

MODEL PAPER BIOLOGY CLASS XI

NOTE: Attempt all questions of Section-A by filling the corresponding bubble on the **MCQs RESPONSE SHEET**. It is mandatory to return the attempted MCQs sheet to the Superintendent within given time

SECTION –A

Time: 20 Minutes

Marks: 18

1. Which of the following ions are required to attach the two sub units of ribosomes?
A. Mg⁺⁺ B. Ca⁺⁺ C. Fe⁺⁺ D. Zn⁺⁺
2. Tay-Sach's disease is involved in the catabolism of lipids. The gradual increase of lipids in brain cells lead to:
A. Mental retardation
B. Improve vision
C. Skin rashes
D. Increase appetite
3. Haemoglobin is an oxygen carrying protein in the red blood cell which consists of:
A. Two polypeptide chains
B. Three polypeptide chains
C. Four polypeptide chains
D. Five polypeptide chains
4. Which of the following base pair is responsible for providing more stability to the DNA double helix due to having three hydrogen bonds instead of two?
A. Adenine - Thymine
B. Cytosine – Guanine
C. Adenine – Uracil
D. Thymine – Cytosine

5. In feedback inhibition the end product of a metabolic pathway acts on which part of the pathway?
- A. The substrate that starts the pathway
 - B. The first enzyme in the pathway
 - C. An intermediate enzyme in the pathway
 - D. The last enzyme in the pathway
6. Carotenoids absorb light and transfer light energy to:
- A. Chlorophyll a
 - B. Chlorophyll b
 - C. Chlorophyll c
 - D. Chlorophyll d
7. The final electron acceptors at the end of the electron transport chain is:
- A. NADH
 - B. FADH₂
 - C. Oxygen
 - D. Coenzyme
8. Animal viruses are parasites of animals and human beings causing diseases in them. Which one of the following disease in human is caused by animal virus?
- A. Small pox
 - B. Cholera
 - C. Pneumonia
 - D. Tuberculosis
9. During the Gram staining process Gram-positive bacteria stain purple due to which of the following dye?
- A. Crystal violet
 - B. Safranin
 - C. Methylene blue

D. Carbol fuchsin

10. Which of the following is primary benefit of bacterial flora in the human gut?
- A. Production of glucose
 - B. Production of vitamins
 - C. Production of proteins
 - D. Production of lipids
11. Which of the following edible fungi is used as a nutritional supplement due to about 50% of protein?
- A. Yeast
 - B. Pencillium
 - C. Aspergillus
 - D. Puccinia
12. Rocks are broken down into simple soil constituents through the chemical and physical action of:
- A. Gymnosperms
 - B. Angiosperms
 - C. Algae
 - D. Bryophytes
13. Members of which of the following class of vertebrates have dry scaly skin?
- A. Amphibians
 - B. Mammals
 - C. Birds
 - D. Reptiles

14. Which of the following phloem cells are perforated and responsible for translocation of organic solutes?
- A. Sieve tube cells
 - B. Companion cells
 - C. Phloem parenchyma
 - D. Phloem sclerenchyma
- 15 The pigment promotes flowering in long day plants and inhibits in short day plants is:
- A. Pr.
 - B. Pfr.
 - C. Chlorophyll a
 - D. Chlorophyll b
- 16 The bacteria which plays an important role in causing gastric ulcers is:
- A. Escherichia coli
 - B. Salmonella
 - C. Staphylococci
 - D Helicobacter pylori
17. During ventricular systole blood is ejected to Aorta and
- A. pulmonary vein.
 - B. pulmonary artery.
 - C. subclavian vein.
 - D. subclavian artery.
18. Autoimmune disorder that cause inflammation of spine is:
- A. Lupus
 - B. Scleroderma
 - C. Ankylosing spondylitis
 - D. Juvenile dermatomyositis

SECTION-B

Time: 2 Hours 40 Minutes

Marks: 40

1. Attempt any **TEN** of the following short questions. Each question carries 4 marks.
 - i. Briefly describe Golgi bodies with respect to its structure and functions.
 - ii. Explain structure of RNA with the help of diagram.
 - iii. Competitive and non-competitive inhibitors are two kinds of inhibitors. How these inhibitors are different from each other?
 - iv. Relate visible spectrum to the absorption spectra of photosynthetic pigments.
 - v. Write any **FOUR** control measures against the transmission of HIV.
 - vi. List **FOUR** chemical methods to control harmful bacteria.
 - vii. Briefly explain the role played by fungi and algae in lichens.
 - viii. How racemose inflorescence is different from cymose inflorescence with reference to flower position?
 - ix. Differentiate between acoelomate and pseudocoelomate. Give **ONE** example of each.
 - x. Briefly explain how annual are formed?
 - xi. Write down the role of parietal cells in the structure of stomach.
 - xii. Define cardiac cycle and briefly explain phases of heart beat.
 - xiii. Draw a diagram showing antibody mediated immune response.

SECTION-C

Marks: 27

NOTE: Attempt any **THREE** of the following questions. Each question carries 9 marks.

- 2-
 - i Describe cytoskeleton with reference to the discovery, structure, chemical composition and functions. (4)
 - ii. Write down **FOUR** characteristics of monosaccharaides and also classify monosaccharaides on the basis of number of carbon atoms. (5)

- 3-
 - i. Write FOUR comparison between Lock and Key Hypothesis and Induced Fit Hypothesis. (4)
 - ii. Write down the causes, symptoms and preventive measures of bacterial wilt in plants. (1+2+2)
4.
 - i. Define photorespiration and also write THREE steps involved in photorespiration. (4)
 - ii. Write any FIVE general characters of animals. (5)
- 5
 - i. Justify the role of stomata in gaseous exchange and transpiration. (5)
 - ii. What is atherosclerosis? Write down the factors that cause atherosclerosis. (4)