



BIOLOGY

BOOKS - SRIJAN BIOLOGY (ENGLISH)

SELF ASSESSMENT PAPER 9

Part I

1. Differentiate between parthenogenesis and parthenocarpy.



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2. What is morula ?



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3. Suggest any two contraceptive methods which are very effective to avoid emergency pregnancy.



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4. What is gene therapy? Name the first clinical case where it was used.



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5. What are the steps involved in PCR ?



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6. What is biotechnology ?



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7. Name any two viruses with RNA as genetic material ?



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8. List an example for commensalism.



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9. A human female with Turner's syndrome

A. $44 + XXY$

B. $44 + XYY$

C. $44 + XO$

D. $44 + XXYY$

Answer:



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10. Cry genes of Bt genes are obtained from :

A. Cotton pest

B. Tobacco plant

C. Bacillus thuringiensis

D. None of these

Answer:



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11. Where does the ovum receive the sperm ?

A. Animal pole

B. Vegetal pole

C. Zona pellucida

D. None of these

Answer:



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12. Test tube baby implies which of the following techniques ?

A. IUI

B. ICSI

C. GIFT

D. ZIFT

Answer:



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

(i) Chargaff

(ii) Francis Crick

(iii) Baltimore

(iv) Watson and Crick



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14. Define the following :

(i) Oligospermia

(ii) Translation



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15. Give reasons :

(i) Personal and public hygiene are important aspects for maintaining health.

(ii) The use of cannabinoids prohibited in games and sports.



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16. Differentiate between parthenogenesis and parthenocarpy.



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20. What are the steps involved in PCR ?



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21. What is biotechnology ?



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22. Name any two viruses with RNA as genetic material ?



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23. List an example for commensalism.



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

A. $44 + XXY$

B. $44 + XYY$

C. $44 + XO$

D. $44 + XXYY$

Answer:



Watch Video Solution

25. Cry genes of Bt genes are obtained from :

- A. Cotton pest
- B. Tobacco plant
- C. *Bacillus thuringiensis*
- D. None of these

Answer:



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26. Where does the ovum receive the sperm ?

- A. Animal pole
- B. Vegetal pole
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- D. None of these

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27. Test tube baby implies which of the following techniques ?

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Section A

1. Write a short note on double fertilization.



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2. Is pollination and fertilization necessary in apomixis ? Give reason.



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3. Explain the process of sex determination in humans.



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4. Define immunity. Describe different ways to develop immunity. Write two differences between active and passive immunity.



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5. Mention four features of pBR322.



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6. What are the factors that determine a species as threatened ?



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7. What are critically endangered species ?

How cryopreservation helps in the conservation of biodiversity ?



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8. What is cancer ? How it is different from a normal cell ?



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Section B

1. How can the gene expression be controlled with the help of RNA



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2. How are dominance, codominance and incomplete dominance patterns of inheritance different from each other ?



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3. a) DNA segment has a total of 1000 nucleotides, out of which 240 of them are adenine-containing nucleotides. How many pyrimidine bases does this DNA segment possess?

(b) Draw a diagrammatic sketch of a portion of DNA segment to support your answer.



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4. Write a note on the prevention and control of infectious diseases.



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5. Giving two reasons explain why there is more species biodiversity in tropical latitudes than in temperate ones.



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6. Why is secondary waste water treatment referred to as biological approach ?



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7. What does the term 'memory' of the immune system mean?



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8. Draw a well labelled sketch of a human ovum prior to fertilization.



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9. With the help of labelled diagrams, depict the stages of a microspore maturing into a pollen grain.



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1. (i) What are transgenic bacteria ? Give an example.

(i) What is a transgenic crop ? Write name of the first transgenic crop in India.



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



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3. A village health worker was taking a session with women. She tells the women that has to be very careful while using oral pills as method of birth control. Wrong usage can actually promote conception.

(i) Analyze the statement and compare merits and demerits of using oral pills and surgical methods of birth control.

(ii) Village women were confused as to how a thin metallic Copper loop can provide protection against pregnancy. Justify the use explaining the mode of action of IUDs.



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4. (i) Suggest any four measures to prevent sexually transmitted diseases.

(ii) The procedure of GIFT involves the transfer of female gamete to the fallopian tube. Can gametes be transferred to the uterus to achieve the same result? Explain.



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5. Explain the pattern of inheritance of haemophilia in humans. Why is the possibility of a human female becoming a haemophilic is extremely rare ? Explain.



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6. (i) Why RNA is not a suitable genetic material in comparison with DNA ? Explain.

(ii) Monocistronic structural genes in

eukaryotes have interrupted coding sequence.

Explain. How are they different in prokaryotes.



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