

# Biology Question Paper for Class 12 CBSE 2016

## Section-A

(1 mark each)

- Q.1. A male honeybee has 16 chromosomes whereas its female counterpart has 32 chromosomes. Give one reason.
- Q.2. Mention the role of 'genetic mother' in MOET.
- Q.3. What is biopiracy?
- Q.4. Mention two advantages for preferring CNG over diesel as an automobile fuel.
- Q.5. Write the probable differences in eating habits of Homo habilis and Homo erectus.

## Section-B

(2 marks each)

- Q.6. A single pea plant in your kitchen garden produces pods with viable seeds, but the individual papaya plant does not. Explain.
- Q.7. Following are the features of genetic codes. What does each one indicate? Stop codon, unambiguous codon, degenerate codon, universal codon.
- Q.8. Suggest four important steps to produce a disease resistant plant through conventional plant breeding technology.
- Q.9. Name a genus of Baculovirus. Why are they considered good biochemical agents?
- Q.10. Explain the relationship between CFCs and ozone in the stratosphere.

OR

Why sacred groves are highly protected?

## Section-C

(3 marks each)

Q.11.

- (a) name the organic material exine of the pollen grain is made up of. How is this material advantageous to pollen grain?
- (b) Still, it is observed that it does not form a continuous layer around the pollen grain. Give reason.

(c) How are “pollen banks” useful?

OR

- a) Mention the problems that are taken care of by Reproduction and Child Health care Programme.
- b) What is amniocentesis and why is there a statutory ban on it?

Q.12. What is a test cross? How can it decipher the heterozygosity of a plant?

Q.13.

(a) What do ‘Y’ and ‘B’ stand for in ‘YAC’ and ‘BAC’ used in Human Genome Project? Mention their role in the project.

(b) Write the percentage of the total human genome that codes for proteins and the percentage of discovered genes whose functions are known as observed during HGP.

(c) Expand SNPs identified by scientists in HGP.

Q.14. Differentiate between homology and analogy. Give one example of each.

Q.15.

(a) It is observed that the children who had suffered from chickenpox in their childhood may not contract the same disease in adulthood. Explain giving reasons the basis of such immunity in an individual. Name this kind of immunity.

(b) What are interferons? Mention their role.

Q.16.

(a) Write two limitations of traditional breeding technique that led to the promotion of micropropagation.

(b) Mention two advantages of micropropagation.

(c) Give two examples where it is commercially adopted.

Q.17.

(a) How do organic farmers control pests? Give two examples.

(b) State the difference in their approach from that of conventional pest control methods.

Q.18.

(a) Name the selectable marker in the cloning of pBR322? Mention the role they play.

(b) Why is the coding sequence of an enzyme  $\beta$ -galactosidase a preferred selectable marker in comparison to the ones named above?

Q.19.

(a) Why must a cell be made competent in biotechnology experiments? How does calcium ion help in doing so?

(b) State the role of the biolistic gun in biotechnology experiments.

Q.20. Explain the enzyme replacement therapy to treat adenosine deaminase deficiency. Mention two disadvantages of this procedure.

Q.21. Name and explain the type of interactions that exist in mycorrhizae and between cattle egret and cattle.

Q.22. Differentiate between primary and secondary succession. Provide one example of each.

### Section-D

(4 marks each)

Q.23. A large number of couples the world over are childless. It is shocking to know that in India, the female partner is often blamed for the couple being childless.

- a) Why in your opinion, the female partner is often blamed for the situation in India? Mention any two values that, as a biology student, can promote to check this social evil.
- b) State any two reasons responsible for the cause of infertility.
- c) Suggest a technique that can help the couple to have a child where the problem is with the male partner.

### Section-E

(5 marks each)

Q.24.

(a) Explain the menstrual phase in a human female. State the levels of pituitary hormones during this phase.

(b) Why is the follicular phase in the menstrual cycle also referred to as proliferative phase?

(c) Explain the events that occur in Graafian follicle at the time of ovulation and thereafter.

(d) Draw a Graafian follicle and label antrum and secondary oocyte.

OR

- a) As a senior biology student, you have been asked to demonstrate to the students of secondary level in your school, the procedure that shall ensure cross-pollination in a hermaphrodite flower. List the different steps that you would suggest and provide a reason for each of them.
- b) Draw a diagram of a section of microsporangium of an angiosperm and label funiculus, micropyle, embryo sac, and nucellus.

Q.25. Describe Meselson and Stahl's experiment that was carried in 1958 on E.coli. Write the conclusion they arrive at after the experiment.

OR

- a. Describe the process of transcription in bacteria.
- b. Explain the processing the hnRNA needs to undergo before becoming functional mRNA in eukaryotes.

Q.26.

- (a) Name the two growth models that represent population growth and draw the respective growth curves they represent.
- (b) State the basis for the difference in the shape of these curves.
- (c) Which one of the curves represents the human population growth at present? Do you think such a curve is sustainable? Give reasons in support of your answer.

OR

1. Taking an example of a small pond, explain how the four components of an ecosystem function as a unit.
2. Name the type of food chain that exists in a pond.

**Further Reading:** [Important Questions for Class 12 Biology](#)

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