



# BIOLOGY

## BOOKS - SUPER COMPANION 5 IN 1

### SUPPLEMENTARY EXAM QUESTION PAPER (WITH ANSWER) JUNE 2016

#### Part A

1. Mention the function of sertoli cells of testes.



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**2. What are plasmids?**



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**3. Name the hormone secreted by corpus luteum.**



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4. Which bioactive molecule is used as an immunosuppressive agent?



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5. What are interferons?



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6. Name one microbe used in the production of single cell protein.



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7. Name the theory which attempts to explain 'origin of universe'.



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8. Define Biochemical Oxygen Demand (BOD).



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9. Name the diagnostic test for AIDS.



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



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**Part B**

1. What are hermaphrodites?



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2. Write four symptoms of Down's Syndrome.



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3. What is adaptive radiation? Give example.



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4. Draw a labelled diagram of a Biogas plant.



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5. Alien species invasion leads to extinction of indigenous species' - Justify this statement by considering two animals as examples.



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6. What is Ex-Situ conservation? Mention two examples.



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7. What is cross-breeding? Name a new breed developed by crossing Bikaneri ewes and marino rams.



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8. Mention two techniques to make Host competent in r-DNA technology.



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## Part C

1. Write the Homozygous Genotype of 'A,, 'B' and 'O' blood groups.



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2. Explain the structure of matured pollen grain.



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3. Name the vegetative propagules of the following plants.

(a) Agave (b) Ginger ( c ) Bryophyllum



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



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



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6. what are biogeochemical cycles? Mention two type by giving an example for each.



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7. Name the pathogen, vector and symptom of malaria.



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8. Write the diadrammatic representation of pyramid of energy. Why pyramid of energy is always upright?



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## Part D

1. Describe the structure of anatropous ovule with labelled diagram.



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2. What is contraception Briefly explain two barrier methods and two surgical methods to prevent conception.



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3. What is incomplete dominance? Explain inheritance of flower colour in snapdragon



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4. Explain working of Lac-operon with diagrammatic representation.



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5. List out the salient features of double helix model of DNA.



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6. Draw a neat labelled diagram of sectional view of human female reproductive system.



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7. Give the meaning of the following terms.

- (a) Explant (b) Totipotency ( c ) Somaclones ( d) Somatic hybrids € Micropropagation.



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8. Explain the role of microbes in household food products.



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**9.** What is population growth? Explain factors responsible for fluctuating population density.



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**10.** One of the applications of biotechnology is the production of insect resistant crop plants." Justify the statement with reference to Bt-cotton.



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**11.** Discuss the consequences of global warming and ozone layer depletion.



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