

1124 Warning:- Please write your Roll No. in the space provided and sign. Roll No _____

(Inter Part – I)

(Session 2020-22 to 2023-25)

Sig. of Student _____

Biology (Objective)
Group 1
Paper (I)

Time Allowed:- 20 minutes

PAPER CODE 2461

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

| | | | | |
|--|--|--|--|---|
| 1) Milk and milk products are preserved by | (A) Pasteurization <input checked="" type="radio"/> | (B) Vaccination <input type="radio"/> | (C) Immunization <input type="radio"/> | (D) Cloning <input type="radio"/> |
| 2) In alanine R is | (A) NH ₃ <input type="radio"/> | (B) CH ₃ <input checked="" type="radio"/> | (C) COOH <input type="radio"/> | (D) OH <input type="radio"/> |
| 3) Competitive inhibitor of succinic acid is | (A) Malonic acid <input checked="" type="radio"/> | (B) Malate <input type="radio"/> | (C) Citrate <input type="radio"/> | (D) Fumaric acid <input type="radio"/> |
| 4) Function of Golgi apparatus is concerned with | (A) Division <input type="radio"/> | (B) Lysis <input type="radio"/> | (C) Storage <input type="radio"/> | (D) Secretions <input checked="" type="radio"/> |
| 5) Inflammation of Liver is called | (A) Enteritis <input type="radio"/> | (B) Tonsilitis <input type="radio"/> | (C) Hepatitis <input checked="" type="radio"/> | (D) Mumps <input type="radio"/> |
| 6) Bacteria grows rapidly in this phase | (A) Lag phase <input type="radio"/> | (B) Stationary phase <input type="radio"/> | (C) Log phase <input checked="" type="radio"/> | (D) Decline phase <input type="radio"/> |
| 7) Plasmodium reproduces asexually in | (A) Human <input checked="" type="radio"/> | (B) Binary fission <input type="radio"/> | (C) Conjugation <input type="radio"/> | (D) Mosquito <input type="radio"/> |
| 8) Major structural component of fungus cell wall is | (A) Lignin <input type="radio"/> | (B) Pectin <input type="radio"/> | (C) Cutin <input type="radio"/> | (D) Chitin <input checked="" type="radio"/> |
| 9) The structure that includes all others is | (A) Ovary <input type="radio"/> | (B) Ovule <input type="radio"/> | (C) Pistil <input checked="" type="radio"/> | (D) Style <input type="radio"/> |
| 10) The sponge that is called venus flower basket | (A) Sycon <input type="radio"/> | (B) Euplectella <input checked="" type="radio"/> | (C) Leucosolenia <input type="radio"/> | (D) Spongilla <input type="radio"/> |
| 11) Animals having compound eyes are | (A) Insects <input checked="" type="radio"/> | (B) Myriapoda <input type="radio"/> | (C) Crustacea <input type="radio"/> | (D) Hirudinea <input type="radio"/> |
| 12) The other name of Calvin cycle is | (A) C ₆ Pathway <input type="radio"/> | (B) C ₅ Pathway <input type="radio"/> | (C) C ₄ Pathway <input type="radio"/> | (D) C ₃ Pathway <input checked="" type="radio"/> |
| 13) The most abundant chlorophyll is | (A) Chlorophyll a <input checked="" type="radio"/> | (B) Chlorophyll b <input type="radio"/> | (C) Chlorophyll c <input type="radio"/> | (D) Chlorophyll d <input type="radio"/> |
| 14) Serum electrolyte imbalance occurs in | (A) Botulism <input type="radio"/> | (B) Dyspepsia <input type="radio"/> | (C) Bulimia Nervosa <input type="radio"/> | (D) Anorexia Nervosa <input type="radio"/> |
| 15) Respiratory pigment in humans is | (A) Bilirubin <input type="radio"/> | (B) Haemocyanin <input type="radio"/> | (C) Myoglobin <input type="radio"/> | (D) Haemoglobin <input checked="" type="radio"/> |
| 16) Excess fluid in the tissue of the body is | (A) Thrombus <input type="radio"/> | (B) Hemorrhage <input type="radio"/> | (C) Stroke <input type="radio"/> | (D) Oedema <input checked="" type="radio"/> |
| 17) Narrowing and hardening of arteries is called | (A) Atherosclerosis <input checked="" type="radio"/> | (B) Necrosis <input type="radio"/> | (C) Sclerosis <input type="radio"/> | (D) Apoptosis <input type="radio"/> |

1139 -- 1124 -- 11000 (1)

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1124 Warning:- Please, do not write anything on this question paper except your Roll No.

Biology (Subjective) (Session 2020-22 to 2023-25)

Paper (I)

Time Allowed: 2.40 hours

(Inter Part - I) Group 1

Maximum Marks: 68

Section ----- I

 $8 \times 2 = 16$

2. Answer briefly any Eight parts from the followings:-

- (i) What is an ester? Express it with an equation.
- (ii) How does substrate concentration affect the reaction rate of enzyme?
- (iii) Differentiate binding and catalytic site of enzyme.
- (iv) Write down any two characteristics of enzyme. (v) How can fungi grow on fruits even in refrigerator?
- (vi) Differentiate obligate and facultative parasitic fungi. (vii) What is marsupium? Give its functions.
- (viii) Write down the economic losses caused by phylum mollusca.
- (ix) What are the symptoms of disease caused by hook worms?
- (x) Why notochord is important in chordates?
- (xi) What are the accessory pigments in plants? Give an example.
- (xii) How glucose is prepared for production of energy?

