



BIOLOGY

BOOKS - SURA BIOLOGY (TAMIL ENGLISH)

MODEL QUESTION PAPER 04

Mcq Part 1

1. The correct order of haploid, diploid and triploid structure is fertilized embryosac is

A. Synergid,zygote and PEN

B. synergid, antipodal and polar nuclei

C. Antipodal,synergid and PEN

D. Synergid, polar nuclei and zygote

Answer: A



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Mcq Part 2

1. Which one of the following is an example for polygenic inheritance ?

A. Flower color in *Mirabilis jalapa*

B. Production of male honey bee

C. pod shape in garden pea

D. skin color in humans

Answer: D



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1. Consider the following statements :

- i. Recombinant DNA technology is popularly known as genetic engineering is a stream of biotechnology which deals with the manipulation of genetic materials by man invitro
- ii. pBR322 is the first artificial cloning vector developed in 1977 by Boliver and Rodriguez from E.coli plasmid.
- iii. Restriction enzymes belong to a class of

enzymes called nucleases . Choose that correct option regarding above statements

A. I and II

B. I and III

C. II and III

D. I, II and III

Answer: B



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1. EcoRI cleaves DNA at

A. AGGGTT

B. GTATATC

C. GAATTC

D. TATAGC

Answer: C



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1. The time duration for sterilization process by using autoclave is _____ minutes and the temperature is _____

A. 10 to 30 minutes and 125C

B. 15 to 30 minutes and 121C

C. 15 to 20 minutes 125C

D. 10 to 20 minutes and 121C

Answer: B



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Mcq Part 6

1. A free living nitrogen fixing cyanobacterium which can also form symbiotic association with the water fern Azolla

A. Nostoc

B. Anabaena

C. Chlorella

D. Rhizobium

Answer: B



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Mcq Part 7

1. Column I represent the size of the soli particles and column II represents type of soli components. Which of the following is correct match for the column I and column II.

Column I Column II

A. 0.2 to 2.00mm-(i) Slit

B. Less than 0.002 mm-(ii) Clay

C. 0.02 to 0.2 mm-(iii) Coarse and particle

D. 0.002 to 0.02 mm-(iv) Fine sand particle

A. ii iii iv i

B. iv i iii ii

C. iii ii iv i

D. none of the above

Answer: C



Mcq Part 8

1. Which of the following is / are not the mechanism of decomposition?

A. Eluviation

B. Catabolism

C. Anabolism

D. Fragmentation

Answer: C



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Mcq Part 9

1. Which of the following is not a abiotic component of the ecosystem?

A. Bacteria

B. humus

C. ORGANIC Compounds

D. Inorganic compounds

Answer: D



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Mcq Part 10

1. The invasive species introduced in India from Philippines

A. Lantana

B. Prosopis

C. Parthenium

D. Kappaphycus

Answer: A



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Mcq Part 11

1. Assertion (A): Genetic variation provides the raw material for selection.

Reason (R): Genetic variations are differences in genotypes of the individuals.

- A. Assertion is right and reason is wrong
- B. Assertion is wrong and reason is right
- C. Both reason and assertion is right
- D. Both reason and assertion is wrong

Answer: B



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1. Jaya and Ratna are the semi dwarf varieties of

A. Wheat

B. rice

C. cowpea

D. mustard

Answer: B



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Mcq Part 13

1. Statement A: coffee contains caffeine

Reason B: Drinking coffee enhances cancer

A. A is correct ,B is correct

B. A and B - Both are correct

C. A is wrong , B is correct

D. A and B -both are wrong

Answer: A



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Mcq Part 14

1. Consider the following statements and choose the right option. i) Cereals are members of grass family . Most of the food grains come from monocothledon.

A. (i) is correct and (ii) is wrong

B. Both (i)and (ii)are correct

C. (i) is wrong and (ii)is correct

D. Both (i) and (ii) are wrong

Answer: B



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Mcq Part 15

1. Which of the following RNA polymerases is responsible for the transcription of protein coding genes in eukaryotes?

A. Rna Pol I

B. RNA Poly II

C. RNA Pol III

D. RNA Pol IV

Answer: B



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Very Short Answer Type Questions

1. Differentiate secretory and invasive tapetum.



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2. Define Genetics.



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3. Write about the energetics of DNA replication.



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4. What is the role of alkaline phosphatase in genetic engineering ?



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5. Give the examples for micro propagation performed plants.



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6. Why do submerged plants receive weak illumination than exposed floating plants in a lake?



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7. What are agrochemicals?



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8. Discuss the importance of neem in seed storage.



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9. What are cucurbits ? Why it is considered as an important summer vegetable?



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Short Answer Type Questions

1. Draw the diagram of different types of aneuploidy.



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2. list down the advantages of conventional methods.



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3. What is meant by cytoplasmic inheritance ?





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4. What are splicesomes?



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5. Enumerate the applications of single-cell protein .



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6. Describe the mutual relationship between the fig and wasp and comment on the phenomenon that operates in this relationship.



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7. Distinguish between endangered, vulnerable and rare species.



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8. What are the advantages of cultivation of aromatic plants ?



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9. What are the different types of hybridization?



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Long Answer Type Questions

1. Give short notes on types of ovules .



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2. Explain the process of DNA replication in eukaryotes.



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3. Explain the mechanism of crossing over.



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4. What is bioremediation?

Give some examples of bioremediation.



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



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6. Explain different types of hydrophytes with examples.



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7. Shape of pyramid in a particular ecosystem is always different in shape. Explain with example.



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8. Explain afforestation with case studies.



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9. List the ways by which seeds can be stored for longer duration.



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10. What will you do if want to make a portable indoor greenery?



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