

MTN-41-21

**BIOLOGY PAPER-I GROUP-I**

TIME ALLOWED: 20 Minutes

**OBJECTIVE**

MAXIMUM MARKS: 17

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

**Q.No.1**

- (1) The sexual process exhibited by most ciliates is called:  
 (A) Oogamy (B) Binary fission (C) Budding (D) Conjugation
- (2) Which of following is important as bioindicator of air pollution?  
 (A) Yeasts (B) Lichen (C) Rust fungi (D) Mycorrhizae
- (3) Double fertilization is the characteristic of:  
 (A) Angiosperms (B) Gymnosperms (C) Bryophytes (D) Pteridophytes
- (4) Which one of following is freshwater sponge?  
 (A) Sycon (B) Leucoselenia (C) Spongilla (D) Euplectella
- (5) Duckbill platypus belongs to subclass:  
 (A) Eutheria (B) Atheria (C) Metatheria (D) Prototheria
- (6) Photosynthetic pigments are organized into dusters, called:  
 (A) Cytochrome (B) Photosystem (C) Phytochrome (D) Chromatophores
- (7) Dark reaction takes place in:  
 (A) Stroma (B) Granum (C) Thylakoid (D) Cytoplasm
- (8) The human stomach is situated below the:  
 (A) Liver (B) Kidneys (C) Spleen (D) Diaphragm
- (9) How many polypeptide chains are present in Myoglobin?  
 (A) 1 (B) 2 (C) 3 (D) 4
- (10) The loss of water through hydathodes in leaves is called:  
 (A) Bleeding (B) Transpiration (C) Guttation (D) Imbibition
- (11) The arteries divide into smaller vessels called:  
 (A) Veins (B) Venules (C) Capillaries (D) Arterioles
- (12) Tentative explanation of observation is called:  
 (A) Deduction (B) Theory (C) Reasoning (D) Hypothesis
- (13) Human tissues contain 85% water in cells of:  
 (A) Liver (B) Blood (C) Brain (D) Bone
- (14) Enzymes involved in cellular respiration are found in:  
 (A) Mitochondria (B) Ribosomes (C) Cytoplasm (D) Nucleus
- (15) Cell wall is secreted by:  
 (A) Ribosomes (B) Lysosomes (C) Nucleoplasm (D) Protoplasm
- (16) Family include related:  
 (A) Species (B) Genera (C) Order (D) Class
- (17) Pili are made up of special proteins called:  
 (A) Flagellin (B) Tubulin (C) Pilin (D) Actin

**INTERMEDIATE PART-I (11<sup>th</sup> CLASS)****BIOLOGY PAPER-I GROUP-I MTN-41-21**

TIME ALLOWED: 2.40 Hours

**SUBJECTIVE**

MAXIMUM MARKS: 68

**NOTE: Write same question number and its part number on answer book, as given in the question paper.****SECTION-I****8 × 2 = 16****2. Attempt any eight parts.**

- (i) Write any two properties of lipid.
- (ii) Define competitive inhibitor. Give example.
- (iii) Differentiate between apoenzyme and co-enzyme.
- (iv) What are irreversible inhibitors?
- (v) Describe carnivorous fungi. Give one example.
- (vi) Define Toadstools. Give any two examples.
- (vii) Define placenta. What is its function?
- (viii) Write economic importance of sharks.
- (ix) Write some beneficial properties of insects.
- (x) Write two fundamental characters of Chordates.
- (xi) What is alcoholic-fermentation?
- (xii) Define photophosphorylation. Give its types.

**8 × 2 = 16****3. Attempt any eight parts.**

- (i) Define Parasitology and molecular biology.
- (ii) What is integrated disease management?
- (iii) What is fluid mosaic model about the structure of cell membrane?
- (iv) What are Leucoplasts? Give their function.
- (v) Write two characteristics of amoebas.
- (vi) Write two characters of slime molds.
- (vii) How fungus like protists differ from fungi?
- (viii) Define Thallus.
- (ix) Define alternation of generation.
- (x) Write two differences between monocot and dicot.
- (xi) Write briefly symplast pathway for uptake of water.
- (xii) Write briefly about blue babies.

**6 × 2 = 12****4. Attempt any six parts.**

- (i) Define species.
- (ii) What are Bacilli Bacteria? Give one example.
- (iii) Define digestion.
- (iv) What is peristalsis?
- (v) What is pyrosis?
- (vi) Why air is better respiratory medium than water? Give two reasons.
- (vii) What are vocal cords? Give their function.
- (viii) What is Pleura?
- (ix) What is asthma?