3. Answer briefly any Eight parts from the followings:-

 $8 \times 2 = 16$

- (i) What are bio-pesticides? Give example. (ii) Define bioremediation and endangered species.
- (iii) Differentiate chromoplast and leucoplast.
- (iv) Give role and composition of cytoskeleton. (v) Write down the importance of algae.
- (vi) Why the euglenoids are placed in algae as well as in protzoa.
- (vii) Why Kingdom Protista is regarded as a polyphyletic group of organisms?
- (viii) Write two characteristics of apicomplexans. (ix) Mention two changes in chest cavity that cause expiration.
- (x) Differentiate the bronchi and bronchioles. (xi) What are lymph nodes? Give their function.
- (xii) How systolic pressure differs from diastolic pressure?

4. Answer briefly any Six parts from the followings:-

 $6 \times 2 = 12$

- (i) Define reverse transcriptase enzyme. Also give its function.
- (ii) Differentiate Lag phase and log phase. (iii) Give the scientific name of tomato.
- (iv) How microsporophylls are different from megasporophylls?
- (v) Draw the labeled diagram of prothallus (Adiantum)
- (vi) Write the names of four extinct earliest vascular plants.
- (vii) What is gastrovascular cavity? Give an example.
- (viii) Draw labelled diagram of large intestine of man.
- (ix) What do you know about "Hunger Pangs".

Section ----- II

Note: Attempt any three questions.

 $(8 \times 3 = 24)$

5. (a) Describe role of biology in protection and conservation of environment.
- (b) What is photorespiration? Give its consequences.
6. (a) Write an essay on Acylglycerols.
- (b) Discuss economic gains due to fungi.
7. (a) What is the chemical composition of plasma membrane? Discuss the structure of plasma membrane.
- (b) Discuss/write a note on two methods of nutrition in plants.
8. (a) Explain symptoms, causes, spread and preventions of the AIDS.
- (b) "Transpiration is a necessary evil" justify the statement.
9. (a) Describe different physical and chemical methods to control bacteria.
- (b) Give the diagrammatic representation of non-cyclic electron flow in photosynthesis.

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(Inter Part - I)

(Session 2020-22 to 2023-25)

Sig. of Student _____

Biology (Objective)

(Group 2nd)

Paper (I)

Time Allowed:- 20 minutes

PAPER CODE 2468

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

1) $CO_2 + H_2O \longrightarrow H_2CO_3 \longrightarrow HCO_3^- + H^+$ An above reaction occurs at:
 (A) Lungs level ● (B) Alveolar Sac (C) Bronchiole level (D) Tissue level

2) If cell has + 600 kPa pressure potential (Ψ_p) and -800 kPa water potential (Ψ_w). Then what would be its osmotic potential (Ψ_s).
 (A) -600 kPa (B) 800 kPa (C) -1400 kPa ● (D) -200 kPa

3) Which of the following cells function as multisensory hydraulic valves?
 (A) Epidermal cells (B) Mesophyll cells (C) Cortex cells (D) Guard cells ●

4) In which of the following era, Mammals became dominant:
 (A) Proterozoic era (B) Cenozoic era ● (C) Mesozoic era (D) Palaeozoic era

5) How many water molecules will be released to produce tripeptides?
 (A) Two ● (B) One (C) Three (D) Four

6) Activated enzyme consisting of polypeptide chain and a co-factor is known as:
 (A) Apoenzyme (B) Co-enzyme (C) Prosthetic group (D) Holoenzyme ●

7) A crista is chemically composed of:
 (A) Nucleoprotein (B) Glycolipids (C) Ribonucleoprotein (D) Lipoprotein ●

8) Influenza virus is:
 (A) RNA and ● Enveloped (B) DNA and Enveloped (C) RNA and non-Enveloped (D) DNA and non-Enveloped

9) Discoloration of teeth is caused by
 (A) Pencillin (B) Ampicillin (C) Tetracycline ● (D) Streptomycin

10) All Algae form flagellated motile cells in their life cycle except:
 (A) Brown Algae (B) Green Algae (C) Red Algae ● (D) Diatoms

11) Fungi have chitin, a chemical found in external skeleton of:
 (A) Annelids (B) Molluscs (C) Nematodes (D) Arthropods ●

12) An egg containing female gametophyte in plants is called:
 (A) Embryo Sac ● (B) Ovule (C) Seed (D) Embryo

13) Members of which phylum are asymmetrical?
 (A) Cnidaria (B) Porifera ● (C) Nematoda (D) Annelida

14) Which of the following vertebrates are hermaphrodite?
 (A) Hag fishes ● (B) Lampreys (C) Trout (D) Shark

