



BIOLOGY

BOOKS - SRIJAN BIOLOGY (ENGLISH)

SAMPLE PAPER 2014

Part I 20 Marks

1. Mention one significant difference between Parenchyma and Sclerenchyma.



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2. Mention one significant difference between Epistasis and dominance.



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3. Mention one significant difference between Hormones of ovulatory phase and hormones of luteal phase.



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4. Mention one significant difference between Symplastic movement and apoplastic movement.



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5. Differentiate between :
Genotype and Phenotype



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6. Comment upon the following:

At the time of birth, the testes descend down into the scrotal sac.



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7. Give reasons for the

Secondary growth does not occur in monocot stems.



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8. Give reasons for the

Nitrogenous fertilizers are not applied in fields where leguminous crops grow.



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9. Give reasons for the

why Genetic code is said to be 'universal'.



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10. Give reasons for the

At higher temperatures, green plants start evolving CO_2 instead of O_2 .



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11. Each of the question/statement has four suggested answers. Rewrite the correct answer

Typhoid is classified as a :

A. Viral disease

B. Genetic disorder

C. Bacterial disease

D. Protozoan disease

Answer:



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12. Bt cotton is resistant to

A. Insects

B. Herbicides

C. Salt

D. Drought

Answer:



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13. Roots and shoots lengthen through activity

at :

A. Apical meristem

B. Vascular Cambium

C. Lateral meristem

D. Cork Cambium

Answer:



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14. Each of the question/statement has four suggested answers. Rewrite the correct answer

An antiviral protein released from infected and dying cells is

A. Antigen

B. Antibody

C. Antiserum

D. Interferon

Answer:



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15. Opening and closing of stomata is due to

A. Ca^{+}

B. Na^+

C. K^+

D. Cl^-

Answer:



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16. State the best known contribution of

Alec Jeffery



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17. State the best known contribution of

P.K. Sethi



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18. State the best known contribution of

Hugo de Vries



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19. Expand the SCID



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20. Expand

ZIFT



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Part II 50 Marks Section A

1. Mention the contribution of SL Miller's experiments on origin of life.



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2. Define the following

(i) Frame shift mutations.

(ii) Genetic drift.



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3. Name and define the three types of natural selection.



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4. State Hardy Weinberg's principle.



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5. Mention the important features of the Neanderthal man.



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6. What are homologous organs? How do they differ from the analogous organs? How does

the study of comparative anatomy provide evidence in favour of organic evolution?



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Part II 50 Marks Section B

1. With the help of suitable examples describe the various types of vascular bundles in plants.



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2. Write the anatomical differences between dicot root and monocot root.



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3. How do light and temperature affect rate of photosynthesis?



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4. Explain the transpiration pull theory for ascent of sap.



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5. (a) Explain the process of spermatogenesis in humans.



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6. Define the following:

(i) Placentation (ii) Parthenocarpy

(iii) Diffusion



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7. Why are xylem and phloem called complex tissues?



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8. Describe the ultrastructure of chloroplast.



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9. State any three functions of placenta in human female.



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Part II 50 Marks Section C

1. Explain the experiment performed by Griffith on *Streptococcus pneumoniae*. What did he conclude from this experiment?

Name the three scientists who followed up Griffith's experiments.

What did they conclude and how?



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2. What is artificial insemination? Mention two ways in which it is useful in breeding of

dairy animals.



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3. What is a single cell protein? How is it significant for human welfare?



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4. How did Hershey and Chase proved that DNA is the hereditary material? Explain their experiment with suitable diagram.



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5. Give one main application of each of the following: (i) MRI(ii) Ultrasound
(iii) ECG



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6. Explain the role of stem cells in medical treatment.



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7. Write short notes on :

(i) Multiple Alleles

(ii) Artificial measures to control population.



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8. What complications will arise if the blood of an Rh positive person is transfused to an Rh negative person and vice versa ?



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9. Write any three goals of Human Genome Project.



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