



# BIOLOGY

## BOOKS - SRIJAN BIOLOGY (ENGLISH)

### SELF ASSESSMENT PAPER 05

#### Part I

1. What is lactational amenorrhea



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2. How many base pairs are present in one full turn of DNA helix?



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3. Name the first cell of male gametophytic generation in flowering plants



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4. What is hemizygous?



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5. Which enzyme is produced during lactose catabolism by E.coli?



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6. What are histones?



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7. What is Genetic Engineering?



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8. Mention various levels of biodiversity.



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9. During microsporogenesis, meiosis occurs in

A. Endothecium

B. Microspore mother cells

C. Epidermis and middle layer

D. Epidermis and tapetum

**Answer:**



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**10.** Human Genome Project led to the development of:

A. Biotechnology

B. Bioinformatics

C. biosystematics

D. Bioengineering

**Answer:**



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**11.** Which of the following is derived from the hemp plant "Cannabis sativa".

A. Opium

B. Marijuana

C. MDMA

D. Crack

**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.** Expand the following abbreviations:

(i) ICSI (ii) GIFT (iii) IVF (iv) ARTs



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**14.** Define the following:

(i) Reproduction (ii) Adolescence



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**15.** Give reasons:

Coconut palm is monoecious



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**16.** Linkage and crossing-over of genes are alternatives of each other. Justify with the help of an example.



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## Part II Section A

**1.** How many haploid cells are present in a mature female gametophyte of a flowering plant ? Name them



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2. Give four contrivances for prevention of self pollination



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3. A mother with O type of blood group has conceived. The expected blood group of the foetus is B. Will there be any problem to the mother or the foetus? If so specify the problems.



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4. State the functions of Ribozyme and release factor in protein synthesis respectively.



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5. Explain palindromic nucleotide sequence with the help of a suitable example.



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6. In the biosphere, immense biological diversity exists at all levels of biological organisation. Explain any two levels of biodiversity.



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7. State a difference between endemic and exotic species.



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**8.** What is meant by 'alien species' invasion?

Name one plant and one animal alien species that are a threat to our Indian native species.



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**9.** List an example for each following:

(i) Chemical defence agent

(ii) Biological control agent



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1. Describe the kind of food that would have lactic acid bacteria.



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2. Why is aerobic degradation more important than anaerobic degradation?



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3. Write the source and the effect on the human body of the following drugs:

(i) Morphine (ii) Cocaine (iii) Marijuana



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4. What background information did Watson and Crick have made available for developing a model of DNA. What was their contribution?



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5. Define and give one examples of each:

Mutualism



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6. Define

Commensalism



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7. Define and give one examples of each:

Amensalism



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8. Which plant yields cannabinoids? List any cannabinoids. Name the part of the body that is affected by its consumption



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**9.** Mention the implications of the loss of biodiversity



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**10.** Draw a diagram of sectional view of human ovary and label (i) Primary follicle, (ii) Tertiary follicle, (iii) Graafian follicle and (iv) Corpus luteum.



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**11.** Draw a well labelled diagram of the microscopic structure of human sperm.



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## Part II Section C

**1.** Explain the process of synthesis of insulin by Eli Lilly company



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2. How is the insulin produced by human body different from the insulin produced by the above-mentioned company ?



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3. What' is genetic engineering List the steps in rDNA technology.



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4. A considerable amount of lactose is added to the growth medium of E.coli. How is the lac operon switched on in the bacteria.? Mention the state of the operon when lactose is digested.



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5. Explain the Meselson and Stahl's experiment for semi conservative replication of DNA.



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6. What are decomposers? Write their functions.



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7. (a) Explain Polygenic inheritance and Multiple allelism with the help of suitable examples.

(b) Phenylketonuria is a good example that explains Pleiotropy Justify.



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**8.** Explain the mechanism of transcription in a prokaryotic cell.



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