Roll Number		

SET 2

INDIAN SCHOOL MUSCAT
FIRST TERM EXAMINATION
BIOLOGY

CLASS: XII SUBJECT CODE: 044 Time Allotted: 3 Hrs

09.05.2018 Max. Marks: 70

General Instructions:

(i) There are a total of 27 questions and five sections in the question paper. All questions are compulsory.

(ii) Section A contains questions number 1 to 5, Very Short Answer type questions of 1 mark each.

(iii) Section B contains questions number 6 to 12, Short Answer type I questions of 2 marks each.

(iv) Section C contains questions number 13 to 24, Short Answer type II questions of 3 marks each.

(v) Section D contains questions number 25 to 27, Long Answer type questions of 5 marks each.

(vi) There is no overall choice in the question paper, however, an internal choice is provided in one question of 2 marks, one question of 3 marks and all the three questions of 5 marks. In these questions, an examinee is to attempt any one of the two given alternatives.

SECTION A

1. Answer the following in one word: 1

   a) An unicellular organism which reproduce by budding.

   b) Special hyphae on which spore formation takes place in *Penicillium*.

2. The chromosome number in the gamete of cat is 19. What will be the number of chromosomes in their meiocyte? 1

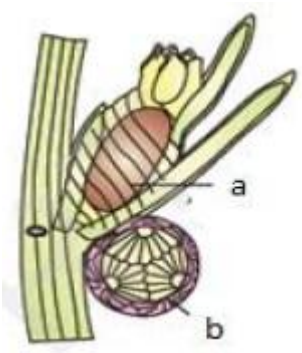
3. What technical terms are given to the group of male and female reproductive parts of a flower? 1

4. Name the tiny finger-like structure which lies at the upper junction of the two labia minora above the urethral opening in human female reproductive system. 1

5. What are pleotropic genes? 1

SECTION B

6. Study the following diagram and answer the following question 2



a) Name the male and female reproductive structures of *Chara*.

b) Is *Chara*, an algae, homothallic or heterothallic? Why?

7. Define 'oestrus' and 'menstrual' cycles. 2

8. Why are pollengrains used as food suppliments? 2

9. What are the functions of seminal vesicles, prostate and bulbourethral glands? 2

10. How many eggs are released by a human ovary in a month? How many eggs do you think would have been released if the mother gave birth to identical twins? 2

11. Mention any two symbols being used in Pedigree Analysis with their meanings. 2

12. Which type of sex determination is seen in 2

a) Grasshopper b) Fruit fly c) Fowl d) human being

OR

How does a test cross help in identifying the genotype of the organism? Explain.

SECTION C

13. i) Give one example of organism which reproduces by 3

a) condia b) buds (a multicellular organism) c) gemmules d) leaf buds

ii) Why is vegetative reproduction considered as asexual reproduction?

14. Name the pollinating agent for flowers of grass. Give two favorable features of such flowers for pollination. 3

15. Define the following terms with one example of each. 3

i) Apomixis ii) Polyembryony iii) parthenocarpy

16. State two pre requisites of flowers that undergo autogamy and also give one example of plants that bear two kinds of flowers. 3

17. Enlist the various events that occur from the time of pollen deposition on the stigma to till they enter into ovary. 3

OR

Give reasons why :

(i) Most zygotes in angiosperms divide only after certain amount of endospermis formed.

(ii) Micropyle remains as a small pore in the seed coat of a seed.

(iii) apple and cashew are not called true fruits.

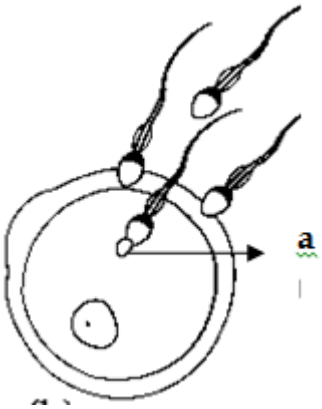
18. Describe the embryonic development of a zygote upto its implantation in humans. 3

19. What are the changes that occur in the oogonia during the transition of a primary follicle to Graafian follicle? 3

20. Explain the process of implantation of embryo in the human female. 3

21. What is lactation? Why is colostrum important for infants? State why breast feeding for infants in the initial period is advocated by doctors? 3

22. Observe the following diagram and answer the following questions 3



i) Name the structure in sperm which enabled it to reach the ovum.

ii) Why other sperm cells could not enter into the ovum?

iii) Label the part ‘a’.

23. Enlist the types of mutations. What causes these types of mutations? 3

24. Write the scientific name of the organism used by T H Morgan for his genetics experiments. Why he chose this organism for his studies? 3

SECTION D

25. a) Why is fertilization in angiosperm referred to as double fertilization? Mention the ploidy of the cell involved. 5

b) Draw a neatly labeled sketch of L.S of an endospermous monocot seed.

OR

A flower of brinjal has 520 ovules in its ovary. However, it produces a fruit with only 480 viable seeds.

(a) What could have prevented the rest of the 40 ovules from maturing into viable seeds? Explain giving a reason.

(b) Describe the development of a dicot embryo in a viable seed.

(c) Why certain angiospermic seed are albuminous while others are exalbuminous? Explain.

26. (a) Name the hormones secreted and write their functions : 5

(i) by corpus luteum and placenta (any two).

(ii) during Follicular phase and parturition.

(b) Name the stages in a human female where :

(i) Corpus luteum and placenta co-exist.

(ii) Corpus luteum temporarily ceases to exist.

OR

(a) Explain the hormonal regulation of spermatogenesis in humans.

(b) Draw the diagram of a human sperm. Label and write the functions of the components of its head.

27. Work out a typical Mendelian dihybrid cross and state the law that he derived from it. 5

OR

a) Mendel published his work on inheritance of characters in 1865, but it remained unrecognized till 1900. Give three reasons for the delay in accepting his work.

b) How does the gene 'I' control ABO blood groups in humans? Write the effect the gene has on the structure of red blood cells.

End of the Question Paper