15) In Alcoholic fermentation, Acetaldehyde is reduced to ethanol by:
 (A) $FADH_2$ (B) $NADPH+H^+$ (C) FAD^+ (D) $NADH+H^+$ ●

16) How many number of ATP molecules are required to generate one mole of Triose sugar?
 (A) 9 ATP ● (B) 6 ATP (C) 12 ATP (D) 18 ATP

17) Deficiency of which element causes stunted growth of roots?
 (A) Nitrogen (B) Phosphorous ● (C) Magnesium (D) Nitrogen and Phosphorous

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Biology (Subjective) (Session 2020-22 to 2023-25) (Group 2nd) Paper (I)

Time Allowed: 2.40 hours

(Inter Part - I)

Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) Differentiate between nucleotide and nucleoside.
- (ii) What is induced fit model? Who proposed it?
- (iii) Why pepsin is produced in its inactive form called pepsinogen?
- (iv) Define enzyme-substrate complex. (v) Give names of four plant diseases caused by fungi.
- (vi) Name key mutualistic symbiotic associations of fungi.
- (vii) Differentiate the Ostia and Osculum. (viii) Give two fundamental characters of chordates.
- (ix) Give the function of mantle and redula in mollusks.
- (x) What are running birds? Quote two examples. (xi) What is Rubisco? Give its function?
- (xii) What are accessory pigments? State their role.

3. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) What is Bioremediation? Give one example. (ii) What is meant by Integrated disease management?
- (iii) Differentiate the phagocytosis and Pinocytosis. (iv) What are storage diseases? Give two examples.
- (v) How Algae (Plant-Like Protists) differ from plants? (vi) Write down importance of Chlorella.
- (vii) What are Choanoflagellates? Give their evolutionary link with sponges.
- (viii) Basically the kingdom Protista is defined by exclusion. How?
- (ix) Write four properties of Respiratory Surface. (x) How Respiratory Distress syndrome is caused?
- (xi) Differentiate the Thrombous formation and embolus.
- (xii) How vasodilation and vasoconstriction regulate blood flow?

4. Answer briefly any Six parts from the followings:- $6 \times 2 = 12$

- (i) Fungi and animals are heterotrophs but place in separate Kingdoms. Why?
- (ii) What do you know about bacilli bacteria? Give an example.
- (iii) What is the importance of alternation of generation?
- (iv) Why anthoceropsida is considered advanced than any other bryophytes?
- (v) What is the difference between Monocots and Dicots? (vi) Compare homospory and heterospory?
- (vii) What are deficiency symptoms of Magnesium and Phosphorus in plants?
- (viii) What are obligate and facultative parasites? (ix) What is the cause of diarrhoea and constipation?

Section ----- II

Note: Attempt any three questions. pakcity.org $(8 \times 3 = 24)$

- 5. (a) What is cloning? Write down two different methods of cloning.
- (b) Discuss the factors which affect the oxygen carrying capacity of haemoglobin.
- 6. (a) What is RNA? Give its three types with their role.
- (b) Why the fungi were placed in a separate kingdom i.e., Kingdom Fungi? Explain.
- 7. (a) Compare prokaryotic with Eukaryotic cell.
- (b) Write the structure and functions of stomach by drawing its labeled sketch.
- 8. (a) Discuss Hepatitis in detail.
- (b) Describe cohesion-tension theory of water movement in xylem, which supplies cohesion and what is the source of tension? How does these forces interact to move water through plants.
- 9. (a) Describe Nutrition in bacteria.
- (b) What is chemiosmosis? Describe cyclic phosphorylation by sketching it.

Sargodha Board-2023

1123 Warning:- Please write your Roll No. in the space provided and sign. Roll No-----
(Inter Part - I) (Session 2019-21 to 2022-24) Sig. of Student -----

Biology (Objective)

Group 1

Paper (I)

Time Allowed:- 20 minutes

PAPER CODE 2463

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1



1) Bacteria divide at exponential rate during the phase:
(A) Decline (B) Stationary (C) Log (D) Lag

2) Cenozoic is the era of:-
(A) Fishes (B) Amphibians (C) Reptiles (D) Mammals

3) In animals fatty acids are:
(A) Branched Chain (B) Straight Chain (C) Ringed Chain (D) Ringed and branched Chain

4) Which one is essential material for co-enzyme:
(A) Vitamins (B) Lipids (C) Proteins (D) Carbohydrates

5) Omnis cellula-e-cellula was hypothesized by:
(A) Weismann (B) Oken (C) Virchow (D) Lamarack

6) About 60% of Adults are immune to disease:
(A) Measles (B) Mumps (C) Influenza (D) Polio

7) Algae which take part in building coral reefs alongwith coral animals are:
(A) Green algae (B) Brown algae (C) Red algae (D) Blue green algae

8) The protective membrane of human heart is:
(A) Epicardium (B) Endocardium (C) Myocardium (D) Pericardium

9) Citric acid is obtained from the species of:
(A) Penicillium (B) Aspergillus (C) Saccharomyces (D) Neurospora

10) The ovule of the angiosperm can be called:
(A) An integumented (B) Megasporangium (C) Microsporangium (D) Mega gametangius

