



BIOLOGY

BOOKS - SRIJAN BIOLOGY (ENGLISH)

SAMPLE PAPER 2015

Part I 20 Marks Answer All Questions

1. Give a brief answer for

What is heterosis ?



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2. Give a brief answer for

Why is non-cyclic photo phosphorylation considered as a non-cyclic pathway ?



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3. Give a brief answer for

Define test cross.



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4. Give a brief answer for

What are introns ?



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5. Name the first formed category of photosynthetic organisms.



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6. Give a scientific term for

The surgical removal of a section of fallopian tube.



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7. Give a scientific term for

An animal behaviour which benefits others but is of no advantage to itself.



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8. Give a scientific term for

The hydrostatic pressure developed inside the cell on the cell wall due to endosmosis



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9. Expand the abbreviation :

STD



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10. Expand the abbreviation :

MRI



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11. Expand the abbreviation :

NADP



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12. Expand the abbreviation :

DDT



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13. Name the scientists who are associated with discovery of the fossil of Australopithecus



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14. Name the scientists who are associated with

Microspheres



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15. Name the scientists who are associated with

Coined the term Diffusion Pressure Deficit



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16. Name the scientists who are associated with

Invented the CT scan



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Part I 20 Marks Answer All Questions Each Of The Following Question 5 Statements 5 Has Four Suggested Answers Choose The Correct Option In Each Case

1. Triple Fusion involves

A. Fusion of one male gamete with female gamete.

B. Fusion of tube nucleus with gene rative nucleus.

C. Fusion of two polar nuclei.

D. Fusion of second male gamete with two polar nuclei.

Answer:



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2. An EEG represents spontaneous electrical activity of the

A. Kidney

B. Spinal cord

C. Heart

D. Brain

Answer:



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3. The genotype of a person with Turner's syndrome will be :

A. $44 + XXY$

B. $44 + XYY$

C. $44 + XO$

D. $44 + XXYY$

Answer:



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4. Transcription is the transfer of genetic code from a DNA molecule to :

A. RNA molecule

B. Second DNA molecule

C. Ribosomal sub unit

D. Sequence of amino acids in a protein molecule.

Answer:



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Part II 50 Marks Section A

1. Give any three characters that have developed during human evolution.



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2. Explain the term chemogeny.



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3. Give any two distinctive features of Dryopithecus.



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4. Explain the evolution of giraffe's neck according to Lamarck's theory of evolution.



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5. Give two chromosomal similarities between man and apes.



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6. Name any two temporary embryonic structures in vertebrates which provide evidence for evolution.



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7. Persons suffering from sickle cell anaemia are at an advantage in Malaria infected areas.



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8. Define the term gene flow.



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9. What are analogous organs ? Describe with one example from the plant kingdom.



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Part II 50 Marks Section B

1. With the help of diagrams, name and describe the different types of placentation seen in angiosperms.



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2. Give four points of anatomical differences between a monocot stem and a dicot stem.



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3. Define the following terms :

(i) Racemose inflorescence

(ii) Osmotic pressure



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4. Draw a diagram of the internal structure of the human ovary.



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5. Define the term water potential. What are its components ? Explain.



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6. Give definition and importance of :

(i) Imbibition

(ii) Parturition.



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7. State four features of flowers pollinated by insects.



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8. Describe the mass flow hypothesis for translocation of organic solutes (food) in plants.



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9. Write a brief note on the causes of infertility.



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Part II 50 Marks Section C

1. Give any four reasons for Mendel's success.



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2. Briefly describe the technique employed in DNA fingerprinting



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3. Give any two features of Genetic Code.



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4. Explain the mechanism of action of T cells to antigens.



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5. Explain how insulin can be produced using recombinant DNA technology



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6. What is pisciculture ? Give one advantage.



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7. Name the causative organism and preventive measures for each of the following:

(i) Swine flu (ii) Typhoid

(iii) Filariasis (iv) Syphilis



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8. State four causes and four consequences of population growth



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9. Differentiate between :

(i) Cannabinoids and Barbiturates

(ii) Biotic potential and Carrying capacity.



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