

Roll No _____ (To be filled in by the candidate) (Academic Sessions 2018 – 2020 to 2021 – 2023)
BIOLOGY 222-(INTER PART – I) Time Allowed : 20 Minutes
 Q.PAPER – I (Objective Type) GROUP – I Maximum Marks : 17
PAPER CODE = 6467

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.

24R-91-22

1-1	Enterokinase enzyme is secreted by lining of : (A) Pancreas (B) Liver (C) Duodenum (D) Stomach
2	Corn smut is caused by : (A) <u>Candida albicans</u> (B) <u>Aspergillus fumigatus</u> (C) <u>Penicillium notatum</u> (D) <u>Ustilago maydis</u>
3	Prions are made up of : (A) Nucleic acids (B) Proteins (C) Lipids (D) Carbohydrates
4	The parasite which produces anticoagulant to prevent blood clotting is : (A) Hook worm (B) Pin worm (C) <u>Ascaris</u> (D) <u>Fasciola</u>
5	The female gametophyte of flowering plant consists of ---- cells : (A) 2 (B) 4 (C) 7 (D) 8
6	The compounds which on hydrolysis yield polyhydroxy aldehyde or ketone sub units are : (A) Carbohydrates (B) Proteins (C) Lipids (D) Nucleic acids
7	The cells which supply ATP and proteins to sieve tubes are : (A) Fibers (B) <u>Companion cells</u> (C) Scleriedes (D) Guard cells
8	A cube of eight cocci is called : (A) Diplococci (B) <u>Streptococci</u> (C) Tetrad (D) Sarcina
9	Which part of light spectrum produces more oxygen during photosynthesis : (A) Blue (B) <u>Green</u> (C) Yellow (D) Red
10	Pasteurization technique widely used for preservation of : (A) Water (B) <u>Meat</u> (C) Milk and milk products (D) Vaccines
11	Blastopore forms anus in : (A) Echinodermata (B) Annelida (C) <u>Nematoda</u> (D) Mollusca
12	The raw material from which coenzymes are made : (A) Proteins (B) Nucleic acids (C) Vitamins (D) Carbohydrates
13	Smoker's cough cause : (A) Asthma (B) <u>Emphysema</u> (C) Cancer (D) Tuberculosis
14	Number of NADH produced by passing one pyruvate molecule through Krebs Cycle and pyruvic acid oxidation is / are : (A) 1 (B) 2 (C) 3 (D) 4
15	The weight of blood in a man of 60 kg is : (A) 5 kg (B) 10 kg (C) 15 kg (D) 20 kg
16	Tests of foraminifera are made of : (A) Potassium (B) Calcium (C) Silica (D) Iron
17	Organelle involved in the synthesis of ATP is : (A) Ribosomes (B) Nucleus (C) Centriole (D) Mitochondria

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BIOLOGY 222-(INTER PART – I)

Time Allowed : 2.40 hours

PAPER – I (Essay Type)

GROUP – I

Maximum Marks : 68

SECTION – I

442-G1-22

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

- (i) Why lipids store double amount of energy than carbohydrates?
- (ii) Why inhibitors affect enzyme function? Mention with examples.
- (iii) Why binding site and catalytic site are important for enzymes?
- (iv) Why enzymes are affected by extreme changes in pH?
- (v) Enlist six plant diseases caused by fungi.
- (vi) Define nuclear mitosis in fungi.
- (vii) Give four diagnostic characters of mammals.
- (viii) What do you know about harmful insects?
- (ix) Differentiate between polyp and medusa.
- (x) Define radial and bilateral symmetry with examples.
- (xi) What is compensation point? When it occurs?
- (xii) How action spectrum can be obtained?

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

- (i) Define population and give its four attributes.
- (ii) What do you know about integrated disease management?
- (iii) Why plasma membrane do not allow all the substances to cross it?
- (iv) Which organelle of the cell engulfs the foreign objects, also give the purpose of this process?
- (v) Why protists are considered as polyphyletic? Give two examples of animal like protists.
- (vi) How foraminiferous have poles in their shells? By which way shell is transformed into chalk?
- (vii) What do you know about amoeba?
- (viii) How red algae are differentiated from green algae?
- (ix) What is phylogenetic system of classification?
- (x) Give characteristics of bryophytes (briefly).
- (xi) Write factors which are responsible for bleeding in plants.
- (xii) Define immunity and name its types.

4. Write short answers to any EIGHT (8) questions : 12

- (i) On the basis of morphology, how viruses are classified?
- (ii) What are mesosomes? Describe their functions.
- (iii) Write name of four parts of digestive system of cockroach.
- (iv) How our oral cavity selects food for further digestion?
- (v) Differentiate between peristalsis and antiperistalsis.
- (vi) What is rubisco? Give its function.
- (vii) Enlist types of respiration in frog.
- (viii) Differentiate between diaphragm and pleura.
- (ix) What is myoglobin? How it differs from haemoglobin?

SECTION – II

Note : Attempt any THREE questions.