11) The larva of echinoderms is called:
(A) Planaria (B) Bipinnaria (C) Valiger (D) Trochophore

12) Mammals had evolved from reptilian ancestor:
(A) Brontosaurus (B) Ichthyosaurus (C) Cotylosaurs (D) Varanope

13) During photorespiration glycine is converted into serine in organelle
(A) Peroxisome (B) Ribosomes (C) Chloroplast (D) Mitochondria

14) Chlorophyll do not reflect:
(A) Green wavelength (B) Blue wavelength (C) Indigo wavelength (D) Yellow wavelength

15) During Kreb's cycle succinate is converted into:
(A) Fumarate (B) Malate (C) Oxaloacetate (D) Citrate

16) The volume of blood in a body weight of 60 kgs is:
(A) 8 litres (B) 7 litres (C) 6 litres (D) 5 litres

17) Sarracenia pupurea is a scientific name of:
(A) Pitcher Plant (B) Venus fly trap (C) Sundew (D) Leguminous plant

1129 -- 1123 -- 11000 (2)

Sargodha Board-2023

1123 Warning:- Please, do not write anything on this question paper except your Roll No.

Biology (Subjective) (Session 2019-21 to 2022-24)

Paper (I)

Time Allowed: 2.40 hours

(Inter Part - I) Group 1

Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) Write down structural Formula of Butyric acid. (ii) What is the role of metal ions with enzymes?
- (iii) How substrate concentration affect the rate of enzyme action?
- (iv) Differentiate irreversible inhibitors from reversible inhibitors.
- (v) Define mychorhiza along with its kinds.
- (vi) How biologists classify fungi imperfecti now a days?
- (vii) What is the difference between ostia and osculum? (viii) What is unique in the female of Eagle?
- (ix) Which group is considered as first amniotic group give two characters of them?
- (x) Write down two basic characters of chordates. (xi) Define chemiosmosis.
- (xii) How Rubisco is regenerated?

3. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) Biological organization is not simple. Coment on it.
- (ii) How essentiality of a certain nutrient for plant is checked in complex medium of soil.
- (iii) How the material of cell is recycled and renewed by Lysosomes?
- (iv) How magnification of microscope is determined?
- (v) Kingdom Protista is called Kingdom of exclusion. Why?
- (vi) How chalk is formed? (vii) Algae differ from plants. Why?
- (viii) Green algae and plants form a monophyletic lineage. Coment it.
- (ix) How bryophytes are precisely defined. (x) What are paraphyses?
- (xi) Define apoplast pathway. Why it becomes discontinuous. (xii) What are hydathodes.

4. Answer briefly any Six parts from the followings:-

$6 \times 2 = 12$

- (i) What are obligate intracellular parasites? Give their example?
- (ii) Differentiate b/w Trichome and filament? (iii) In what way fluid feeder feeds?
- (iv) How prey and predator interaction is helpful in maintaining the ecosystem?
- (v) How the crop differ from gizzard?
- (vi) Suggest various disadvantages of water for ventilation?
- (vii) Explain the process of exhalation and Inhalation?
- (viii) In what way pleura and diaphragm protect the lungs?
- (ix) What factors are involved in the transport of Respiratory Gases?

Section ----- II

Note: Attempt any three questions.

$(8 \times 3 = 24)$

- 5. (a) Define Phyletic Lineage, explain its importance.
(b) Discuss various factors that affect the rate of Transpiration.
- 6. (a) Differentiate between DNA and RNA .
(b) Give different modes of asexual reproduction in fungi.
- 7. (a) Explain the Nutrition in Bacteria.
(b) Why bryophytes are called ' Amphibious plants'? Discuss their general characteristics.
- 8. (a) Write down biological classification of Corn?
(b) Draw outline of Krebs cycle.
- 9. (a) Describe at least four main differences between Prokaryotic cell & Eukaryotic cell.
(b) Describe parasitic & symbiotic nutrition in plants.

1130 -- 1123 -- 11000

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Sargodha Board-2023

1123 Warning:- Please write your Roll No. in the space provided and sign. Roll No-----
 (Inter Part – I) (Session 2019-21 to 2022-24) Sig. of Student -----

Biology (Objective)

(Group II)

Paper (I)

