



BIOLOGY

BOOKS - SUPER COMPANION 5 IN 1

MODEL QUESTION PAPER 1

Part A

1. 1. Name the hormone that induces rupturing of the Graafian follicle.



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2. Sertoli cells are very much essential during's spermatogenesis. Why?



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3. Define saltation?



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4. Name the pathogen that causes amoebiasis.



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5. What is micropropagation?



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6. What are Flocs?



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7. Mention the significance of gel electrophoresis in rDNA technology.



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8. Why the cells of malignant tumors are considered dangerous?



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9. Why Western Ghats are considered as one of the biodiversity hotspots?



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10. "Some animals, if unable to migrate, might avoid the stress by escaping in time". Justify the statement citing one example.



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1. What is parthenogenesis? Name an animal showing this.



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2. Differentiate between incomplete dominance and co-dominance.



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3. Give an example for adaptive radiation.



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4. Draw a well labelled diagram of an antibody molecule.



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5. What happens if there is a continuous inbreeding in animals? Discuss the strategy to

overcome the problem associated with continuous inbreeding.



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6. Draw a neat labeled diagram of stirred tank bioreactor.



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7. Write a note on co-extinction.



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8. "India is rich in genetic diversity". Justify this statement by giving two examples.



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Part C

1. Name the following:

(i) Asexual reproductive structures of Hydra.

(ii) Vegetative propagules of Agave.

(iii) The plant that flowers once in twelve years.



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2. Differentiate between microsporogenesis and megasporogenesis. Which type of cell division occurs during these events? Name the structures formed at the end of these two events.



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3. By using punnet square, schematically represent the dihybird cross experiment conducted by Medel using seed color and seed shape of pea as characters.



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4. (a) Write a note on homologous organs.

(b) Write the scientific name the of man like primate who probably lived in east African grasslands about 3-4 million years ago.



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5. Describe the effects of drug abuse.



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6. Describe briefly the following :

(a) Origin of replication

(b) Bioreactors

(c) Downstream processing .



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7. Give the schematic representation of a cyclic photo phosphorylation.



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8. Define ecological succession. Mention the two types of succession in plants based on the nature of the habitat. What is a pioneer species?



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1. Explain how some plants are adapted for achieving pollination through wind. How vallisneria and seagrasses achieve pollination?



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2. (a) Draw a neat labelled diagram of sectional view of seminiferous tubule.

(b) Explain the mechanism of parturition with the help of foetal ejection reflex.



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3. What is fertility? How infertility is treated by assisted reproductive technologies like IVF-ET and ZIFT?



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4. Describe double helical model of DNA.



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5. Draw the schematic structure and explain the different regions of a transcription unit.



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6. Discuss the contribution of Sutton and Boveri by. Making a comparison between the behaviour of chromosomes and genes during meiosis, to explain Mendel's Laws.



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7. Explain the main steps involved in the breeding of a new genetic variety of crop plants.



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8. "Genetically modified plants can reduce the use of chemical pesticides" . Justify the statement. Write a note each on B_t toxin and B_t cotton .



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9. (a) Describe the roles of: (i) Microbes in biogas production

(ii) mycorrhiza as biofertilizer.

(b) Name the fungus that produces cyclosporin A.



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10. (a) Explain how Mediterranean orchid adapted to achieve pollination.

(b) Describe the importance of predators in an ecosystem.

(c) What is Gause's "competitive exclusion principle"?



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11. Describe the participation of people in the conservation of forests in India by taking Bishnoi community incident and Chipko movement as examples, Add a note on joint Forest management.



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