



BIOLOGY

BOOKS - SUPER COMPANION 5 IN 1

MODEL QUESTION PAPER 2

Part A

1. Define parthenogenesis.



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2. What are meiocytes?



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3. How does repressor protein prevent the transcription of structural genes?



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4. Electrophoresis is an essential procedure that needs to be employed in genetic

fingerprinting. Why?



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5. What are biofertilisers?



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6. Restriction enzymes are considered as a type of endonucleases. Why?



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7. State Gause's 'Competitive Exclusion Principle'.



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8. Why is pyramid of energy always upright '?



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9. What are biodiversity hotspot?



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10. Ozone layer in the stratosphere becomes thinner due to the release of CFCs. Give a scientific reason for this .



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Part B

1. "Unless foetal ejection reflex is produced ,
normal parturition does not occur

"Substantiate the statement .



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2. What is infertility ? Mention one Assisted Reproductive Technology (ART) .



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3. What are multiple alleles ? Why the alleles I^A and I^B for blood group are considered codominant ?



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4. What is the karyotype in Turner's syndrome ? Mention two symptoms of the syndrome .



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5. Mention the function of RNA polymerase I and RNA polymerase II in eukaryotes.



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6. Explain two salient features of genetic code.



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7. Differentiate between homologous and analogous organs by giving plant example.



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8. Define gene therapy. Name a genetic disorder that is being treated using the

technique of gene therapy.



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Part C

1. Distinguish between asexual and sexual reproduction. Why is vegetative reproduction also considered as asexual.



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2. Name the parts of an angiosperm i.c. flower in which development of male and female gametophyte takes place.



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3. How do intrauterine devices prevent conception in humans?



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4. State Hardy-Weinberg equilibrium and mention the factors affecting the equilibrium of a population.



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5. What are carcinogens? Mention any two groups of carcinogens with an example for each.



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6. Differentiate out- crossing, cross breeding and interspecific hybridisation.



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7. Write a note on Bt toxin.



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8. Write the major causes of biodiversity losses.





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Part D

1. What is autogamy? Explain the device that the plants have developed to prevent this.



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2. Explain the different steps involved in translation.



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3. Write the schematic representation of the life cycle of HIV.



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4. Explain the process of recombinant DNA technology.



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5. Briefly describe the different stages involved in decomposition.



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6. Explain five effects of water pollution.



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7. Draw the diagram of the sectional view of the female reproductive system in humans.



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8. Explain Mendel's experiment that describes the inheritance of one gene.



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9. Draw a labelled diagram of a biogas plant.



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10. (a) Explain the application of tissue culture in any three fields.

(b) Why continued inbreeding should be avoided in plants?

(c) What is germplasm collection?



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11. Explain predation.



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