



## BIOLOGY

### BOOKS - SRIJAN BIOLOGY (ENGLISH)

### SAMPLE QUESTION PAPER 5

**Part I 20 Marks All The Questions Are Compulsory**

**1. Answer the following questions briefly in one or two sentences:**

(i) Differentiate between syngamy and fertilization.



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2. Answer the following questions briefly in one or two sentences:

(i) Name the finger like projections of fallopian tube near the ovary.



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**3.** Answer the following questions briefly in one or two sentences:

(iii) What is incomplete dominance ?



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**4.** Answer the following questions briefly in one or two sentences:

(iv) What is the origin of replication ?



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5. Answer the following questions briefly in one or two sentences:

(v) Name the bacterium that is present in the root nodules of plants and fix atmospheric nitrogen.



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6. Answer the following questions briefly in one or two sentences:

What is nuclear fallout ?



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7. Answer the following questions briefly in one or two sentences:

(vii) What are vulnerable species?



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8. Answer the following questions briefly in one or two sentences:

(viii) For which Indian rice variety was patent filed by a USA company?



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9. A national level approach to build up a reproductively healthy society was taken up in our country in

A. 1950s

B. 1960s

C. 1980s

D. 1990s

**Answer:**



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10. The net electric charge on DNA and histones is

- A. Both positive
- B. Both negative
- C. Negative and positive respectively
- D. Zero

**Answer:**



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11. Each of the following questions has four choices. Choose the best option in each case.

(iii) The first transgenic plant was :

A. Tobacco

B. Pea

C. Flax

D. Cotton

**Answer:**





**12.** Each of the following questions has four choices. Choose the best option in each case.

(iv) Which of the following is not a cause for loss of biodiversity ?

A. Destruction of habitat

B. Invasion by alien species

C. Keeping animals in zoological parks

D. Over-exploitation of natural resources

**Answer:**



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**13. Expand the abbreviations :**

(i) IVF



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**14. Expand the abbreviation : ART**



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**15.** Expand the abbreviations :

(iii) GIFT



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**16.** Expand the abbreviations :

(iv) ICSI



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**17.** Define the following :

(i) Codon



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**18.** Define the following :

(ii) Point mutation



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**19.** Give reasons :

(i) Test tube baby programme is a boon to infertile couples.



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**20.** Give reasons :

(ii) Vaccination is based on the property of memory of immune system.



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## Part II Section A All The Questions Are Compulsory

1. Write two major functions each of testis and ovary.



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2. What is pregnancy hormone? Why is it so called? Name two sources of the hormone in a human female.



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3. What do you understand by phenotype and genotype? Explain by giving an example.



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4. Explain with the help of a suitable example, the naming of a restriction endonuclease.



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5. Predation is usually referred to as detrimental association. State any three positive roles that a predator plays in an ecosystem.



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6. What are the advantages of recombinant insulin ?



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7. Give one significant difference between primary lymphoid organs and secondary lymphoid organs. Give one example of each.



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8. Explain the principle involved in ELISA.



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9. Can a person suffering from Adenosine deaminase deficiency be cured?



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**Part II Section B All The Questions Are Compulsory**

1. How is the restoration of good health in human brought about by bioactive molecules of fungal origin ?



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2. What roles do enzymes play in detergents that we use for washing clothes? Are these enzymes produced by some unique microorganisms?



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3. Briefly explain IVF and ET. What are the conditions in which these methods are advised ?



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4. How does the HIV breakdown the immune system of the AIDS patient ?



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5. The sacred groves of Aravalli Hills and Ooty botanical garden both aim at biodiversity conservation. How do they differ their approaches ? Explain.





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6. Which pathogenic virus would mutate faster, one with DNA or RNA why ?



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7. What is the full form of MRI and CT? Where are they used ? State the difference between them.



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8. Why are angiosperm anthers called dithecous ? Describe the structure of its microsporangium.



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9. Explain the term polyembryony. How is it exploited commercially ?



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## Part II Section C All The Questions Are Compulsory

1. You have identified a useful gene in bacteria. Make a flow chart of the steps that you would follow to transfer this gene to a plant.



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2. (i) What is gene therapy? Name the first clinical case where it was used.

(ii) Why is the introduction of genetically

engineered lymphocytes into ADA deficiency patient not a permanent cure? Suggest a possible permanent cure.



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3. Explain the process to transcription in prokaryotes .How is the process different in eukaryotes ?



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4. Name the components of lac operon and discuss their role



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5. (i) Why is colour blindness more prominent in males than females?

(ii) Why is *Drosophila* used extensively for genetic studies?



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6. The basis of DNA fingerprinting is



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