



DELHI PUBLIC SCHOOL, RANCHI

Half Yearly Examination 2017

Subject: Biology (044)
Class: XII

Max Marks: 70
Time: 3 Hrs

General Instructions:

1. There are a total of 26 questions and five sections in the question paper. All questions are compulsory.
2. Section A contains question number 1 to 5, Very Short Answer type questions of one mark each.
3. Section B contains question number 6 to 10, Short Answer type I questions of two marks each.
4. Section C contains question number 11 to 22, Short Answer type II questions of three marks each.
5. Section D contains question number 23, Value Based Question of four marks.
6. Section E contains question number 24 to 26, Long Answer type questions of five marks each.
7. There is no overall choice in the question paper, however, an internal choice is provided in one question of two marks, one question of three marks and all three questions of five marks. An examinee is to attempt any one of the questions out of the two given in the question paper with the same question number.

SECTION – A

1. Name an alga that reproduces asexually through zoospores. Why are these reproductive units so called?
2. How does Cu-7, and progesterone differ in their contraceptive action?
3. When did the first non-cellular form of life appear? What could they be?
4. How is the 'Sixth Extinction' currently in progress different from the previous episodes?
5. State the cause of accelerated Eutrophication?

SECTION – B

6. How long do the seeds remain alive after they are dispersed? Explain with examples.
7. a. What is the mechanism of sex determination in large number of insects?
b. Give an example where sperm is responsible for sex determination?
8. a. What is meant by unambiguous code?
b. Why is genetic code said to be degenerate?

OR

Differentiate between codons and anticodons.

9. When and where did Australopithecus live? Mention their characteristics.
10. Explain brood parasitism with the help of an example.

SECTION – C

11. (a) Why vegetative propagation is considered as a type of asexual reproduction?
(b) Name the units of vegetative propagation in water hyacinth.
(c) Explain giving reasons why it has become the most invasive aquatic weed.
12. Why are angiosperm anthers called dithecous? Describe the structure of its microsporangium.
13. Differentiate between
 - a) Gestation period and pregnancy.
 - b) Blastomeres and trophoblast
 - c) Antrum and Zonapellucida

OR

- (i) Why parturition is called a neuroendocrine mechanism? Explain.
(ii) Why is it important to feed the newborn babies on colostrum.
14. A woman has certain queries as listed below, before starting with contraceptive pills. Answer them.
 - (i) What do contraceptive pills contain, and how do they act as contraceptives?

- (ii) What schedule should be followed for taking these pills?
 - (iii) How are they different from injections & implants
15. A cross between a normal couple resulted in a son who was haemophilic and a normal daughter. In course of time, when the daughter was married to a normal man, to their surprise, the grandson was also haemophilic.
- (i) Represent this cross in the form of a pedigree chart. Give the genotypes the daughter and her husband.
 - (ii) Write the conclusion you draw of the inheritance pattern of this disease.
16. Human blood group is an example co-dominance and multiple allelism. Explain.
17. Give six goals of HGP?
18. Give three differences between the process of Replication & Transcription
19. How did industrialisation play a role in natural selection of light and dark coloured moth in England?
20. (i) Explain Adaptive radiation with the help of suitable example.
- (ii) Give an example where more than one adaptive radiations have occurred in an isolated geographical area.
 - (iii) Name the type of evolution your example depicts.
21. State any three methods by which animals cope with the temporary unfavourable conditions in their habitat when they cannot migrate.
22. Species diversity decreases as we move away from the equator towards the poles. What could be the possible reasons?

SECTION – D

23. Some parents wrote a complaint letter to the local municipality to remove all the hoardings in the city, advertising the use of condoms and matters relating to AIDS prevention. The children of these parents came to know about the matter and raised their voice against removal of the hoardings. The parents were convinced by the awareness level of their children and withdrew the complaint.
- (a) Parents considered the hoarding as inappropriate. Do you agree/disagree with their view?
 - (b) What are the methods by which AIDS spreads? (any four)
 - (c) What is AIDS?
 - (d) what values are promoted by the children protesting against their parents?

SECTION – E

24. (i) Explain the phenomenon of double fertilisation.
- (ii) Draw a labelled diagram of a typical anatropous ovule. (any six labels)
- OR
- What are the major features of embryonic development at various months of pregnancy in humans?
25. Workout a typical Mendelian dihybrid cross and state the law that he derived from it.
- OR
- Describe how the *lac* operon operates, both in the presence and absence of an inducer in *E.coli*.
26. (i) Define ecological pyramids.
- (ii) Draw the pyramids of biomass in a sea and in a forest. Explain giving reasons why the two pyramids are different.
- (iii) give two limitations of ecological pyramids
- OR
- (i) Expand FOAM. Describe the project of integrated waste water treatment, that FOAM is responsible for upkeep.
 - (ii) Why is this program called as ‘Integrated waste water treatment’?
 - (iii) Whose initiatives made this programme possible?
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