

FACULTY HIGHER SECONDARY SCHOOL

SAMPLE PAPER 2019

CLASS XII

BIOLOGY

FULL MARKS :70

General Instructions

1. All the questions are compulsory.
2. The question paper consist of 4 sections A,B,C and D
3. Section A contains 5 questions of 1 mark .Section B consist of 7 questions of 2 marks ,Section C has 12 questions of 3 marks and Section D has 3 questions of 5 marks
4. There is no overall choice. (.However internal choice is given one each in Section A ,B and C and all in Section D in the main paper)
5. When necessary ,the diagrams drawn should be neat and properly labelled.

SECTION A

Q1.If the chromosome number of species in meiocyte is 380, then find the number of chromosome in its gametes. Name the organism or species.

Q2. Name the source of Cyclosporin A and mention its role.

Q3.Some allergens trigger sneezing and wheezing in humam beings.What causes this type of response by the body?

Q4.Are flippers of dolphin and penguin homologous or analogous?What types of evolution has brought such similarity in them?

Q5.Give two examples of natural methods of contraceptions.

SECTION B

Q6.Mention what helps the entry of sperm into the ovum and write the changes occurring in the ovum during the process.

Q7. The flower of brinjal is referred to as chasmogamous while that of beans is cleistogamous. How are they different from each other?

Q8. Why hnRNA is required to undergo splicing?

Q9. Enlist the dominant characters related to flower and seeds of *Pisum sativum* studied by Mendel.

Q10. How do Darwin and de vries differ in their views on the mechanism of evolution of life on earth?

Q11.Tobacco smoking is associated with rise in blood pressure and emphysema .Justify

Q12. What is inbreeding depression? Why do self-pollinated crops not show the ill effects of inbreeding depression?

SECTION C

Q13. a) Pollen grains in wheat are shed at 3-celled stage while in peas they are shed 2-celled stage. Explain.

b) Where are germ pores present in a pollen grain?

Q14. Show with the help of a cross that colorblind females are rare.

Q15. Amniocentesis is banned in India. Is this ban necessary? Comment.

Q16. How is the milk production regulated by hormones in human female? Explain with reference to the structure of the mammary gland.

Q17. A woman with blood group O married a man with blood group A. Show the possible blood groups of the progeny. List the alleles involved in this inheritance.

Q18. Explain the role of ^{35}S and ^{32}P in the experiment conducted by Hershey and Chase.

Q19. The base sequence in one of the strands of DNA is TAGCATGAT

(i) Give the base sequence of its complementary strand.

(ii) How are these base pairs held together in a DNA molecule?

(iii) Explain the base complementarity rules. Name the scientist who framed this rule.

Q20. Explain the sequence of events that follows when AIDS virus attacks to cause Immune Deficiency in Human.

Q21. Anthropogenic action can hasten the evolution. Explain with the help of a suitable example.

Q22. How do Darwin's finches illustrate adaptive radiation?

Q23. a) Name the infective stage of Plasmodium which Anopheles mosquito takes in along with the blood meal from an infected human.

b) Why does the infection cause fever in human?

c) Trace the stages of Plasmodium in the body of Anopheles after its entry.

Q24. How are somaclones cultured from explants in *in vitro* conditions? Distinguish it from somatic hybrids.

SECTION D

Q25. Explain the steps involved in a polypeptide synthesis.

Q26.(a)Name the primates that lived about 15 million years ago .List their characteristic features.

(b) (i) Where was the first man-like animal found?

(ii) Write the order in which Neanderthals ,*Homo habilis* and *Homo erectus* appeared on earth.State the brain capacity of each one of them

(iii)When did *Homo sapiens* appeared on this planet?

Q27. (a) When and how does placenta develop in human female?

(b) How is the placenta connected to the embryo?

(c)Placenta acts as an endocrine gland .Explain.

*****8