Time Allowed:- 20 minutes

PAPER CODE 2468

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1



- 1) An enzyme lowers down the energy of:
 (A) Potential (B) Kinetic (C) Ionic (D) Activation
- 2) Glyoxysomes are most abundant in:
 (A) Plant seedlings (B) Pea (C) Liver cells (D) Bacteria
- 3) The number of capsomers present in Adenovirus is:
 (A) 252 (B) 154 (C) 162 (D) 175
- 4) The study of distribution of animals in nature is called
 (A) Biogeography (B) Paleontology (C) Zoogeography (D) Biodiversity
- 5) Which of the following monosaccharide represent the reducing sugar?
 (A) Starch (B) Fructose (C) Lactose (D) Maltose
- 6) Most wide spread problem for the misuse of antibiotics is:
 (A) Disturbance of (B) Immunity (C) Increase resistance in pathogens (D) Allergic reaction
- 7) Which of the following does occur for the formation of Acetyl Co A from pyruvate?
 (A) Carboxylation (B) Hydrogenation (C) Decarboxylation (D) Decarboxylation
- 8) Villi and microvilli are present in:
 (A) Large intestine (B) Esophagus (C) Ileum (D) Pharynx
- 9) Lungs are covered by double layered thin membranous Sacs called
 (A) Pericardium (B) Pleura (C) Peritoneum (D) Scrotum
- 10) Chordae tendinae are present in:
 (A) Only right atrium (B) Only left ventricle (C) Only right ventricle (D) Both ventricles
- 11) A hormone released by mesophyll cells at high temperature is called:
 (A) Acetic acid (B) Auxins (C) Ethene (D) Abscisic acid
- 12) An outer flexible covering in paramecium is called:
 (A) Pellicle (B) Cell wall (C) Cell membrane (D) Cristae
- 13) Griseofulvin is used to:
 (A) Lower blood cholesterol (B) Relieve migraine (C) Prevent Tissue rejection (D) Inhibit Fungal growth
- 14) The name Nicotiana Tobacum is given to:
 (A) Tobacco (B) Potato (C) Red pepper (D) Tomato
- 15) During development, ectoderm layer gives rise to:
 (A) Muscular system (B) Integumentary system (C) Digestive tract (D) Liver
- 16) Which of the following vertebrate is without Jaw?
 (A) Chondrichthyes (B) Trout (C) Hag fishes (D) Perch
- 17) Chlorophyll absorbs mainly wavelength
 (A) Violet-blue (B) Yellow (C) Green (D) Indigo

1129A -- 1123 -- 11000 (4)

Sargodha Board-2023

1123 Warning:- Please, do not write anything on this question paper except your Roll No.

Biology (Subjective) (Session 2019-21 to 2022-24) Paper (I)

Time Allowed: 2.40 hours (Inter Part - I) (Group II) Maximum Marks: 68
Section ----- I

2. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) Describe ionization of water. (ii) How inhibitors inhibit enzymes.
- (iii) Why only active site is used in catalysis? (iv) How pH change / alters rate of catalysis?
- (v) What is yeast? (vi) What are various types of spores found in fungi?
- (vii) What are porifers? (viii) Describe mantle?
- (ix) What type of fins are found in bony fishes? Write their function?
- (x) Define placenta? Write two characters of placental mammals.
- (xi) What do you mean by compensation point? (xii) Define anaerobic respiration.

3. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) Why is it difficult to define life? (ii) Name any four attributes of population.
- (iii) Why Fluid Mosaic Model of cell membrane is widely accepted?
- (iv) Describe Ribosomes structure of function. (v) Kingdom Protista is defined by exclusion why?
- (vi) Why ciliates differ from other protozoan? (vii) How algae differ from plants?
- (viii) Why is Plasmodial Slime mold considered as a model organism. (ix) What is paraphyses?
- (x) Write down the names of four genera of Gymnosperms. (xi) What is bleeding in plants?
- (xii) What is Cooley's Anaemia?

--(02)--

4. Answer briefly any Six parts from the followings:- $6 \times 2 = 12$

- (i) Define species. (ii) How cyst is different from spore?
- (iii) How does stomach wall is being prevent from digestion?
- (iv) Differentiate between peristalsis and Antiperistalsis.
- (v) Give name of cells of gastric gland with their secretions.
- (vi) What is photorespiration? Give its products. (vii) What is Asthma? Write down its causes.
- (viii) How does exhalation and inhalation occur in cockroach?
- (ix) In what way respiration in birds is the most efficient?

Section ----- II

Note: Attempt any three questions.

$(8 \times 3 = 24)$

- 5. (a) Discuss briefly phyletic lineage in biological organization.
(b) Explain pressure flow theory proposed by Ernst Munch in 1930.
- 6. (a) What do you know about the structure of Nucleic Acids?
(b) Write a comprehensive note on the sexual reproduction in Fungi.
- 7. (a) Discuss growth and reproduction in Bacteria.
(b) Describe life cycle of an angiospermic plant.
- 8. (a) Describe the infection cycle of HIV?
(b) What are photosynthetic pigments? Discuss their role in the photosynthesis?
- 9. (a) Discuss Fluid Mosaic Model of Plasma Membrane. (b) Explain Digestion in Cockroach.

