



## BIOLOGY

### BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

#### SAMPLE PAPER - 2

#### Part I

1. Inner most layer of anther wall is .....

- A. Endothecium
- B. Endothelium
- C. Epithelium
- D. Tapetum

**Answer: D**



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2. Test cross involves

- A. Crossing between two genotypes with recessive trait
- B. Crossing between two  $F_1$  hybrids
- C. Crossing between  $F_1$  hybrid with double recessive genotype
- D. Crossing between two genotypes with dominant trait

**Answer: C**

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3. Assertion (A) : Gamma rays are generally used to induce mutation in wheat varieties.

Reason (R) : Because they carry lower energy to non-ionize electrons from atom

- A. A is correct, R is correct explanation of A

B. A is correct, R is not a correct explanation of A.

C. A is correct, R is wrong explanation of A

D. A and R are wrong

**Answer: C**



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4. Self-ligation is prevented by .....

A. DNA polymerase

B. Helicase

C. Alkaline phosphate

D. DNA ligase

**Answer: C**



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5. Match the following :

Column I		Column II
1. Totipotency	(A)	Reversion of mature cells into meristem
2. Dedifferentiation	(B)	Biochemical and structural changes of cell
3. Explant	(C)	Properties of living cells develops into entire
4. Differentiation	(D)	Selected plant tissue transferred to culture m

A.  
1 2 3 4  
*C A D B*

B.  
1 2 3 4  
*A C B D*

C.  
1 2 3 4  
*B A D C*

D.  
1 2 3 4  
*D B C A*

**Answer: A**



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6. A specific place in an ecosystem, where an organism lives and performs its functions is

A. habitat

B. niche

C. landscape

D. biome

**Answer: B**



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7. Find the wrongly matched pair.

A. Endemism - Species confined to a given region and not found anywhere else.

B. Hotspots - Western ghats

C. Ex-situ conservation - Zoological parks

D. Sacred groves - Saintri hills of Rajasthan

**Answer: D**



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8. The plant source of marijuana is .....

- A. *Andrographis paniculata*
- B. *Phyllanthus maderaspatensis*
- C. *Cannabis sativa*
- D. *Papaver somniferum*

**Answer: C**



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9. Match the following.

- |                               |                |
|-------------------------------|----------------|
| Types of Asexual reproduction | Organisms      |
| A. Endogenous budding         | i. Star fish   |
| B. Parthenogenesis            | ii. Tapeworm   |
| C. Fragmentation              | iii. Noctiluca |
| D. Regeneration               | iv. Honey bees |

- A.    1    2    3    4  
      *C*   *D*   *B*   *A*

- B. 1 2 3 4  
*D C A B*
- C. 1 2 3 4  
*C A D B*
- D. 1 2 3 4  
*C A D B*

**Answer: A**



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**10.** The male sex hormone testosterone is secreted from .....

- A. Sertoli cells
- B. Leydig cells
- C. Epididymis
- D. Prostate gland

**Answer: B**



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11. Select the incorrect action of hormonal contraceptive pills from the following

- A. Inhibition of spermatogenesis
- B. Inhibition of ovulation
- C. Changes in cervical mucus impairing its ability to allow passage and transport of sperm
- D. Alteration in uterine endometrium to make it unsuitable for implantation

**Answer: A**

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12. Father of a child is colour blind and mother is carrier for colour blindness, the possibility of the child being colour blind is.....

- A. 0.25



B. 0.5

C. 1

D. 0.75

**Answer: B**



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13. Which of the following is the correct sequence of events with reference to the central dogma ?

A. Transcription, Translation, Replication

B. Transcription, Replication, Translation

C. Duplication, Translation, Transcription

D. Replication, Transcription, Translation

**Answer: D**



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14. Who proposed the Germplasm theory ?

A. August Weismann

B. Darwin

C. Lamarck

D. Alfred wallace

**Answer: A**



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15. AIDS virus has .....

A. Single stranded RNA

B. Single stranded DNA

C. Double stranded RNA

D. Double stranded DNA

**Answer: C**



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**16. Assertion (A) :** Streptomycin is an antibiotic

**Reason (R) :** Antibiotics are microbial products inhibits the growth of pathogenic microbe.

A. A is right, R is wrong

B. R explain A

C. A and R are wrong

D. A and R are right. R does not explain A

**Answer: B**



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1. Pollination in Gymnosperms is different from Angiosperms' - Give reasons.

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2. A B C C B D E F G H I

From the above figure identify the type of mutation and explain it.

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3. Write the various steps involved in cell suspension culture.

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4. Pyramid of energy is always upright. Give reasons.

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5. Describe in brief about Actinomycetes.

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6. Explain the law of dominance in monohybrid cross.

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7. What is inhibin ? State its functions.

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8. Construct a flow chart showing criss-cross inheritance.

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9. How does Mutation theory of Dev. Vries differ from Lamarck and Darwin's view in the origin of new species.

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10. What is biological oxygen demand ?

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11. Differentiate between Eurytherms and Stenotherms.

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12. Identify the secondary pollutant among the following .

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1. What is meant by cytoplasmic inheritance ?

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2. How will you identify a vector ?

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3. What is Albedo effect and write their effects?

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4. Ozone acts as a natural sun screen-Justify.

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5. Which is called as "The King of Bitters"? Mention their medicinal importance.

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6. What is amniocentesis ? Why a statutory ban is imposed on this technique ?

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7. DNA acts as genetic material for majority of living organisms and not the RNA. Give reasons to support the statement.

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8. Draw and label the structure of Immunoglobulin.

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9. Explain how "Rosie" is different from a normal cow.

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10. Extinction of a keystone species led to loss of biodiversity. Justify.

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## Part Iv

1. With a suitable diagram, explain the structure of an ovule.

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2. List out the significance of ploidy.

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3. Explain the basic concepts involved in plant tissue culture.

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4. Write a note on carbon foot print.

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5. Write a note on menstrual cycle.

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6. Write the salient features of genetic code.

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7. Suggest some of the ways to prevent drug and alcohol abuse.



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**8. Mention the advantages and disadvantages of cloning.**



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