

INTERNATIONAL INDIAN SCHOOL – DAMMAM

SECOND TERM EXAMINATION - 2015

Biology

Class – X1

SET- A

Time : 3 hours

Max Marks: 70

General Instructions :

1. All questions are compulsory.
2. This question paper consists of five sections A, B, C, D and E. Section A contains 5 questions of 1 mark each, Section –B has 5 questions of 2 marks each , Section C has 12 questions of 3 marks each, Section D has 1 question of 4 marks and section E has 3 questions of 5 marks each
3. There is no overall choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and all the three questions of 5 marks weightage. Attempt only one of the choices in such questions.
4. wherever necessary, the diagrams drawn should be neat and properly labelled.

Section A

1. Name the genera to which potato and brinjal belong. [1]
2. Write the type of modification of root in Banyan tree. [1]
3. Name the small circular DNA outside the genomic DNA in prokaryotes. [1]
4. An aquarium fish and a pigeon were fed on protein diet. In what different forms would they excrete their nitrogenous wastes? Name the process. [1]
5. Name the age related disorder of skeletal system caused by decreased level of oestrogen. [1]

Section B

6. What is the nature of cellwall in diatoms ? [2]
7. Give the importance of key as a taxonomical aid . [2]
8. Write the structural difference between the tendrils of pumpkin and pea. [2]
9. Briefly describe blood vascular system of cockroach. [2]

OR

Briefly describe respiratory system of cockroach.

10. Enlist the events that take place in a cell between two successive M phases. [2]

Section C

11. Draw the structure of maize grain and label the following parts : [3]
 a) Food storing tissue
 b) Proteinous layer covering the food storing tissue
 c) Large and shield shaped cotyledon
 d) Membraneous sheath that encloses radicle
12. Describe the structure of an organelle in animal cell that has its own genetic material. [3]
13. How does substrate concentration and temperature affect enzyme activity ? [3]
14. Write brief note on the following :
 a) Active transport b) RER c) Chromoplasts

OR

- a) Nucleoside and Nucleotide b) Prosthetic groups c) Secondary metabolites

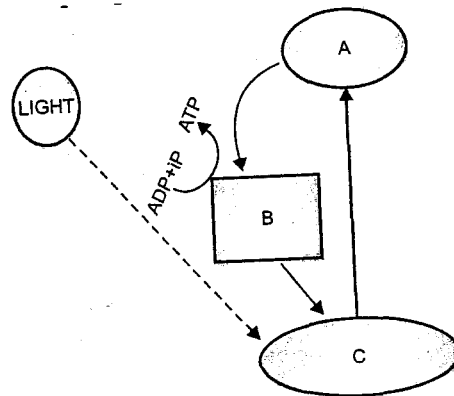
15. (i) Complete the table: [3]

Mineral	Function
(a)	Protein synthesis, opening and closing of Stomata
Zinc	(b)
(c)	Formation of chlorophyll
Manganese	(d).....

- (ii) How are organisms like Pseudomonas and Thiobacillus of great significance in nitrogen cycle ?
16. (a) The following events occur during the various phases of cell cycle. Name the phase. [3]
 (i) Homologous chromosomes separate while sister chromatids remain associated at their centromere.
 (ii) Bivalent chromosomes appear as tetrads.
- (b) Draw the stage at which chromatids move to opposite poles in cell cycle.
17. Write the schematic representation of EMP pathway . [3]
18. Explain glomerular filtration in human nephrons. [3]
19. a) Describe the structure of an actin filament. [3]
 b) How amoeboid movement is effected in our body ?

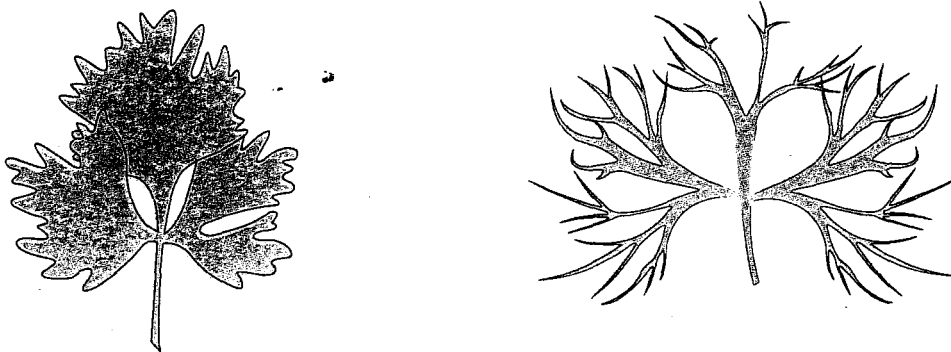
20. Explain the following: [3]
- Role of Na^+ in the generation of action potential.
 - Mechanism of generation of light – induced impulse in the retina.

21. a) In the diagram given below label A, B, C. [3]
What type of phosphorylation is possible in this ?



- b) What are the various events responsible for causing proton gradient across the thylakoid membrane ?

22. a) Explain the phenomenon exhibited by the leaves of Buttercup. [3]



- b) List any four ways how the application of auxins can be found useful.

Section D

23. Based on the laboratory report Noor was told by his doctor that there is accumulation of urea in blood which can lead to kidney failure. [4]
- Name the disorder of the excretory system.
 - Write the remedial measures opted by doctor for this disorder.
 - Mention some of the values shown by doctor in this regard.