**SECTION-II****3 × 8 = 24****NOTE: Attempt any three questions.**

5.(a) How biology improved food quality and quantity for mankind? 4

(b) Define immunity and give its types in detail. 4

6.(a) Explain various aspects of importance of water. 4

(b) Describe asexual reproduction in fungi. 4

7.(a) Discuss nutrition in bacteria. 4

(b) Write a note on class gymnospermae. 4

8.(a) Describe lytic cycle of bacteriophage. 4

(b) Sketch and explain calvin cycle in plants. 4

9.(a) Write a comprehensive note on mitochondria. 4

(b) Describe structure and function of large intestine of man? 4



## BIOLOGY PAPER-I

## GROUP-II MTN-42-21

TIME ALLOWED: 20 Minutes  
MAXIMUM MARKS: 17OBJECTIVE

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

Q.No.1

- (1) If the non protein part of enzyme is covalently bonded, it is known as:  
(A) Prosthetic group (B) Co-enzyme (C) Activator (D) Binding site
- (2) Attachment of two subunits of ribosomes is controlled by:  
(A)  $K^+$  (B)  $Ca^{++}$  (C)  $Na^+$  (D)  $Mg^{++}$
- (3) Absorptive mode of nutrition is found in:  
(A) Algae (B) Fungi (C) Plants (D) Animals
- (4) When flagella surround the whole cell of bacteria, it is termed as:  
(A) Atrichous (B) Lophotrichous (C) Amphitrichous (D) Peritrichous
- (5) Kelps, the largest known algae belong to group:  
(A) Brown (B) Red (C) Green (D) Euglenoids
- (6) Lichen is symbiotic association between fungi and:  
(A) Protozoans (B) Photoautotrophs (C) Gymnosperms (D) Angiosperms
- (7) First plants that formed true leaves and roots, are:  
(A) Lycopods (B) Sphenopsida (C) Pteropsida (D) Angiosperms
- (8) Excretory structures present in annelids are:  
(A) Flame cells (B) Kidneys (C) Nephridia (D) Malpighian tubes
- (9) The pores through which water enters the body of sponges is called:  
(A) Stomata (B) Spiracles (C) Osculum (D) Ostia
- (10) Xanthophylls absorb the light:  
(A) Yellow to orange (B) Red to orange (C) Green to yellow (D) Green to orange
- (11) Photosystem I is also called as:  
(A)  $P_{680}$  (B)  $P_{700}$  (C)  $P_{780}$  (D)  $P_{660}$
- (12) Chyme enters into duodenum through sphincter:  
(A) Cardiac (B) Anal (C) Pyloric (D) Iliocolic
- (13) Above 70% of  $CO_2$  is transported in form of:  
(A)  $HCO_3^-$  (B)  $CO_3^{-2}$  (C) Carboxyhaemoglobin (D) Oxyhaemoglobin
- (14) Which light enhance the uptake of  $K^+$  in guard cells?  
(A) Red (B) Blue (C) Green (D) Violet
- (15) Immunoglobulins present in plasma play a role in:  
(A) Defense against diseases (B) Water balance (C) Transport of  $O_2$  (D) Salt balance
- (16) It is virtually an irrefutable theory:  
(A) Hypothesis (B) Deduction (C) Scientific law (D) Experiment
- (17) Percentage of DNA in a mammalian cell is:  
(A) 1% (B) 0.25% (C) 2% (D) 4%

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

**SUBJECTIVE**

**SECTION-I**

8 × 2 = 16

2. **Attempt any eight parts.**
- (i) Differentiate between purines and pyrimidines.
  - (ii) What are cofactors? Give their function in an enzyme catalysed reaction.
  - (iii) Differentiate between an activator and a prosthetic group.
  - (iv) What is a competitive inhibitor of an enzyme?
  - (v) What is nuclear mitosis?
  - (vi) What is a mycorrhizae?
  - (vii) What are pseudocoelomates?
  - (viii) Differentiate between ostium and osculum of a sponge.
  - (ix) What is radula?
  - (x) What is syrinx?
  - (xi) Write balanced equation of alcoholic fermentation.
  - (xii) What are cytochromes?

8 × 2 = 16

3. **Attempt any eight parts.**
- (i) Describe hydroponic culture technique.
  - (ii) What is fluid mosaic model of plasma membrane?
  - (iii) What do you know about autophagy?
  - (iv) Define microbiology.
  - (v) Write a short note on choanoflagellates.
  - (vi) Differentiate between micronucleus and macronucleus in ciliates.
  - (vii) What was the cause of Irish potato famine?
  - (viii) Why physarum polycephalum is a model organism?
  - (ix) What is double fertilization?
  - (x) Differentiate between gymnosperms and angiosperms.
  - (xi) Describe bleeding in plants.
  - (xii) Differentiate between open and closed circulatory systems.

6 × 2 = 12

4. **Attempt any six parts.**
- (i) Draw a labeled diagram of a bacteriophage.
  - (ii) How capsule is different from slime?
  - (iii) How Lichens are different from Mycorrhiza?
  - (iv) Give composition of Saliva and its effects.
  - (v) What is hunger pangs and its cause?
  - (vi) Mention two properties of respiratory surface.
  - (vii) Give internal structure of nasal cavity.
  - (viii) What is diaphragm? Write its function.
  - (ix) Mention changes in chest cavity that cause expiration.

**SECTION-II**

3 × 8 = 24

**NOTE:** Attempt any three questions.

- 5.(a) Discuss biological method. 4
- (b) Define cardiac cycle. Write its three distinct stages. 4
- 6.(a) Write different structures of proteins (primary and secondary). 4
- (b) Give economic losses due to fungi. 4
- 7.(a) Describe physical and chemical methods to control bacteria. 4
- (b) Write a note on evolution of leaf. 4
- 8.(a) Define hepatitis. Explain its various types. 4
- (b) Sketch respiratory electron transport chain. 4
- 9.(a) Discuss in detail structure and functions of Mitochondria. 4
- (b) Describe functions of large intestine. 4