



BIOLOGY

BOOKS - SUPER COMPANION 5 IN 1

ANNUAL EXAMINATION PAPER

MARCH-2016

Part A

1. Name the molecular scissors used in 'recombinant DNA (rDNA) technology.



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2. What are somaclones?



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3. Define reforestation.



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4. Name the enzyme by which the HIV genome replicates in the host cell.



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5. What is menarche?



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6. Name the disease diagnosed by Widal test.



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7. Ovulation takes place on the 14th day of menstrual cycle. Why?



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8. What is Colostrum?



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9. How do some species of insects and frogs avoid being detected easily by the predators?



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10. Mention the use of statin.



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Part B

1. What is inbreeding depression? How is it controlled?



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2. Define biodiversity Write any two types of biodiversity.



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3. Why has T.H. Morgan selected fruit flies for his genetical experiments?



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4. Differentiate seasonal breeders from continuous breeders.



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5. What are analogous organs? Give an example.



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6. Draw a neat labelled diagram of an antibody.



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7.. Name any four recent extinct organisms as per IUCN Red list.



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8. Draw a neat labelled diagram of a typical agarose gel electrophoresis.



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Part C

1.. Explain in brief the separation and isolation of DNA fragments.



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2. . Explain in brief the separation and isolation of DNA fragments.



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3. What is ecological succession? Distinguish primary succession from secondary succession.



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4. What is parthenogenesis? Give two examples.



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5. The phenomenon where female gametes develop into new organisms without fertilisation is known as parthenogenesis. Eg: honeybees, rotifers.



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6. What is artificial hybridisation? By which technique is it achieved?



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7. With reference to ecological succession define the following terms.

(i) Climax community

(ii) Sere(s)

(iii) Pioneer species.



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8. Write the karyotype of the following syndromes:

(i) Down's syndrome.

(ii) Klinefelter's syndrome.

(iii) Turner's syndrome.



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Part D Section 1

1. Enlist the goals and applications of Human Genome project.



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2. Explain the process of translation in protein synthesis.



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



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4. (a) What are multiple alleles? Give an example.

(b) Write the symptoms of Klinefelter's syndrome.



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5. What is infertility ? How is infertility treated by assisted reproductive technologies like GIFT and ICSI?



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6. Explain the structure of megasporangium.



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1. Write a brief account of functioning of 'Electrostatic Precipitator' with diagram.



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2. (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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3. What is inbreeding? Mention the significance of inbreeding.



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4. Describe the role of microbes in the production of industrial products.



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5. (a) What is Adaptation?

(b) Write the causes and symptoms of 'Altitude sickness'.

cWhat is Brood Parasitism"? Give an example.



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