



# BIOLOGY

## BOOKS - SUPER COMPANION 5 IN 1

### ANNUAL EXAM QUESTION PAPER

MARCH 2015

**Part A**

1. What is Biomagnification?



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2. Name a causative organism of pneumonia.



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3. Give an example for adaptive radiation.



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4. Define parthenogenesis.



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5. Papaya plants exhibit xenogamy only. Why?



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6. What is detritus?



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7. Mention the use of Cyclosporin A.



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**8.** Name the plant from which cocaine is obtained.



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**9.** Mention the technique used to separate DNA fragments in rDNA technology.



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**10.** Why is oxytocin necessary for parturition?



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## Part B

**1.** Differentiate between menstrual cycle and estrous cycle.



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2. Mention any four sexually transmitted diseases.



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3. tRNA is an adaptor molecule. Comment



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4. Distinguish between Benign tumour and Malignant tumour.



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5. List any four hormones secreted by placenta.



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6. What are the conclusions drawn by T.H. Morgan from the crossing experiment in *Drosophila* with respect to linkage?



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7. Discuss the role of fungi as biofertilizers.



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8. Write a note on single cell protein.



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**Part C**



1. What is aneuploidy? Write any four symptoms of Down's syndrome.



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2. RNA polymerases in eukaryotes show division of labour. Substantiate.



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**3.** Suggest any three assisted reproductive technologies to overcome infertility.



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**4.** Name asexual reproductive structures in (1) Hydra (ii) Chlamydomonas (iii) Penicillium.



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5. Mention three types of Innate barriers of defence with an example each.



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6. Draw a neat labelled diagram of a typical Biogas plant.



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7. (a) What is endemism?



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8. (b) Mention 'The Evil Quartet' of biodiversity loss.



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



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## Part D

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



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2. (a) Write the steps involved in multiple ovulation and embryo transfer.



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3. (b) Differentiate between out crossing and cross breeding.



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4. Describe the process of DNA replication with the help of a diagram.



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5. Explain the transverse section of young anther with a labelled diagram.



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6. Explain Brood parasitism and sexual deceit' as an interaction of species with an example each.



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7. With reference to flower colour in snapdragon, explain incomplete dominance.



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8. Give the diagrammatic representation of Miller's experiment.



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9. "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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10. (b) Write a note on gene therapy.



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**11.** Explain the features of cloning vectors.



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**12.** (a) What are the effects of ozone depletion?



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**13.** (b) BOD is an index of water pollution.  
Comment.



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**14. (a)** What is ecological succession?



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**15. (b)** Represent an ideal pyramid of numbers in a grassland ecosystem.



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**16. (c)** Name the two types of nutrient cycles with an example each.



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