

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

Answers may be given either in English or in Bengali but all answers must be in one and the same language.

Group A
(Objective type)

1. Answer any ten questions:-

4x10

- Why only female mosquitos imbibe blood?
- Mention the components of cytoskeleton structure.
- Mention the role of the lysosome in apoptosis?
- Distinguish between plasmid and cosmid.
- What do you mean by Iodine Deficiency Disorder (IDD)?
- Distinguish between estrous cycle and menstrual cycle.
- What are the factors which influence on nerve impulse propagation?
- State the principle of TLC?
- Enumerate the role of prothoracic gland in insect.
- Mention different steps of in vitro fertilization.
- Elaborate the significance of Hardy-Weinberg equilibrium.
- Distinguish between Batesian and Mullerian mimicry with example.
- State the principle of Polyculture of fish?
- Mention the principle of vaccination.
- What is Unit membrane model of Robertson?
- State the functional significance of cytoplasmic matrix?

Group B

Answer any four questions

- Comment on the ultra structure of ribosome and enumerate its role as a protein factory. Distinguish between rough and smooth endoplasmic reticulum. 9+7+4=20
- Enumerate the reasons for Mendel's success? Define pleiotropic gene and lethal gene. Describe the chemical composition of eukaryotic chromosome. How aging is related with chromosomal length? 4+5+6+5=20
- Elaborate the genetic balance theory of sex determination. Describe the method of diagnosis of Thalassemia. Discuss the characteristic features of Down syndrome. 6+10+4=20
- What are the cell cycle check points? What are the tumour suppressor genes and mention their role in the development of cancer. 10+4+6=20
- Write down the steps of biosynthesis of thyroid hormone. Describe the hormonal interplay during menstrual cycle. Distinguish between the mechanism of action of protein hormones and steroid hormones. 6+10+4=20

7. State the principle of RAPD and RFLP. Explain how osmo-regulation takes place in migratory fishes. Mention the factors influence the propagation of nerve impulse. $(5+5)+5+5=20$

Group C

Answer any four questions

8. Describe the molecular events of fertilization in a mammal. Mention the different types of cleavage with suitable examples. $10+10=20$
9. What is Big Bang theory of origin of life? Describe Oparin-Haldane theory of origin of life. Give a flowchart of evolution of horse in time. $4+8+8=20$
10. Describe Zoogeographical realms, with example of Australian and Oriental realms. Add a note on continental drift. Write down the morphological changes of human evolution. $4+4+4+4+4=20$
11. Discuss the types of fisheries practice in India. State the Advantages of polyculture of fish. Mention the steps of induced breeding in fishery. Write down the poultry breeds in India. $4+4+8+4=20$
12. Distinguish between recrudescence and re-infection. Describe the asexual cycle of malaria parasite. Add notes on the transmission dynamics and symptoms of filaria. $4+10+6=20$
13. Describe IPM. What is the principle of vaccination? Write down the patho-physiology of Tuberculosis. What are the features of retrovirus infection? $8+4+6+2=20$
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