



BIOLOGY

BOOKS - SUPER COMPANION 5 IN 1

SUPER MODEL QUESTION PAPER 3

Part A

1. What is azoospermia?



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



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3. Define evolution as per Hardy Weinberg.



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4. What is immunity?



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5. What is micropropagation?



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6. Expand LAB?



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7. What is a bioreactor?



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8. What is sarcoma?



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9. What are eurythermal organisms?



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10. Define Endemic species?



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Part B

1. What is Apomixis? What is its importance?



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2. List the antigens and antibodies of 'A' blood group and 'o' blood group?



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3. What are coacervates? Give their importance in the origin of life.



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4. Draw a neat labeled diagram of an antibody molecule.



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5. List any four characters of genetic code?





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6. Draw a net labelled diagram of simple stirred tank bioreactor.



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7. Give two examples each of short day plants and long day plants.



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8. Define biodiversity. write three form of biodiversity.



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Part C

1. List the differences between external fertilisation and internal fertilisation?



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2. Differentiate between anemophilous and entomophilous flowers?



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3. Define the disorder of phenylketonuria.



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4. How is nucleosome formed? Draw a diagram of the nucleosome.



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5. How does the transmission of each of the following diseases take place?

(a) Amoebiasis

(b) Malaria

(c) Ascariasis



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6. What are genetically modified organisms ?

Name two factors on which their behaviour depends.



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7. Draw a schematic representation of the phosphorous cycle.



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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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Part D Section I

1. Draw a neat labelled diagram of an anatropous ovule and label its parts.



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2. Describe oogenesis?



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3. What is contraception? Make a list of birth control measures and explain the application of any two of them.



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4. Describe the regulation of lac-operon in E.coli.



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5. Briefly explain the steps involved in DNA finger printing?



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6. What is water pollution? Describe sewage pollution briefly.



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Part D Section II

1. Give a brief account of tissue culture. Also give the advantages of micro propagation.



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2. (a) Describe the roles of:

(i) Microbes in biogas production

(ii) Mycorrhiza as biofertilizer



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3. What was the experiment of Stanley Miller (1953) on the origin of life?



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4. (a) Explain how Mediterranean orchids achieve pollination.

(b) Draw a graph showing biome distribution

with respect to annual temperature and precipitation.



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5. Describe the participation of people in the conservation of forests in India by taking Bishnoi community.



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1. What is azoospermia?



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



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3. What are Eurythermal organisms?



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4. what is gene pool?



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5. Name the causative organism of ringworms.



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6. what is an allergy?



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7. What is inbreeding depression?



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8. Which soil bacteria produces Bt toxins ?



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9. Define transcription?



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10. Define Phenotype.



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Part B

1. What is test cross? Mention its significance.



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2. Differentiate between seasonal breeders and continuous breeders.



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3. With reference to tissue culture, what is (i) Totipotency (ii) Somatic hybrids.



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4. What is biomagnification? Give an example for it.



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5. What are factors that are responsible for fluctuations of population growth.



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6. What are homologous organ? Mention any two examples.



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7. Draw a neat labelled digram of stirred tank bioreactor.



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8. differentiate between active immunity and passive immunity.



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Part C

1. Briefly explain the structure of pollen grains.



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2. Mention the causes and effects of phenylketonuria.



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3. List the differences between external fertilisation and internal fertilisation?



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4. List the period, brain capacity and probable food of the Homo erectus stage in the human evolution.



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5. (a) Explain down streaming process ? (b)
What are molecular stitchers ?



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6. (a) Draw an ideal pyramid of energy and mention the units. (b) What is a Lithosere ?



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7. Describe the ill-effects of drug abuse in males and females. Also mention the preventive measures that is to be taken to reduce such effects.



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8. (a) What is a detritus food chain ? Give an example. (b) Define food web.



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Part D

1. Describe the outbreeding devices that prevents autogamy.



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2. Draw a neat labelled diagram of human female reproductive system.



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3. What are sexually transmitted diseases ?
Give examples. Mention the different modes of transmission and prevention of sexually transmitted diseases.



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4. What are chromosomal disorders ? Describe the following chromosomal disorders in human beings. (a) Klinefelter's syndrome (b) Down's syndrome



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5. Explain the experiment of Aveny to show DNA acts as genetic material.



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6. What is cancer ? List the Characteristics of cancer cells. Add a note on the classification of cancer based on their location ?



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7. Explain the effects to temperature n plants and animals ?



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8. Briefly describe the role of biological control of pests and diseases.



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9. (a) State Gauss competitive exclusion principle".

(b) Mutualism is a method of population interaction. Explain with examples.



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10. (a) Define pollution. With reference to water pollution, explain Biochemical oxygen demand. Algal bloom and Eutrophication. (b) What is deforestation.



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11. (a) What is Biopiracy? Explain it with reference to Basmati rice.

(b) What are genetically modified organisms?

Name two Bt-toxin producing plants.



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