



BIOLOGY

BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

SAMPLE PAPER-8(SOLVED)

Bio Botany Part I

1. Identify the mismatched pair regarding the anther walls.

- A. Epidermal layer - Protective in function
- B. Endothecium layer - Helps in dehiscence
of anther
- C. Middle layer - Persistent layer
- D. Tapetum -Nutritive in function

Answer: C



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2. Extra nuclear inheritance is a consequence of presence of genes in

A. Mitochondria and chloroplasts

B. Endoplasmic reticulum and mitochondria

C. Ribosomes and chloroplast

D. Lysosomes and ribosomes

Answer: B



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3. How many map units separate two alleles A and B, if the recombination frequency is 0.09?

A. a) 900cM

B. b) 90cM

C. c) 9cM

D. d) 0.9cM

Answer: C



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4. Plasmids are

A. a) circular protein molecules

B. b) required by bacteria

C. c) tiny bacteria

D. d) confer resistance to antibiotics

Answer: D



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5. Solar energy used by green plants for photosynthesis is only

A. a) 2-8%

B. b) 2 - 10%

C. c) 3 - 10%

D. d) 2-9%

Answer: B



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6. One of the chief reasons among the following for the depletion in the number of species making endangered is

A. a) over hunting and poaching

B. b) green house effect

C. c) competition and predation

D. d) habitat destruction

Answer: D



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

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

A. a) (A) is right and (R) is wrong

B. b) (A) is wrong and (R) is right

C. c) Both (A) and (R) are right

D. d) Both (A) and (R) are wrong

Answer: C



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8. Groundnut is native of

A. a) Philippines

B. b) India

C. c) North America

D. d) Brazil

Answer: D



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1. Give the phenotypic ratio of (a) Dihybrid cross (b) Dihybrid test cross



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2. What are the materials used to grow microorganism like Spirulina?



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3. Compare Redifferentiation with Dedifferentiation.



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4. Loamy soil is ideal for crop cultivation - Justify.



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5. Mention any four environmental benefits of Rain Water Harvesting.



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6. If a person drinks a cup of coffee daily it will help him for his health. Is this correct? If it is correct, list out the benefits.



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Bio Botany Part Iii

1. How the flowers of salvia are adopted for mellitophily?



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2. What is the difference between mis-sense mutation and non-sense mutation?



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3. Give an account on germplasm conservation.



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4. How are microbial inoculants used to increase the soil fertility?



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



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Bio Botany Part Iv

1. Find out the molecular explanation for the wrinkled pea seeds used by Mendel.



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2. Write in detail about Remote sensing and its uses.



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3. Explain various edaphic factors that affect vegetation.



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4. Describe the procedure involved in Blue-White colony selection methods.



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Bio Zoology Part I

1. Identify the proper sequence.

A. a) juvenile phase, senescent phase,
vegetative phase

B. b) juvenile phase, maturity phase,
senescent phase

C. c) vegetative phase, maturity phase,
juvenile phase

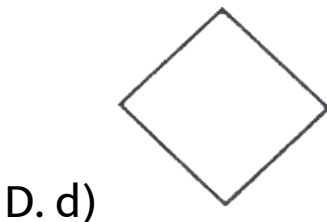
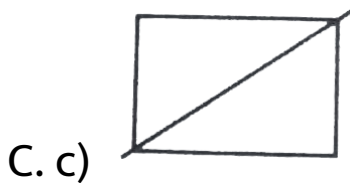
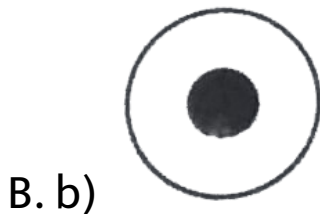
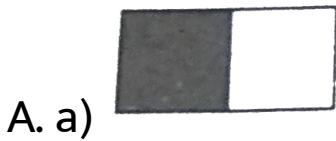
D. d) senescent phase, juvenile phase,
vegetative phase

Answer: B



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2. Which of the following symbol is used in pedigree analysis to represent unspecified sex?



Answer: B



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3. Darwin's finches are an excellent example of

.....

A. a) connecting links

B. b) seasonal migration

C. c) adaptive radiation

D. d) geographical isolation

Answer: C



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4. A 30 year old woman has bloody diarrhoea for the past 14 hours, which one of the following organisms is likely to cause this illness?

A. a) *Streptococcus pyogenes*

B. b) *Clostridium difficile*

C. c) *Shigella dysenteriae*

D. d) Salmonella enteritidis

Answer: C



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5. Which of the following microorganism is used for production of citric acid in industries ?

A. Lactobacillus bulgaris

B. Penicillium citrinum

C.

D. Rhizopus nigricans

Answer: C



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6. The interaction in nature, where one gets benefit on the expense of other is..... .

A. a) Predation

B. b) Mutualism

C. c) Amensalism

D. d) Commensalism

Answer: D



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7. Which of the following region has maximum biodiversity?

A. Taiga

B. Tropical forest

C. Temperate rain forest

D. Mangroves

Answer: B



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8. The 'thickness' of Stratospheric Ozone layer is measured in/on:

A. a) Sieverts units.

B. b) Melson units

C. c) Dobson units

D. d) Beaufort Scale

Answer: D



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Bio Zoology Part II

1. What is parthenogenesis? Give two examples from animals.



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2. Mention the production site and action site of following hormones. (a) GnRH (b) Relaxin



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3. Differentiate foeticide and infanticide.



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4. State Van't Hoff's rule.



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5. Name the active chemical found in the medicinal plant *Rauwolfia vomitoria*. What type of diversity does it belong to ?



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6. List any four adverse effects of noise.



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1. State Lyon's hypothesis.



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2. Distinguish between structural gene, regulatory gene and operator gene.



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3. Explain the principles of Lamarckian theory.



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4. List the causative agent, mode of transmission and symptoms for Diphtheria and Typhoid.



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5. ELISA is a technique based on the principles of antigen- antibody reactions. Can this technique be used in the molecular diagnosis of a genetic disorder such as Phenylketonuria?



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Bio Zoology Part Iv

1. The following is the illustration of the sequence of ovarian events (a-i) in a human

female.



(a) Identify the figure that illustrates ovulation and mention the stage of oogenesis it represents.

(b) Name the ovarian hormone and the pituitary hormone that have caused the above mentioned events.

(c) Explain the changes that occurs in the uterus simultaneously in anticipation.

(d) Write the difference between C and H.



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2. Write short notes on the following.

(i) Brewer's yeast (ii) *Ideonella sakaiensis* (iii)

Microbial fuel cells



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3. Write the salient features of Human Genome Project.



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4. Tropical regions are rich in biodiversity.

Why?



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