



BIOLOGY

BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

EXAMINATION QUESTION PAPER - MARCH 2019

Bio Botany Part I

1. For every CO_2 molecule entering the C_3 cycle, the number of ATP and NADPH required is

A. $3ATP + 2NADPH$

B. $3ATP + 2NADPH$

C. $2ATP + 2NADPH$

D. $2ATP + 3NADPH$

Answer: A



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2. The haploid number of chromosome for an Angiosperm is 14, the number of chromosome in its endosperm would be

A. 42

B. 28

C. 7

D. 14

Answer: A



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3. Vexillary aestivation is characteristic of the family

A. Solanaceae

B. Brassicaceae

C. Fabaceae

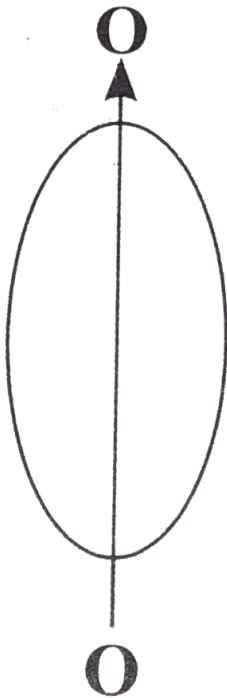
D. Asteraceae

Answer: C

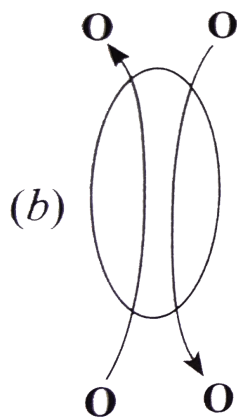


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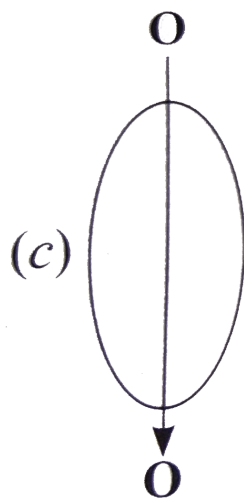
4. Which of the following represents symport?



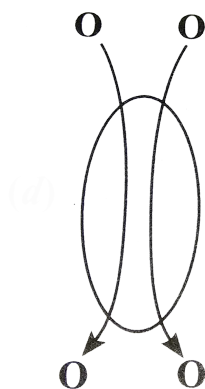
A.



B.



C.

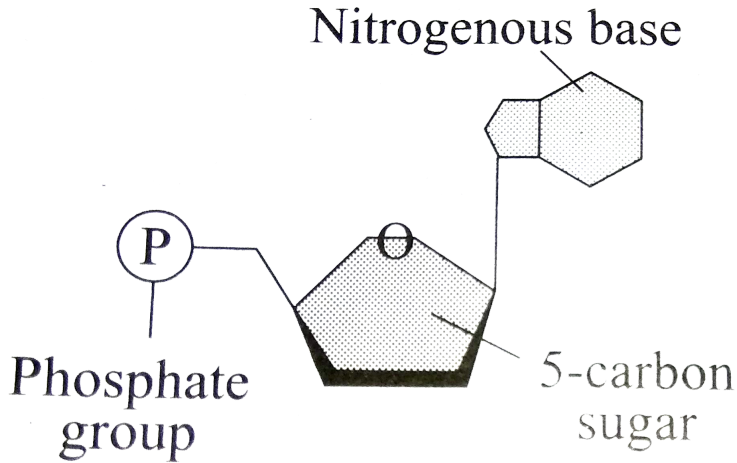


D.

Answer: D



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5.

The above structure represents a

- A. Polynucleotide
- B. Amino acid
- C. Nucleoside
- D. Nucleotide

Answer: D



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6. The paring of homologous chromosomes on meiosis is known as

- A. Disjunction
- B. Synergids
- C. Bivalent
- D. Synapsis

Answer: D



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7. Photosynthetic roots are seen in :

- A. Vanda
- B. Tinospora
- C. Cuscuta

D. Viscum

Answer: B



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8. Match :

List I

List II

- | | |
|---------------|---|
| 1. Potassium | (i) Constituent of cell membrane, Proteins, Nucleic acids, |
| 2. Magnesium | (ii) Essential component of Proteins, Nucleic acids, Amino |
| 3. Nitrogen | (iii) Maintains osmotic potential and turgidity of the cell |
| 4. Phosphorus | (iv) Constituent of chlorophyll |

A. (1) - (iii), (2) - (iv), (3) - (ii), (4) - (i)

B. (1) - (iii), (2) - (ii), (3) - (i), (4) - (iv)

C. (1) - (iv), (2) - (ii), (3) - (iii), (4) - (i)

D. (1) - (i), (2) - (iv), (3) - (iii), (4) - (ii)

Answer: A



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1. What is plectostele? Give example.



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2. Which are the primary functions of leaves?



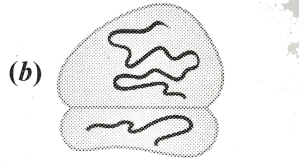
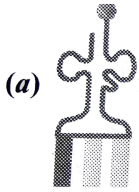
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3. A series of events leading to the formation of new cell is known as Cell Cycle. Give the diagrammatic view of Cell Cycle.



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4. Name the following diagrams.



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5. Mention the different types of plasmolysis seen in plant cells.

