

CBSE 12th Biology 2007 Unsolved Paper Outside Delhi

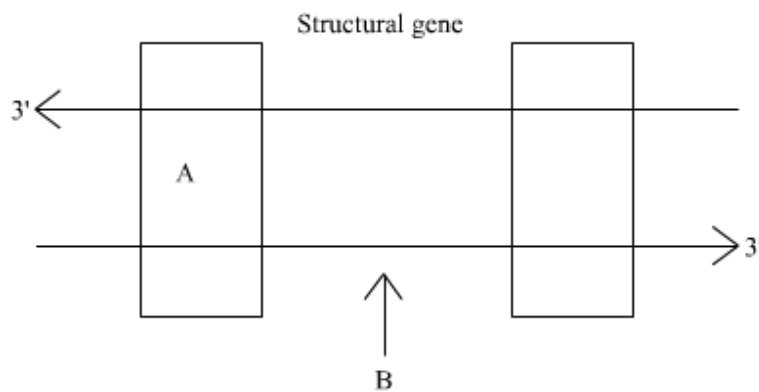
TIME - 3HR. | QUESTIONS - 30

THE MARKS ARE MENTIONED ON EACH QUESTION

SECTION- A

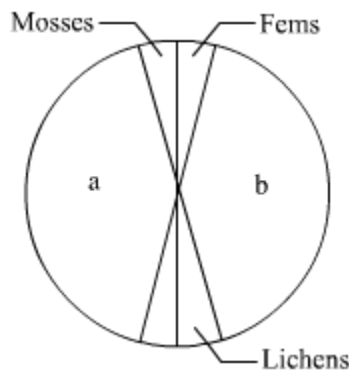
Q. 1. A single pea plant in your kitchen garden produces pods with viable seeds, but the individual papaya plant does not. Explain. *1 marks*

Q. 2. Name the parts 'A' and 'B' of the transcription given below: *1 mark*



Q. 3. What is economic value of Spirulina? *1 mark*

Q.4. Name the unlabeled areas 'a' and 'b' of the pie chart representing the biodiversity of plants showing their proportionate number of species of major taxa. *1 mark*



Q.5. Why is bagging of the emasculated flowers essential during hybridization experiments? *1 marks*

Q.6. Name the following:

- (a) The semi-dwarf variety of wheat which is high-yielding and disease-resistant.
- (b) Any one inter-specific hybrid mammal.

Q. 7. A garden pea plant produced axial white flowers. Another of the same species produced terminal violet flowers. Identify the dominant traits.

Q. 8. Why sharing of injection needles between two individuals is not recommended? *1 marks*

SECTION – B

Q. 9. Suggest four important steps to produce a disease resistant plant through conventional plant breeding technology. *2 marks*

Q. 10. List any four techniques where the principle of ex-situ conservation of biodiversity has been employed. *2 marks*

Q. 11. In Snapdragon, a cross between true-breeding red flowered (RR) plants and true-breeding white flowered (rr) plants showed a progeny of plants with all pink flowers.

- (a) The appearance of pink flowers is not known as blending. Why?
 - (b) What is the phenomenon known as?
- 2 marks*

Q. 12. How has mutation breeding helped in improving the production of mung bean crop? *2 marks*

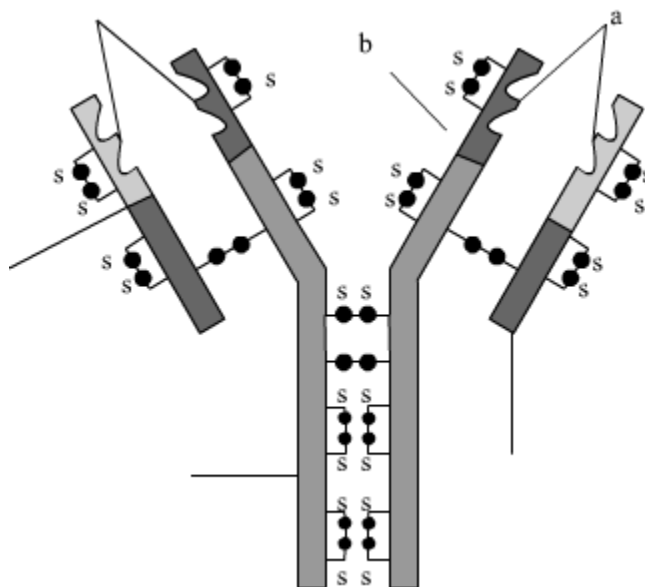
Q. 13. In a cross between two tall pea plants some of the offsprings produced were dwarf. Show with the help of Punnett square how this is possible. *2 marks*

Q. 14. Name the source of the DNA polymerase used in PCR technique. Mention why it is used. *2 marks*

Q. 15. Some organisms suspend their metabolic activities to survive in unfavorable conditions. Explain with the help of any four examples. *2 marks*

Q. 16. Write the full form of VNTR. How is VNTR different from 'probe,?' *2 marks*

Q.17.



