



BIOLOGY

BOOKS - SRIJAN BIOLOGY (ENGLISH)

SAMPLE QUESTION PAPER 02

Part I

1. Name the most common motile spore of fungi.



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2. State the chromosome number in the endosperm of onion.



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3. Give the use of test cross.



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4. Mention the use of Lactobacillus.



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5. What will happen if a child does not get colostrum in his early childhood ?



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6. What is the shape of the pyramid of number in a single tree ecosystem?



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7. What is biological significance of golden rice production?



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8. Bt crops are resistant to pests. Name the gene responsible for pest resistance.



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9. Capacitation refers to changes in the

A. Testis

B. Sperm

C. Ovary

D. Ovum

Answer:



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10. Multiple choice questions (MCQs)

choose the correct option

Medical Termination of Pregnancy (MTP) is

considered safe up to how many weeks of pregnancy?

A. Six

B. Eight

C. Twelve

D. Eighteen

Answer:



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11. Which of the following is a vestigial organ in humans?

A. Pinna

B. Coccyx

C. Tail

D. Molars

Answer:



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12. Secondary sewage treatment is mainly a:

- A. Chemical process
- B. Biological process
- C. Mechanical process
- D. Physical process

Answer:



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13. Give one significant contribution of each of the following scientists :

G. Gamow



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14. Give one significant contribution of the following scientist :

Chargaff



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15. Briefly mention the contribution of T.H. Morgan in genetics



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16. Give one significant contribution of each of the following scientists:

(i) Alec Jeffrey (ii) Har Gobind Khurana (iii) George Gamow (iv) Francis Crick



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17. What is lifespan?



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18. Define the following terms:

Natality



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19. Give reason

Retrovirus is considered to be an exception to the central dogma.



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20. Give reason

The rate of Ozone depletion is greater in Antarctica.



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Part II Section A

1. Draw a labelled diagram of human ovum.



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2. Draw the well labelled diagram of a mature human sperm and label its parts.



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3. If phenotype of father is blood group .O. and genotype of mother is heterozygous .A., what are the possible genotypes and phenotypes of the offspring ?



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4. Mention four features of pBR322.

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5. Steps taken by the Government of India to control air pollution include

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6. In recent years, there has been large scale loss of biodiversity. Mention four ways in which humans are responsible for it.



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7. Mention any one symptom of elephantiasis.
Name its causative agent.



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8. Mention any two properties of DNA that make it an ideal genetic material.



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9. Give two differences between Darwinism and the theory of mutation.



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10. Explain the steps involved in artificial hybridization.



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11. What are the main objectives of plant breeding?



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12. Differentiate between infectious diseases and non-infectious diseases. Give two examples of each.



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13. Define and give one examples of each:
Mutualism



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14. In commensalism



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15. Define and give one examples of each:

Amensalism



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16. Define species-area relationship. What is the significance of the slope of regression ?

Show with the help of a graph .



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17. Write six salient features of genetic code



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18. State the measures to be taken by the owner of a dairy farm to improve the quality of milk and the quantity of its production.



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19. Draw a labelled diagram of the T.S. of a mature anther.



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20. Draw a neat labelled diagram of L.S. of anatropous ovule.



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21. How has biotechnology been useful in controlling nematode infection in plants ? Explain the technique involved in this process.



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Part II Section B

1. What are molecular scissors so called? Write their use in biotechnology.



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2. Explain the steps involved in downstream processing in biotechnology.



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3. Explain the following terms and explain them briefly :

GIFT



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4. Explain the following terms and explain them briefly :

ZIFT



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5. Explain the following terms and explain them briefly :

RCH



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6. Explain the following terms and explain them briefly :

ICSI



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7. Expand the following terms and explain them briefly :

IVF



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8. Enlist the different methods of contraception. Write short note on any two of the methods mentioned by you.



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9. 10000 K cal energy is available at the level of producers, calculate the amount of energy at the level of secondary consumer.



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10. A snapdragon plant homozygous for red flower when crossed with a white flower plant of the same species produced pink flowers in F_1 generation

(a) What is this phenotypic expression called?

(b) Work out the cross to show the F_2 generation when F_1 was self pollinated. Give the phenotypic and genotypic ratios of F_2 generation.

(c) How do you compare the F_2 phenotypic and genotypic ratios with those of Mendelian monohybrid F_2 ratios?



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11. Explain the process of DNA replication.



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