

## BIOLOGY

## PAPER-I

## GROUP-II

MTN-42-21

TIME ALLOWED: 20 Minutes

MAXIMUM MARKS: 17

OBJECTIVE

**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
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- (2) Attachment of two subunits of ribosomes is controlled by:
 

(A) $K^+$	(B) $Ca^{++}$	(C) $Na^+$	(D) $Mg^{++}$
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- (3) Absorptive mode of nutrition is found in:
 

(A) Algae	(B) Fungi	(C) Plants	(D) Animals
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- (4) When flagella surround the whole cell of bacteria, it is termed as:
 

(A) Atrichous	(B) Lophotrichous	(C) Amphitrichous	(D) Peritrichous
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- (5) Kelps, the largest known algae belong to group:
 

(A) Brown	(B) Red	(C) Green	(D) Euglenoids
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- (6) Lichen is symbiotic association between fungi and:
 

(A) Protozoans	(B) Photoautotrophs	(C) Gymnosperms	(D) Angiosperms
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- (7) First plants that formed true leaves and roots, are:
 

(A) Lycopods	(B) Sphenopsida	(C) Pteropsida	(D) Angiosperms
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- (8) Excretory structures present in annelids are:
 

(A) Flame cells	(B) Kidneys	(C) Nephridia	(D) Malpighian tubes
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- (9) The pores through which water enters the body of sponges is called:
 

(A) Stomata	(B) Spiracles	(C) Osculum	(D) Ostia
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- (10) Xanthophylls absorb the light:
 

(A) Yellow to orange	(B) Red to orange	(C) Green to yellow	(D) Green to orange
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- (11) Photosystem I is also called as:
 

(A) $P_{680}$	(B) $P_{700}$	(C) $P_{780}$	(D) $P_{660}$
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- (12) Chyme enters into duodenum through sphincter:
 

(A) Cardiac	(B) Anal	(C) Pyloric	(D) Iliocolic
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- (13) Above 70% of  $CO_2$  is transported in form of:
 

(A) $HCO_3^-$	(B) $CO_3^{2-}$	(C) Carboxyhaemoglobin	(D) Oxyhaemoglobin
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- (14) Which light enhance the uptake of  $K^+$  in guard cells?
 

(A) Red	(B) Blue	(C) Green	(D) Violet
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- (15) Immunoglobulins present in plasma play a role in:
 

(A) Defense against diseases	(B) Water balance	(C) Transport of $O_2$	(D) Salt balance
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- (16) It is virtually an irrefutable theory:
 

(A) Hypothesis	(B) Deduction	(C) Scientific law	(D) Experiment
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- (17) Percentage of DNA in a mammalian cell is:
 

(A) 1 %	(B) 0.25 %	(C) 2 %	(D) 4 %
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**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