1130A -- 1123 -- 11000

1122 Warning:- Please write your Roll No. in the space provided and sign. Roll No _____
 (Inter Part - I) (Session 2018-20 to 2021-23) Sig. of Student _____

Biology (Objective)

Time Allowed:- 20 minutes

PAPER CODE 2461

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write PAPER CODE, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

- 1) The geological period starting from 225 million years ago is
 (A) Jurasic (B) Permian (C) Triassic (D) Sillurian
- 2) Biologically the most common hexose is
 (A) Fructose (B) Glucose (C) Galactose (D) Mannose
- 3) The optimum pH for Pancreatic Lipase is
 (A) 3 (B) 6 (C) 9 (D) 12
- 4) The outer surface of cisternae of Golgi complex is
 (A) Concave (B) Convex (C) Flattened (D) Round
- 5) About 60% of Adults are immune to
 (A) Measels (B) Small Pox (C) Rubella (D) Mumps
- 6) Many species of cyanobacteria form
 (A) Water Blooms (B) Algal Blooms (C) Blooms (D) Fungal Blooms
- 7) The giant amoeba obtain energy from
 (A) Virus (B) Cyanobacteria (C) Bacteria (D) E.Coli
- 8) The Lichens are Bio indicators of
 (A) Pollution (B) Soil Pollution (C) Water Pollution (D) Air Pollution
- 9) The arrangement of leaves in Lycopods is
 (A) Spiral (B) Alternate (C) Solitary (D) Upper and Lower
- 10) Pheritima posthumia is the zoological name of
 (A) Nerries (B) Earthworm (C) Leech (D) Chaetopterus
- 11) Bilateral symmetry in animals is best correlated with
 (A) Diploblastic (B) Triploblastic (C) No tissues (D) Porous
 is needed
- 12) For Chloroplast to produce Sugar from CO_2 in dark reaction
 (A) ADP (B) NAD (C) NADP (D) ATP
- 13) Which redox process is endergonic
 (A) Photosynthesis (B) Respiration (C) Glycolysis (D) Krebs cycle
- 14) Hepatic and Pancreatic secretions are stimulated by
 (A) Gastrin (B) Pepsin (C) Secretin (D) Amylase
- 15) Human lungs are _____ in nature
 (A) Waxy (B) Spongy (C) Fluffy (D) Wavy
- 16) How Sugars are transported in plant cells?
 (A) By Sieve (B) By Sieve Pipes (C) By Sieve elements (D) By Sieve Compounds
- 17) Disruptions of Control system of the heart leads to
 (A) Hypertension (B) Heart attack (C) Stroke (D) Haemorrhage

1125 -- 1122 -- 25000 (1)

Sargodha Board-2022

1122 Warning:- Please, do not write anything on this question paper except your Roll No.
Biology (Subjective) (Session 2018-20 to 2021-23) Paper (I)
Time Allowed: 2.40 hours (Inter Part - I) Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) Why glycerol is important for the Synthesis of triglycerides?
- (ii) Why in human body vitamins are required in small quantity?
- (iii) Why apoenzyme is non-functional? (iv) Why without enzymes life is impossible?
- (v) What is histoplasmosis? (vi) Differentiate between plasmogamy and karyogamy.
- (vii) What is Swim bladder. In which fishes it is found? (viii) What are urochordates?
- (ix) Enlist three basic characteristics of chordates. (x) What is metamorphosis?
- (xi) What is lactic acid fermentation? (xii) What is chemiosmosis?

3. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

- (i) How does theory differ from law? (ii) Define the term species with example.
- (iii) How is centriole important for cell? (iv) Why name peroxisome was applied for this organelle?
- (v) Write importance of Algae. (vi) What are Actinopods? Give example.
- (vii) How do Red Algae play important role in marine environment?
- (viii) Why do biologist regard protists kingdom as polyphyletic group?
- (ix) What are Sori? (x) Differentiate between Antheridium and Archegonium.
- (xi) How heart sound is produced?
- (xii) Differentiate between closed and open blood circulatory system.

4. Answer briefly any Six parts from the followings:- $6 \times 2 = 12$

- (i) In which state phage is called prophage. (ii) What are Pili, Write their function.
- (iii) Differentiate b/w Facultative and obligate parasite. (iv) Write the ingredients of Saliva.
- (v) What is botulism and its cause. (vi) Why the larynx is called voice box.
- (vii) Why respiratory system in birds is more efficient and elaborate.
- (viii) Why the person suffering from emphysema becomes breathless and exhausted even at least exertion.
- (ix) Name the process by which oxygen passes from an alveolus in the lungs into the blood.

Section ----- II

Note:- Attempt any three questions.

$(8 \times 3 = 24)$

- 5. (a) To control diseases, how biology has played its role through vaccination and treatment?
(b) Discuss blood plasma in detail?
- 6. (a) Explain the primary structure of protein with example of insulin and haemoglobin.
(b) Write down different methods of A Sexual reproduction in fungi.
- 7. (a) Compare photosynthesis in eubacteria and cyanobacteria with special reference to oxygenic photosynthesis in cyanobacteria.
(b) Relate heterospory and modification of megasporangium with adoption of seed habit in spermatophytes.
- 8. (a) Discuss Biological journey from two to five kingdom classification system.
(b) Sketch Non-cyclic phosphorylation with energy yielding steps.
- 9. (a) What are plastids? Write their three types in detail?
(b) Give role of liver and pancreas in digestion.