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6. Tabulate any two differences between Cyclic and Non-Cyclic photophosphorylation.

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1. Explain the different types of placentation with example?



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2. Draw and label the structure of Mitochondria.



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3. A transverse section of the trunk of a tree shows concentric rings which are known as growth rings . How are these rings formed ? What are the significance of these rings ?



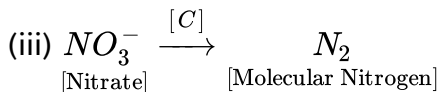
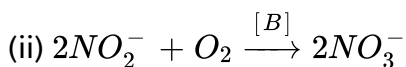
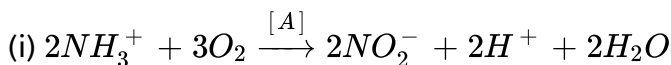
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4. What is the formula for Respiratory Quotient?



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5. (a) The equations given below represent the different stages of Nitrogen Cycle in plants.



In the above equations [A], [B],[C] indicate the bacteria which is responsible for the reaction. Name them.

(b) Define Denitrification.

(c) Which enzyme is required for Nitrogen fixation ?



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Bio Botany Part Iv

1. A Danish Physician, Christian Gram developed a staining procedure to differentiate bacteria. List the various steps involved in that procedure.



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2. Describe the Floral characters of *Allium cepa* with a neat floral diagram.



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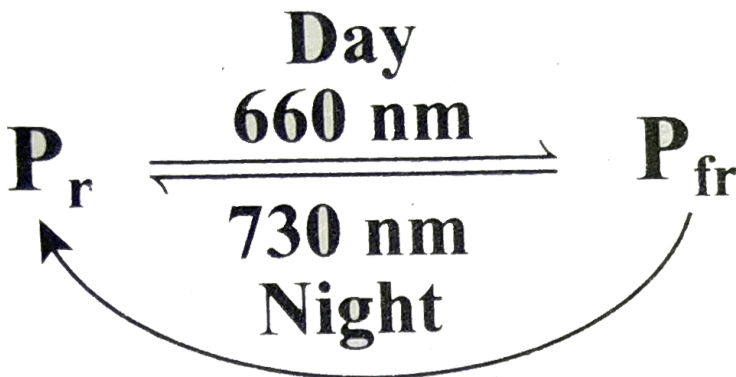
3. Draw and label the internal structure of Nerium leaf.



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4. (b) (i) Write any four points regarding Physiological effects of cytokinins.

(ii) Define Vernalisation.



(iii)

In the above representation, what does P_r and P_{fr} stand for ?





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Bio Zoology Part I

1. Vital Capacity is

A. $RV + ERV$

B. $TV + IRV + ERV$

C. $TV + IRV$

D. $TV + ERV$

Answer: B



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2. When a cockroach tries to enter into the ear of a sleeping person.

Which one of the following process will start ?

A. Stimulation of negative feedback mechanism

B. Neuromuscular fatigue

C. Unconditioned reflex

D. Conditioned reflex

Answer: C



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3. Which one of the following is correct pair?

A. Exotic breed - Cyprinus Carpio

B. Apiculture - Reeling

C. Sericulture - Propolies

D. Milch breed - Malvi

Answer: A



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4. If Henle's loop were absent from mammalian nephron, which one of the following is to be expected?

- A. The urine will be more concentrated
- B. The urine will be more diluted
- C. There will be no urine formation
- D. There will be hardly any change in the quality and quantity of urine formed

Answer: B



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5. The cytoplasm of the muscle fibre is called

- A. Myofibril
- B. Sarcoplasm

C. Sarcomere

D. Sarcolemma

Answer: B



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6. Three domain classification was proposed by :

A. Cavalier Smith

B. R.H. Whittaker

C. Carolus Linnacus

D. Carl Woese

Answer: D



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7. Which of the statement regarding Lac insect is TRUE?

- A. (ii), (i) and (iv) are correct
- B. (i), (iii) and (iv) are correct
- C. (i), (ii) and (iii) are correct
- D. (ii), (iii) and (iv) are correct

Answer: C



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8. Which of the following is not present in same rank?

- A. Diptera
- B. Insecta
- C. Primata
- D. Orthoptera

Answer: C



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Bio Zoology Part Ii

1. Classify the animals based on the body cavity.



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2. Name the layers found in Human Blood vessels.



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3. How is urea formed in the human body? (OR) We are not consuming urea. But in our body urea is produced. Why?



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4. List the disorders of muscular system.



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5. Do you know your lower limb segment? Write the 3 segments of lower limb.



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6. Name the three zones which are present in Adrenal gland.



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Bio Zoology Part Iii

1. Compare the anatomical features between Phylum Annelida and Arthropoda.



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2. Why do we call cockroach a vector?



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3. Why are villi present in the intestine and not in the stomach ?



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4. Enumerate the benefits of Poultry Farming.



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5. Pituitary gland is commonly called " master gland " of the body .Why?



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1. Write the kingdom, phylum and class for Pigeon. Write the characteristics of birds that are suitable for flying.



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2. In our heart, all the four chambers are completely partitioned. It results in non-mixing of oxygenated blood with deoxygenated blood. Explain the double circulation related to it.



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3. Differentiate between sympathetic and parasympathetic Neural system.



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4. Discuss the various techniques adopted in cattle breeding.



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