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CBSE 2019 Sample Question Paper

BIOLOGY

*Time allowed: 3 hours**Maximum marks: 70***General Instructions:**

- (i) All questions are compulsory.
- (ii) This question paper contains 26 questions.
- (iii) Questions 1-5 in Section A are very short answer type questions carrying 1 mark each.
- (iv) Questions 6-10 in Section B are short answer type I questions carrying 2 marks each.
- (v) Questions 11-22 in Section C are short answer type II questions carrying 3 marks each.
- (vi) Question 23 in Section D is a value-based question carrying 4 marks.
- (vii) Questions 24-26 in Section E are long answer questions carrying 5 marks each.

Section A

1. How is 'Rosie' considered different from a normal cow? Explain
2. Write the scientific name of the microbe used for fermenting
3. The meiocyte of rice has 24 chromosomes. Write the number of chromosomes in its endosperm.
4. Write the possible source of RNA interference (RNAi) gene.
5. Differentiate between standing state and standing crop in an ecosystem.

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Section B

6. Make a labelled diagram of an RNA dinucleotide showing its 3' → 5' polarity.
- 7.
- Name the organism that reproduce through the following reproductive units
 - Conidia
 - Zoospores
 - Mention similarity and one difference between these two reproductive units.
- 8.
- Where do the signals for parturition originate in humans?
 - Why is it important to feed the newborn babies on colostrum?
9. How do palaeontological evidences support evolution of organisms on earth?
10. How does a vaccine for a particular disease immunise the human body against that disease?

Section C

11. Explain the changes that can be observed in the characteristics of river water when sewage is discharge into it and a few weeks after the discharge with respect to
- level of dissolved oxygen.
 - population of fresh water organisms.
12. Compare narrowly utilitarian and broadly utilitarian approaches to conserve biodiversity, with the help of suitable examples.
13. State the theory of biogenesis. How does Miller's experiment support this theory?
- 14.
- How many codons code for amino acids and how many do not?
 - Explain the following giving one example of each.
 - Unambiguous and specific codon
 - Degeneration
 - Universal codon
 - Initiator codon
- 15.
- How is apomixis different from parthenocarpy?
 - Describe any two modes by which apomictic seeds can be produced.



16. Explain the events in a normal woman during her menstrual cycle on the following days:
- Ovarian event from 13-15 days.
 - Ovarian hormones level from 16-23 days.
 - Uterine events from 24-29 days.
17. A pregnant human female was advised to undergo MTP. It was diagnosed by her doctor that the foetus, she is carrying has developed from a zygote formed by an XX-egg fertilised by Y-carrying sperm. Why was she advised to undergo MTP?
18. An antibody molecule is represented as H_2L_2 . Explain
19. MOET programme has helped in increasing the herd size of the desired variety of cattle. List the steps involved in conducting the programme.
20. Mention the product and its use produced by each of microbes listed below:
- Streptococcus*
 - Lactobacillus*
 - Saccharomyces cerevisiae*
21. Explain how xerarch succession progresses from xeric to mesic condition and form a stable community. You may use a flowchart.
- 22.
- List the three states the annual and biennial angiosperms have to pass through during their life cycle.
 - List and describe any two vegetative propagules in flowering plants.

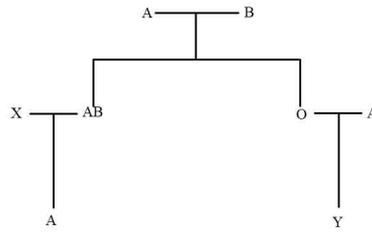
Section D

23. A youth in his twenties met with an accident and succumbed to the injuries His any two essential clinical steps to be undertaken before any organ transplant. Why is the transplant rejected sometimes? What views would you share with your health club members to promote organ donation?



Section E

24. Study the given pedigree chart showing the pattern of blood group inheritance in a family



- (i) Give the genotype of the following:
 - (a) Parents
 - (b) The individual X in second generation
- (ii) State the possible blood groups of the individual Y in third generation.
- (iii) Explain codominance with the inheritance of the blood group AB.

OR

- (i) How does a chromosomal disorder differ from a Mendelian disorder?
- (ii) Name any two chromosomal. aberration-associated disorders.
- (iii) List the characteristics of the disorders mentioned above that help in their diagnosis.

25.

- (i) Draw a longitudinal section of a pistil of an angiosperm showing the growth of pollen tube up to the micropyle of ovule. Label (a) stigma, (b) embryo sac (c) pollen tube (d) micropyle.
- (ii) Explain the events that occurs, upto fertilisation, when the compatible pollen grain lands on the stigma.

OR

- (i) Why is the process of fertilisation in angiosperms termed as double fertilisation? Explain
- (ii) Draw a diagram of an angiospermic embryo sac, where fertilisation is just completed. Label the following parts
 - (a) Micropylar end of embryo sac embryo
 - (b) The part that develops into an embryo
 - (c) The part that develops into an endosperm
 - (d) The degenerating cells at the chalazal end
- (iii) Draw a labelled diagram of globular embryonic stage of an angiosperm.



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26.

- (i) Taking one example each of habitat loss and fragmentation, explain how are the two responsible for biodiversity loss.
- (ii) Explain two different ways of bio-diversity conservation.

OR

- (i) List the reasons that account for the greater biological diversity in tropics.
- (ii) Explain river popper hypothesis. Name the ecologist who proposed it.



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