



# BIOLOGY

## BOOKS - SUPER COMPANION 5 IN 1

### QUESTION PAPER MARCH-2017

#### Part A

1. What are hermaphrodites?



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2. Mention the asexual reproductive structure in sponges.



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3. What is Euchromatin?



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4. Describe the Semiconservative method of DNA replication.



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5. Write the scientific name of microbes that produces Streptokinase, Statin and Citric acid.



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6. What is Micro - Injection



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7. Define Mortality.



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8. Give an example for gaseous cycle.



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9. Define Endemic species?



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10. What is Eutrophication? Discuss the phenomenon of accelerated eutrophication.



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## Part B

1. List any four hormones secreted by placenta.



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2. (a) What is medical termination of pregnancy? Mention the safe period for medical termination of pregnancy.

(b) Write three simple principles to prevent sexually transmitted diseases.



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3. Write four symptoms of Down's Syndrome.



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4. What is incomplete dominance? Describe with one example.



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



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6. What is the significance of selectable markers in cloning vectors?



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7. Mention the dual functions of AUG?



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





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## Part C

1. Name the vegetative propagules of the following plants. (a) Agave.
- (b) Ginger.
- (c) Bryophyllum.



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2. What is pollination? Mention any four features of wind pollinated flowers



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3. What is infertility? Give reasons for infertility in humans.



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4. What are analogous organs? Give an example.



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



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6. Write the meaning of following terms : (a) Explantes (b) Totipotency (c) Somaclones.



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7. Draw a neat labelled diagram of a simple stirred tank bioreactor.



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8. Write the major causes of biodiversity losses.



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## Part D Section I

1. Explain the structure of matured pollen grain.



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2. Draw a neat labelled diagram of the human male reproductive system.



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3. Explain Mendel's experiment to describe inheritance of one gene with reference to height of pea plants.



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4. List the salient features of the Human Genome



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5. Name the diseases caused by following organisms :

(a) Rhinovirus.

(b) Epidermophyton..

(c) Salmonella typhi

(d) *Wuchereria malayi*

(e) *Plasmodium vivax*.



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6. What is Bee - Keeping? Write any four points for a successful Bee - Keeping?



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**Part D Section II**



1. Describe the biogas plant with a neat labelled diagram



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2. a) What is Biopiracy?

(b) How ADA deficiency is cured by gene therapy?



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3. (a) What is Ecological succession?

(b) Write types of plant succession?

(c) Represent a pyramid of numbers in the grassland ecosystem.



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4. Explain mutualism with examples.



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5. Write a brief account of electrostatic precipitator with a neat labelled diagram.



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