



# St. Xavier's Sr. Sec. School

Delhi-54

**Pre Board Examination 2016**  
**Std. 12**  
**11-01-2016**

**Set 1**

**Max. Marks : 70**  
**Time : 3 hrs.**

## **BIOLOGY**

### GENERAL INSTRUCTIONS:

- (i) There are a total of 26 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 10, Short Answer type I questions of 2 marks each.
- (iv) Section C contains questions number 11 to 22, Short Answer type II questions of 3 marks each.
- (v) Section D contains question number 23, Value Based Question of 4 marks.
- (vi) Section E contains questions number 24 to 26, Long Answer type questions of 5 marks each.
- (vii) 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. After a successful in vitro fertilisation, the fertilized egg begins to divide. Where is the egg transferred before it reaches the 8- celled stage and what is the technique named?
2. When and at what end does the 'Tailing' of hnRNA take place?
3. Draw a labelled diagram of a Nucleosome.
4. How are the two following varieties of sugarcane different from each other?  
(i) Saccharum barberi (ii) Saccharum officinarum
5. When is a tumour referred to as malignant?

### SECTION – B

6. Why are testes of human males considered extra abdominal? What is the significance of this condition?
7. A homozygous green seeded plant is crossed with yellow seeded plant. The progeny obtained was half yellow seeded and half green seeded.  
(i) Write the genotype of yellow seeded progeny.  
(ii) Write the technical name of the cross.  
(OR)  
Why is haemophilia generally observed in human males? Explain the conditions under which a human female can be haemophilic.
8. Explain the process of artificial hybridisation to get improved variety in  
(i) plants bearing bisexual flowers  
(ii) female parent producing unisexual flowers.
9. Expand GMO. How is it different from a hybrid?



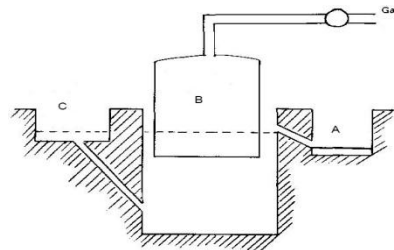
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10. PCR is a useful tool for early diagnosis of an infectious disease. Comment.

## SECTION - C

11. Draw an enlarged view of T. S of a young anther showing different layers.
12. Describe the function of any six of the following:-
- |                            |                   |
|----------------------------|-------------------|
| (i) Epididymis             | (ii) Vas deferens |
| (iii) Seminiferous tubules | (iv) Vagina       |
| (v) Trophoblast            | (vi) Scrotum      |
| (vii) Uterus               |                   |
13. In England, during the post – industrial period, the count of melanic moths increased in urban areas but remained low in rural areas. Explain.
14. In one family each of four children has a different blood group. Their mother is group A and the father is group B. Explain their pattern of inheritance with the help of a cross along with the genotypes.
15. What is meant by R-strain and S-strain with which Griffith carried out his experiment of Diplococcus pneumoniae. What did he prove from these experiments?
16. The diagram is that of a typical biogas plant . Explain the sequence of events occurring in a biogas plant. Identify a, b and c.



17. a) Why do the symptoms of malaria not appear immediately after the entry of sporozoites into the human body when bitten by female Anopheles? Explain.  
b) Give the scientific name of the malarial parasite causes malignant malaria in human.
18. a) What is a Plasmid?  
b) What is meant by ADA deficiency ? How is gene therapy a solution of this problem? Why is it not a permanent cure?
19. Explain any three mode of gene transfer.
20. Differentiate between in Situ and Ex Situ conservation.
21. Write critical notes on the following :-
- |                    |                               |
|--------------------|-------------------------------|
| (i) Eutrophication | (ii) Biological Magnification |
|--------------------|-------------------------------|
22. What is Ecological succession? What is climax community and how does it get established?

## SECTION – D

23. Life style diseases are increasing alarmingly in India. We are also dealing with large scale malnutrition in the population. Is there any method by which we can address both these problems?



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## SECTION – E

24. i) What are the three types of R.N.A?  
ii) Which one of these has the shape of a clover leaf in two dimensional structures?  
iii) How is each R.N.A related in the information flow during protein synthesis?

(OR)

Explain the steps involved in polypeptide synthesis. How are amino acids activated during polypeptide synthesis?

25. a) Explain the process of double fertilisation in angiosperms.  
b) List the changes each part of the fertilised ovule undergoes to develop into a seed.

(OR)

Distinguish between Spermatogenesis and Oogenesis.

26. Explain the causes and effects of global warming. What measures need to be taken to control global warming?

(OR)

Mention the reasons for biodiversity losses.

-X-X-X-X-X-