Roll Number		

SET B

INDIAN SCHOOL MUSCAT
FIRST PRELIMINARY EXAMINATION
BIOLOGY

CLASS: XII Sub. Code: 044 Time Allotted: 3 Hrs

17.01.2019 Max. Marks: 70

General Instructions:

1. *All questions are compulsory.*
2. *The question paper consists of four sections A, B, C and D.*
3. *Internal choice is given in all the sections. A student has to attempt only one of the alternatives in such questions.*
4. *Section–A contains 5 questions of 1 mark each.*
5. *Section–B has 7 questions of 2 marks each.*
6. *Section–C is of 12 questions of 3 marks each*
7. *Section–D has 3 questions of 5 marks each.*
8. *Wherever necessary, the diagrams drawn should be neat and properly labeled.*

SECTION A

1	How can an alien piece of DNA made to multiply in a host cell?	1
2	If adenine constitutes 30% of an isolated DNA fragment, then what is the expected % of the base cytosine in it?	1
3	What is the relationship between egret and grazing cattle? Why?	1

OR

How is competition avoided in Nature? Give example.

4	A male honeybee has 16 chromosomes whereas its female has 32 chromosomes. Give one reason.	1
5	Name the vector of Chikungunya disease.	1

SECTION B

6	How does geitonogamy differ from xenogamy in plants?	2
7	How are transgenic animals made useful in chemical safety testing and studying diseases?	2
8	What is meant by germplasm Collection? Describe its significance in plant breeding programmes.	2

OR

Name two alcoholic drinks produced in each of the following ways. (i) by distillation and (ii) without distillation.

9 A person shows unwelcome immunogenic reactions while exposed to certain substances. (a) Name this condition. (b) What common term is given to the substances responsible for this condition? (c) Name the cells and the chemical substances released which cause such reactions. 2

10 Monocistronic structural genes in eukaryotes have interrupted coding sequences, Explain. How are they different in prokaryotes? 2

11 Name two types of animals based on their temperature tolerance. 2

12 Categories the following pairs of examples as convergent or divergent evolutions: (a) Eyes of octopus and mammals. (b) Wings of butterfly and birds. (c) Tuber of sweet potatoes and potato. (d) Thorns in bougainvillea and tendrils in cucurbits. 2

SECTION C

13 How is Biotechnology used to produce Bt cotton? Explain. 3

14 How does paleontological evidence support evolution of organisms on Earth? 3

15 Explain free nuclear endosperm development. 3

OR

Mention any three differences between spermatogenesis and oogenesis.

16 Explain the role of S and P in the experiments conducted by Hershey and chase? 3

OR

Explain the mechanism of sex determination in honeybees.

17 Describe the three different practices under natural methods of birth control. 3

18 How do mycorrhizae function as biofertilisers? Explain with example. Name one cyanobacteria that can be used as a biofertiliser. 3

19 How is Agrobacterium tumifaciens used in rDNA technology? Explain ii) What and how are other pathogens are used for the purpose. State two other methods by which host organism can be transformed. 3

20 After a rainy day Shruti found many dragonflies flying over stagnant water. She thinks these flies come to drink water. i) Is Shruti,s explanation correct? Give your views
ii) Write the significance of your view in organic farming. 3

OR

What is biochemical oxygen demand (BOD) test? At what stage of Sewage treatment this test is performed? BOD level of three samples of water labelled as A, B and C are 30 mg/ L, 10mg/L and

500 mg/L respectively. Which sample of water is most polluted?

21 a) Taking one example each of habitat loss and fragmentation, explain how the two are responsible for biodiversity loss. b) Explain two different ways of biodiversity conservation. 3

22 What are statins? Name the microorganism that produces this substance. How is it medically important? 3

23 What are the producers in grass land and oceans .How is GPP different from NPP? Why is the productivity in oceans lesser than on land? 3

24 What will be the genotype and phenotype of the offspring if a colour blind man marries a carrier woman? Show the cross. 3

OR

How do histones acquire positive charge?

SECTION D

25 With the help of a cross find out the F2 offsprings produced by crossing homozygous red flower of Snapdragon when crossed with a homozygous white flower. Write the phenotypic and genotypic ratio. State the pattern of inheritance. 5

OR

Describe DNA replication and draw the diagram of a replication fork.

26 Describe the development of male gametophyte in angiosperms. 5

OR

What is placenta? What is its role? Justify Placenta as an endocrine tissue.

27 With a flow chart explain the process of decomposition. What factors affect this process? 5

OR

In Arcata, the town's people have created an integrated waste water treatment process within a natural system. A citizen group called FOAM helps in upkeep of this project.
(a) What are the main steps in waste water management done in this way? (b) Ecosan in Kerala and Sri Lanka is also an initiative for water conservation. How?

End of the Question Paper