Section E

24. (a) Explain the structure and function of simple permanent tissues found in plants. [3+2]
(b) How does periderm formation take place in dicot stem?

OR

(a) State the location and function of different types of meristems in the plant body. [2+3]

(b) Write short notes on:

ii) heart wood and sap wood ii) bulliform cells iii) trichomes

25. (a)Where does Calvin cycle take place in chloroplasts ? Explain the cycle . [3+2]
(b)Photorespiratory pathway results in a loss to the plants . Explain .

OR

(a)Describe Hatch and Slack pathway of photosynthesis [3+2]

(b)State Blackmann's law of Limiting factors. How would the rate of photosynthesis be affected if the soil water becomes limiting.Explain .

26. (a) Draw a neat diagram of human eye and label the following parts : [3+2]
Cornea, sclera, fovea, vitreous chamber, retina, ciliary body.
(b) How is the nerve impulse transmitted across a chemical synapse ?

OR

(a Draw a neat diagram of sagittal section of human brain and label the following parts : cerebrum, hypothalamus, cerebral aqueduct, [3+2]
pons varoli, cerebellum, corpus callosum.

(b) Name the parts of external ear and mention their functions.

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4. wherever necessary, the diagrams drawn should be neat and properly labelled.

Section A

1. Name the genera to which lion and tiger belong. [1]
2. Write the type of modification of root in sugarcane. [1]
3. Name the membraneous structure formed by the extension of plasmamembrane into the cell in prokaryotes. [1]
4. A pigeon and a cat were fed on protein diet. In what different forms would they excrete their nitrogenous wastes, Name the process. [1]
5. Name the autoimmune disorder that affects neuromuscular junction leading to paralysis of skeletal muscle. [1]

Section B

6. Write the economic importance of a) heterotrophic bacteria b) archaebacteria [2]
7. Write the difference between valvate and twisted aestivation. [2]
8. Give the importance of key as a taxonomical aid . [2]
9. Briefly describe blood vascular system of cockroach. [2]

OR

Briefly describe respiratory system of cockroach.

10. How does cytokinesis take place in plant cells ? [2]

Section C

11. Draw the structure of maize grain and label the following parts : [3]
 a) Food storing tissue
 b) Proteinous layer covering the food storing tissue
 c) Large and shield shaped cotyledon
 d) Membraneous sheath that encloses radicle

12. The position of centromere forms the basis of classification of chromosomes. Explain with diagrams. [3]

13. Describe primary , secondary and tertiary structure of proteins . [3]

14. Write brief note on the following :
 a) Active transport b) RER c) Chromoplasts

OR

- a) Nucleoside and Nucleotide b) Prosthetic groups c) Secondary metabolites

15. (i) Complete the table: [3]

Mineral	Function
(a)	Protein synthesis, opening and closing of Stomata
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(c)	Formation of chlorophyll
Manganese	(d).....

- (ii) In the root nodules of leguminous plants mention the role of nitrogenase and leg – haemoglobin .

16. (a) The following events occur during the various phases of cell cycle. Name the phase. [3]
 (i) centromere split and chromatids separate
 (ii) Nuclear envelope assembles around the chromosome clusters.
 (b) Draw the stage at which condensation of chromosomes is completed in cell cycle.

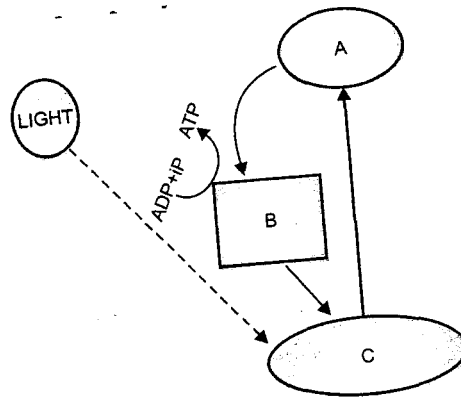
17. Write the schematic representation of TCA cycle. [3]

18. Give a brief account of counter current mechanism . [3]

19. a) Describe the structure of myosin filament . [3]
 b) Give two examples how ciliary movement occurs in our body .

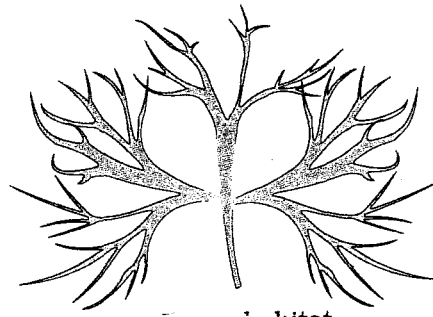
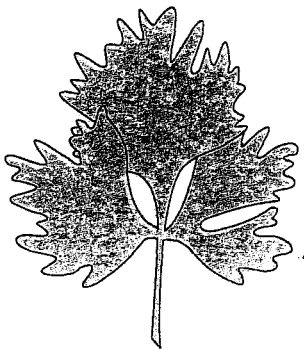
20. Explain the following: [3]
 a) Role of Na⁺ in the generation of action potential.
 b) Mechanism through which a sound produces a nerve impulse in the inner ear .

21. a) In the diagram given below label A , B , C . [3]
What type of phosphorylation is possible in this ?



- b) What are the various events responsible for causing proton gradient across the thylakoid membrane ?

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