- (i) What does the above diagram illustrate? *2 marks*
- (ii) Name the parts labelled 'a' and 'b'.
- (iii) Name the types of cells that produce this molecule.

Q.18. Draw a vertical section of a maize grain and label:

- (i) Pericarp,
- (ii) Scutellum,
- (iii) Coleoptile
- (iv) Radicle.

SECTION – C

Q.19. (a) Mention the problems that are taken care of by Reproduction and Child Health Care programme. *3 marks*

Q. 20. What does the following equation represent? Explain. *3 marks*

$$p^2 + 2pq + q^2 = 1$$

- Q. 21. (a) A DNA segment has a total of 1000 nucleotides, out of which 240 of them are adenine containing nucleotides. How many pyrimidine bases this DNA segment possesses?
- (b) Draw a diagrammatic sketch of a portion of DNA segment to support your answer. *3 marks*

Q.22. Women are often blamed for producing female children. Consequently, they are ill-treated and ostracized. How will you address this issue scientifically if you were to conduct an awareness programme to highlight the values involved? *3 marks*

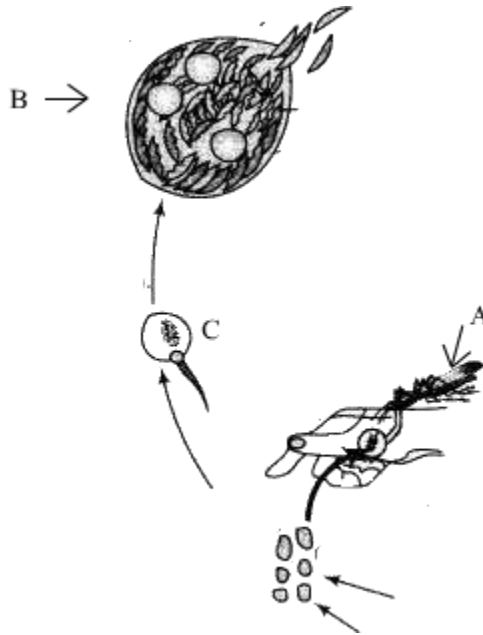
Q.23. Community service department of your school plans a visit to a slum area near the school with an objective to educate the slum dwellers with respect to health and hygiene. 3 marks

- (a) Why is there a need to organize such visit?
- (b) Write steps you will highlight, as a member of this department in your interaction with them to enable them to lead a healthy life.

Q. 24. Differentiate between two different types of pyramids of biomass with the help of one example of each. 3 marks

Q.25. Study a part of the life cycle of malarial parasite given below. Answer the questions that follows: 3 marks

- (a) Mention the roles of 'A' in the life cycle of the malarial parasite.
- (b) Name the event 'C' and the organ where this event occurs.
- (c) Identify the organ 'B' and name the cells being released from it.

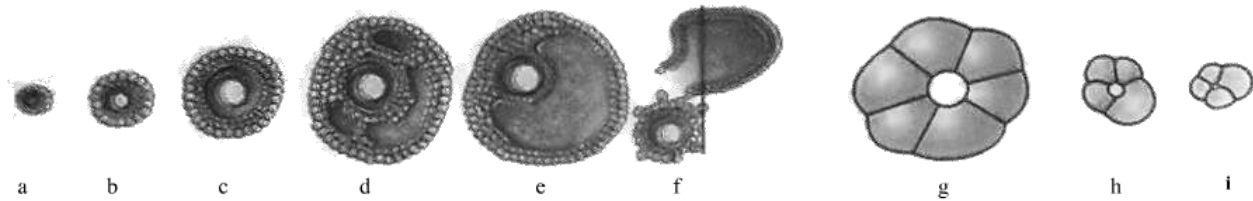


Q. 26. Unambiguous, universal and degenerate are some of the terms used for the genetic code. Explain the salient features of each one of them. 3 marks

Q. 27. Describe the initiation process of transcription in Bacteria. 3 marks

SECTION – D

Q.28. The following is the illustration of the sequence of ovarian events. "a" to "i" in a human female: 5 marks



- (a) Identify the figure that illustrates corpus luteum and name the pituitary hormone that influences its formation.
- (b) Specify the endocrine function of corpus luteum. How does it influence the uterus? why is it essential?
- (c) What is the difference between “d” and “e”?
- (d) Draw a neat labelled sketch of Graafian follicle.

OR

- (a) Why is fertilisation in an angiosperm referred to as double fertilisation? Mention the ploidy of the cells involved.
- (b) Draw a neat labelled sketch of L.S. of an endospermous monocot seed.

Q. 29. Describe the mechanism of pattern of inheritance of ABO blood groups in humans.
5 marks

OR

- (a) Why is hemophilia generally observed in human males? Explain the conditions under which a human female can be hemophilic.
- (b) Draw the male Reproductive system.

Q. 30. What is 'semi-conservative' DNA. replication? How was it experimentally proved and by whom? *5 marks*