1126 -- 1122 -- 25000

Sargodha Board-2019

1119 Warning:- Please write your Roll No. in the space provided and sign. Roll No. _____
(Inter Part - I) (Session 2015-17 to 2018-20) Sig. of Student _____

Biology (Objective)

Paper (I)

Time Allowed:- 20 minutes

PAPER CODE 2465

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write PAPER CODE, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

- 1) Lenticels are aerating pores formed in the
(A) Bark (B) Epidermis (C) Endodermis (D) Pericycle
- 2) Open circulatory system is present in
(A) Man (B) Cockroach (C) Earthworm (D) Leach
- 3) Internal morphology is also called.
(A) Physiology (B) Anatomy (C) Histology (D) Palaeontology
- 4) How much is energy used for synthesis of 10 g glucose?
(A) 517.6 Kcal (B) 617.6 Kcal (C) 717.6 Kcal (D) 817.6 Kcal
- 5) The enzymes which are involved in protein synthesis are integral part of
(A) Chromosomes (B) Peroxisomes (C) Lysosomes (D) Ribosomes
- 6) Harmful substances are detoxified in the liver cells by
(A) Mitochondria (B) Endoplasmic reticulum (C) Golgi complex (D) Nucleolus
- 7) Capsomers are subunits which form capsid of a virion. These capsomeres are chemically
(A) Lipids (B) Nucleic acids (C) Carbohydrates (D) Proteins
- 8) When cocci divide in three planes and form cube of '8' then they are called
(A) Sarcina (B) Tetrad (C) Diplococci (D) Streptococci
- 9) Pelomyxa Palustris is commonly called
(A) Entamoeba (B) Trypanosoma (C) Trichonympha (D) Giant amoeba
- 10) Some fungi are used to control environmental pollution, the process is called
(A) Biological control (B) Fungal culture (C) Bioremediation (D) Hydroponic
- 11) After fertilization ovule is changed into
(A) Ovary (B) Seed (C) Fruit (D) Flower
- 12) Dugesia is a free-living flatworm with a ciliated outer surface. It is commonly called.
(A) Tape worm (B) Liver fluke (C) Blood fluke (D) Planaria
- 13) Ancient fish that have developed lungs are called
(A) Dipnoi (B) Asterias (C) Thaliacea (D) Leptocardii
- 14) Dark reactions of photosynthesis occur in which part of chloroplast?
(A) Inner membrane (B) Grana (C) Intergrana (D) Stroma
- 15) In the absence of oxygen, yeast cells obtain energy by fermentation, producing CO_2 , ATP and
(A) Acetyl-Co-A (B) Ethanol (C) Lactate (D) Pyruvate
- 16) Which of the following is a parasitic plant?
(A) Drosera (B) Dionea (C) Cuscuta (D) Sarracenia
- 17) During breathing no stale of air remains in the lungs of
(A) Mammals (B) Amphibian (C) Birds (D) Reptiles

Sargodha Board-2019

1119 **Warning** Please, do not write anything on this question paper except your Roll No.

Biology (Subjective) (Session 2015-17 to 2018-20)

Paper (I)

Time Allowed: 2.40 hours

(Inter Part - I)

Maximum Marks: 68

Section ----- I

Answer briefly any Eight parts from the followings.

$8 \times 2 = 16$

- i) Differentiate between amyloses and amylopectins.
- ii) How prosthetic group is different from co-enzyme. (iii) Define co-factor and activator.
- v) What is lock and key model of enzyme?
- v) What is hypha? How unseptate hyphae are advantageous?
- v) How composition of fungus cell wall is advantageous to fungi?
- ii) Define radial symmetry and bilateral symmetry. (viii) Give two characters of deuterosomes.
- x) Define mesoglea and spongocoel. (x) Differentiate between infestation and disinfection.
- i) Mention two differences between photosynthesis and respiration.
- ii) How chlorophyll 'a' is different from chlorophyll 'b'?

Answer briefly any Eight parts from the followings:-

$8 \times 2 = 16$

Define parasitology. (ii) What is community. Give two interactions among organisms of a community.

-) Define cell theory. Give its salient features. (iv) Write function of cytoplasm.
-) Differentiate between Actinopods and Foraminiferans.
-) Why it is generally accepted that plants arose from ancestral green algae.
- i) Write symptoms of Malaria and their cause.
- ii) Name one Zooflagellate that lives as symbiont and other as parasite causing disease.
-) Differentiate between microphyll and megaphyll.

What are arthropophytes. Why they are called so.

-) What are Platelets. Give their functions. (xii) How heart sound is produced.

Answer briefly any Six parts from the followings:-

$6 \times 2 = 12$

Define virology. (ii) Differentiate between Lag and Log phase. (iii) What is peristalsis?

-) What is bolus? (v) What is botulism, give its cause and symptoms.
-) What are the causes of asthma.
-) Give carbon dioxide concentration in arterial and venous blood.
- i) What is myoglobin? Give its role. (ix) What are bronchi and bronchioles.

Section ----- II

ie: Attempt any three questions.

$(8 \times 3 = 24)$

- (a) Discuss importance of Biology in the field of food production.
- (b) Define immunity? What are its various types?
- (a) Describe importance of carbon in the skeleton of life.
- (b) Write a note on Ascomycota.
- (a) Describe growth and reproduction in bacteria.
- (b) Give economic importance of family Poaceae.
- (a) Write a detailed note on different types of hepatitis.
- (b) Describe the non-cyclic photophosphorylation.
- (a) Give structure and function of nucleus.
- (b) Describe ingestion, digestion absorption and egestion in hydra.