5. (a) The environment of Pakistan is deteriorating day by day, suggest various measures to conserve it. 4
- (b) Write down any eight functions of blood. 4
6. (a) What are polysaccharides? Give details of some biologically important polysaccharides. 4
- (b) Describe economic gains due to fungi. 4
7. (a) How bacteria are classified on the basis of nutrients and energy trapping methods? 4
- (b) How plants applied their different features to live successfully on land? 4
8. (a) What is nomenclature, describe its importance with the help of examples? 4
- (b) Draw the outlines of Kreb's Cycle. 4
9. (a) What do you know about endoplasmic reticulum? Explain with diagram. 4
- (b) Food poisoning and obesity are diseases related to nutrition. Discuss. 4

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PAPER CODE = 6462

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. **242-92-22**

1-1	The study of distribution of animals in nature is called :
	(A) Wildlife (B) Zoogeography (C) Geography (D) Biodiversity
2	Fats and oil have specific gravity of about :
	(A) 0.8 (B) 8 (C) 0.08 (D) 0.008
3	Co-enzyme is closely related to :
	(A) Vitamins (B) Water (C) Minerals (D) Lipids
4	The number of nuclear pores in undifferentiated cells (such as eggs) are :
	(A) 3000 (B) 40,000 (C) 5000 (D) 30,000
5	Prions are made up of :
	(A) Lipid (B) DNA (C) Protein (D) RNA
6	Choose the smallest bacteria :
	(A) <u>E.Coli</u> (B) <u>Mycoplasma</u> (C) <u>Spirochetes</u> (D) <u>Staphylococci</u>
7	Example of apicomplexans is :
	(A) Amoeba (B) <u>Paramecium</u> (C) Bacteria (D) <u>Plasmodium</u>
8	Histoplasmosis is a disease of :
	(A) Liver (B) Skin (C) Lung (D) Brain
9	<u>Clitoria ternatea</u> is used against :
	(A) Dog bite (B) Scorpion bite (C) Snake bite (D) Wasp bite
10	The largest invertebrate is :
	(A) Earthworm (B) Giant squid (C) Ascaris (D) Star fish
11	Which one of the following does not belong to phylum platyhelminthes :
	(A) Crab (B) Planaria (C) Liver fluke (D) Tape worm
12	How many CO ₂ molecules are produced from complete breakdown of one pyruvate :
	(A) 2 (B) 4 (C) 6 (D) 3
13	Chlorophyll molecule contains following except :
	(A) Magnesium (B) Iron (C) Porphyrin ring (D) Phytol
14	A plant requires nitrogen and sulphur for its :
	(A) DNA replication (B) Cell wall (C) Enzymes (D) Starch
15	How much air can hold fully inflated lungs :
	(A) 4 litres (B) 4.5 litres (C) 5 litres (D) 5.5 litres
16	Closed circulatory system is present in animals except :
	(A) Squid (B) Spiders (C) Octopus (D) Fish
17	Following are organic nutrients present in the blood except :
	(A) Glucose (B) Fats (C) Amino acids (D) Sodium chloride

133-222-II-(Objective Type)- 6750 (6462)

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SECTION – I

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

- 442-9222*
- Which role is played by cellulose digesting enzymes in plant eating animals, discuss briefly.
 - At constant temperature and pH, how rate of reaction can be doubled?
 - In which way inhibitors stop catalytic activity of the enzymes? Give one example.
 - Why enzymes remain unaltered after the formation of products?
 - How rust is differentiated from smut?
 - What is parasexuality in fungi?
 - Name the phylum of these animals, octopus, tape worm, leech and dolphin.
 - Give two differences between protostomes and deuterostomes.
 - What do you know about pseudocoelomates?
 - Define polymorphism, also give an example.
 - Differentiate between photosystem-I and photosystem-II.
 - Write name of four stages of cellular respiration.

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

- Compare radiotherapy and gene therapy to control diseases.
- Differentiate between embryonic and organism cloning.
- How cell membrane is differentially permeable membrane? Justify it.
- What is the factory of synthesis of protein and ribosomes?
- Basically kingdom protista is defined by exclusion, how?
- How slime moulds adopt unfavourable and favourable conditions?
- Why phytophthora infestans is infamous in human history?
- What type of pigments are found in rhodophyta and chlorophyta?
- Define double fertilization. Give its importance.
- Write scientific names of potato and amaltas.
- Describe apoplast pathway.
- What are granulocytes?

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

- Write down contributions of E-Chatton.
- Shortly write down the structure of bacteria.
- Write down the role of nitrogen and phosphorus in plant growth.
- Write few lines on filter feeders.
- Differentiate cardiac and pyloric sphincter with reference to their function.
- Write down CO₂ concentration in arterial and venous blood.
- What is the role of partial pressure of O₂ during shock?
- Write short note on asthma.
- How rubisco is converted into serine?

SECTION – II

Note : Attempt any THREE questions.

- (a) Give the details of biological conservation and protection of environment. **4**
(b) What is immunity? Discuss its major types. **4**
- (a) What is RNA? Describe its different types. **4**
(b) Discuss the economic gains due to fungi. **4**
- (a) Cell membrane and nuclear material of bacteria differ from that of eukaryotic cell. Explain. **4**
(b) How the life cycle of an angiospermic plant differs from a gymnospermic plant? **4**
- (a) Illustrate the life cycle of bacteriophage diagrammatically. **4**
(b) Give in detail the carbon fixation and reduction phase of Calvin Cycle. **4**
- (a) Discuss structure and chemical composition of cell wall. **4**
(b) Explain the process of digestion in oral cavity of man. **4**