**BIOLOGY ( Objective )**  
**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	The percentage of calcium in human body is:	1%	2%	3%	4%
2	The melting point of palmitic acid is:	- 8°C	8°C	63.1°C	56.3°C
3	Optimum pH for proper functioning of pepsin is:	4.00	4.50	5.50	2.00
4	Tay-Sach's disease is because of the absence of enzyme involved in catabolism of:	Protein	Glycogen	Lipids	Nucleic acid
5	Icosahedral virus have nearly:	10 faces	20 faces	30 faces	40 faces
6	A cube of 8 cocci is called:	Sarcina	Tetrad	Staphylococcus	Diplococcus
7	Tests of foraminifera are made of:	Calcium	Silica	Sulphur	Phosphorus
8	Histoplasmosis caused by spores of fungus is a serious infection of:	Kidney	Skin	Lungs	Heart
9	Double fertilization is a special process found in:	Gymnosperm	Angiosperm	Bryophyte	Algae
10	Parotid salivary glands are situated in the front of:	Jaws	Ears	Tongue	Eyes
11	How much air can lungs hold when they are fully inflated?	5 liters	4 liters	3.5 liters	4.5 liters
12	Haemocyanin is found in the phylum:	Echinodermata	Mollusca	Hemichordata	Chordata
13	Flame cells are found in the phylum:	Nematoda	Annelida	Mollusca	Platyhelminthes
14	From one pyruvate passing through Kreb's cycle FADH <sub>2</sub> molecules are formed:	1	2	3	4
15	Photosystem II has the form of chlorophyll a which absorbs best light of:	670nm	680nm	690nm	700nm
16	Normal pH of human blood is:	4.4	5.4	6.4	7.4
17	According to one hypothesis, stomata opens due to the active transport of:	Sodium	Potassium	Sulphur	Nitrogen

36-XI118-25000



## SECTION – I

## 2. Write short answers to any EIGHT parts.

16

- (i) What is embryology?
- (ii) Define integrated disease management.
- (iii) What is an apoenzyme?
- (iv) Give the functions of binding site and catalytic site of the active site of an enzyme.
- (v) What is the induce fit model of enzyme action? Who proposed it?
- (vi) What is a virion?
- (vii) What are smuts?
- (viii) What is parasexuality?
- (ix) What are diploblastic animals?
- (x) What are cnidocytes?
- (xi) What is a radula?
- (xii) What are metatherian animals?

## 3. Write short answers to any EIGHT parts.

16

- (i) Differentiate between gram positive and gram negative bacteria.
- (ii) How protists are different from other eukaryotes?
- (iii) What is evolutionary significance of choanoflagellates?
- (iv) Give two characteristics of apicomplexans.
- (v) What is infamous role of phytophthora infestans?
- (vi) Define flower. What are essential and non-essential parts of flower?
- (vii) What are homosporous and heterosporous plants? Give examples.
- (viii) How it was proved that oxygen released during photosynthesis comes from water and not from CO<sub>2</sub>?
- (ix) Define photosynthesis. Also write its chemical reaction.
- (x) Differentiate between peristalsis and antiperistalsis.
- (xi) What is heat burn or pyrosis? Give its causes.
- (xii) What is bile? Give its functions.

## 4. Write short answers to any SIX parts.

12

- (i) Differentiate between chromoplast and leucoplast.
- (ii) Differentiate between microtubules and microfilaments.
- (iii) Draw the chemical formulae of ribofuranose (D-Ribose) and glucopyranose (D-Glucose).
- (iv) Differentiate between single and double circuit heart with examples.
- (v) Differentiate between B and T lymphocytes.
- (vi) Differentiate between breathing and cellular respiration.
- (vii) What is biological oxidation?
- (viii) What is serine and who it is formed?
- (ix) Differentiate between inspiration and expiration.

## SECTION – II Attempt any THREE questions. Each question carries 08 marks.

5. (a) Give the role of Biology in the field of preventive measures of disease control and vaccination. 02,02  
(b) Explain the structure of heart of man. 03,01
6. (a) Give an account of acylglycerols. 04  
(b) Write a note on economic gains due to Fungi. 04
7. (a) Write a note on Golgi Apparatus. 04  
(b) Explain the process of digestion in cockroach. 04
8. (a) Describe lysogenic cycle in bacteriophage. 04  
(b) Describe non-cyclic phosphorylation during Z-scheme of photosynthesis. 04
9. (a) Write a note on growth and reproduction in bacteria. 04  
(b) Define angiosperms. Explain double fertilization in angiosperms. How angiosperms differ from gymnosperms. 04