1196.. 1119 -- 16500

Sargodha Board-2018

1118 Warning:- Please write your Roll No. in the space provided and sign. Roll No-----
(Inter Part - I) (Session 2015-17 to 2017-19) Sig. of Student -----
Biology (Objective) **Paper (I)**

Time Allowed:- 20 minutes

PAPER CODE 2463

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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write PAPER CODE, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

- 1) Antibodies are produced from
(A) Eosinophils (B) Basophils (C) Monocytes (D) Lymphocytes
- 2) The number of species of insects are
(A) 22.5 % (B) 17.6 % (C) 15.5 % (D) 53.1 %
- 3) Glycogen gives colour with iodine
(A) Black (B) Red (C) Blue (D) Green
- 4) The optimum pH for sucrase enzyme is
(A) 4.50 (B) 5.10 (C) 4.90 (D) 4.83
- 5) A group of ribosomes attached to mRNA is called
(A) Nucleosome (B) Polysome (C) Peroxisome (D) Cytosome
- 6) Solanum melangena is scientific name for
(A) Onion (B) Potato (C) Brinjal (D) Tomato
- 7) A cube of 8 cocci is termed as
(A) Tetrad (B) Sarcina (C) Streptococcus (D) Diplococcus
- 8) The protozoans having two kinds of nuclei are
(A) Amoeba (B) Zooflagellates (C) Ciliates (D) Actinopods
- 9) Parmelia is an example of
(A) Fruticose lichen (B) Foliose lichen (C) Crustose lichen (D) Moss lichen
- 10) Whisk ferns belong to sub-division.
(A) Lycopsida (B) Pteropsida (C) Sphenopsida (D) Psilopsida
- 11) Mammals became dominant in a period.
(A) Devonian (B) Silurian (C) Coenozoic (D) Jurassic
- 12) Only left aortic arch is present in
(A) Birds (B) Cockroach (C) Crow (D) Mammals
- 13) The dark reaction for photosynthesis occurs in
(A) Chloroplast (B) Stroma (C) Grana (D) Cytoplasm
- 14) In respiratory chain NADH is oxidized by
(A) Coenzyme Q (B) Cytochrome b (C) Cytochrome a (D) Cyto a_3
- 15) pH of fresh saliva of human is about
(A) 6 (B) 7 (C) 8 (D) 9
- 16) Number of spiracles in cockroach is
(A) 8 (B) 7 (C) 9 (D) 10
- 17) Cuticular transpiration takes place at
(A) Night (B) Morning (C) Evening (D) Noon

Sargodha Board-2018

Warning:- Please, do not write anything on this question paper except your Roll No.

Biology (Subjective) (Session 2015-17 to 2017-19)

Paper (I)

Time Allowed: 2.40 hours **(Inter Part - I)**

Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

(i) What is Hydroponic culture technique? Give its use.
(ii) What is Bioremediation? Give example. (iii) Define Species.
(iv) Differentiate between Apoenzymes and Holoenzymes.
(v) What are enzymes? Give their importance. (vi) What are enzyme inhibitors? Give their example.
(vii) Differentiate between endomycorrhizae and ectomycorrhizae.
(viii) What are Lichens? Give their importance. (ix) Differentiate between spiral and Radial cleavage.
(x) Give importance of Sponges. (xi) What is Placenta? Write down its function.
(xii) What is swim bladder? Give its function.

3. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$

(i) Differentiate between Eubacteria and Archaeobacteria.
(ii) Define Foraminiferans. Give their importance.
(iii) What are water molds or oomycotes? (iv) What are Chlorophytes? Give example.
(v) What is Trypanosoma? Name the disease caused by it.
(vi) Define Alternation of generation. (vii) What are paraphyses?
(viii) Define Bioenergetics. (ix) What are Bacteriochlorophylls?
(x) Define Symbiotic Nutrition with example. (xi) What are Macrophagous Feeders?
(xii) Differentiate between obligate and Facultative Parasites.

4. Answer briefly any Six parts from the followings:- $6 \times 2 = 12$

(i) What is division of labour? (ii) What is role of centriole?
(iii) What are nucleohistones? (iv) Give role of respiratory pigments.
(v) What are spiracles? Give total number of spiracles in cockroach.
(vi) Give composition of inhaled and exhaled air. (vii) What are alveoli? Give their function.
(viii) How stomata open? Give one method? (ix) Define ECG.

Section ----- II

Note: Attempt any three questions.

$(8 \times 3 = 24)$

5. (a) Describe biological organization at organ-system level.
(b) Discuss lymphatic system of man.

6. (a) Write a note on primary and secondary structure of proteins.
(b) Draw and label the life cycle of Rhizopus.

7. (a) Describe structure and function of chloroplast.
(b) Write down process of digestion in cockroach.

8. (a) Describe life cycles of Bacteriophages (labelled diagrams).
(b) Draw the sketch of glycolysis (No description)

9. (a) Explain physical methods of Control of bacteria.
(b) Write down the adaptations of bryophytes toward the land habitat.

1176A- 1118 -- 12000