



PART A

I. Select the correct alternative from the choices given below:

1x15=15

1. A taxon is
 - a) Group of related species.
 - b) Group of related families
 - c) Type of living organisms
 - d) Taxonomic group of any ranking
2. Methanogens are found in the of the ruminant.
 - a) Mouth
 - b) Gut
 - c) Cow's respiratory system
 - d) Cow's ribs
3. Choose the correct pair
 - a) Radial symmetry- coelenterate
 - b) Coelomates-Aschelminthes
 - c) Metamerism- Molluscs
 - d) Triploblastic- sponges
4. Assertion: leaves of monocot plants possess reticulate venation.
Reason: Leaves of banana possess parallel venation.
 - a) Both assertion and reason are true ,reason is correct explanation for assertion
 - b) Both reason and assertion are true but reason is not the correct explanation of assertion
 - c) Assertion is true but reason is false
 - d) Assertion is false but reason us true
5. Cotyledons of maize grain is called
 - a) Coleorhiza
 - b) Coleoptile
 - c) Scutellum
 - d) Plumule
6. The adult frog is..... animal
 - a) Ureotelic
 - b) Uricotelic
 - c) Ammonotelic
 - d) Both a and b
7. Which one of these is single membrane organelle?
 - a) Chloroplast
 - b) Lysosomes
 - c) Nucleus
 - d) Mitochondria
8. Which pigment acts directly to convert light energy to chemical energy?
 - a) Chlorophyll a
 - b) Chlorophyll b
 - c) Xanthphyll
 - d) Carotenoid
9. Tricarboxylic acid cycle starts with the condensation of acetyl group with
 - a) Malic acid
 - b) Citric acid
 - c) Succinic acid
 - d) Oxaloacetic acid
10. The reaction centre in PS II has an absorption maximum at
 - a) 780nm
 - b) 680nm
 - c) 700nm
 - d) 660nm
11. Enzyme ATPase required for muscle contraction is located in
 - a) Actin
 - b) Troponin
 - c) Myosin
 - d) Tropomyosin
12. Choose correct pair
 - a) Histones-Basic proteins
 - b) Centromere-Primary constriction
 - c) Kinetochore- Disc shaped structure
 - d) All the above
13. Pectoral girdle constitute
 - a) Scapula and clavicle
 - b) Radius and ulna
 - c) Ilium and ischium
 - d) Maxilla and mandible
14. The cell derived from meristems differentiate and regain the capacity to divide by a phenomenon called
 - a) Differentiation
 - b) Dedifferentiation
 - c) Redifferentiation
 - d) Totipotency
15. Match the following and select correct answer:
 - A. Food
 - B. Agar
 - C. Algin
 - D. Carrageenan
 - i. Brown algae
 - ii. Porphyra,Laminaria
 - iii. Gelidium ,Gracilaria
 - iv. Red algae
 - a) A-ii, B-iii, C-I, D-iv
 - b) A-ii, B-iii, C-iv, D-i
 - c) A-iii, B-ii, C-iv, D-i
 - d) A-iii, B-ii, C-iv, D-iv

II. Fill in the blanks with appropriate word given below:**1x5=5**

(Haemoglobin , Atherosclerosis, Ethephon, Gonyaulax, foramen magnum, NAA)

16. Red tides are caused by
17. Medulla oblongata passes out through theand continues into spinal cord.
18. An example of protein with quaternary structure is.....
19.is a source of ethylene which hastens fruit ripening in apples and tomatoes.
20. Coronary Artery disease is also referred as

PART B**III. Answer (ANY 5) of the following:****5x2=10**

21. What are the modifications that are observed in birds that help them fly?
22. Draw a labeled filamentous blue green algae and name it.
23. What is the significance of meiosis?
24. Name the following:
 - a. Cortical portions projecting between medullary pyramids in human kidney.
 - b. A loop of capillary running parallel to the Henle's loop.
- 25.



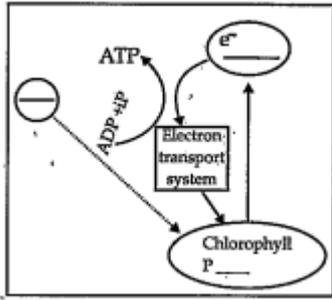
A

B

- a. Name the plants
- b. Mention the division they belong to.
26. Graphically represent the ideal sigmoid growth curve of higher plants.
27. Draw the structure of the amino acid – alanine.

PART C**IV. Answer ANY 5 of the following:****5x3=15**

28. Name the disease based on symptoms:
 - a. Potato tuber appears spindle shaped
 - b. Cattle behaves as mad animal due to spongiform encephalopathy.
 - c. Leaf rolling, curling, yellowing, vein clearing dwarfing and stunted growth in plants. Pox like blisters on skin in humans.
29. Mention the three basic tissue systems in flowering plants, give the tissue names under each system.
30. a. Name the most common respiratory substrate.
b. Define RQ. What is the value for fats?
31. Name the plant growth regulator for the following:
 - a. Delay leaf senescence.
 - b. Induce immediate stomatal closure in leaves.
 - c. Quickly ripen a fruit
32. Identify the following structures found in animals
 - a. Respiratory structure found in Molluscs.
 - b. Regulation of buoyancy in Osteichthyes.
 - c. Locomotory structures found in Neries.
33. Write a note on Ribcage.
34. Draw and Complete the flow chart for cyclic photophosphorylation

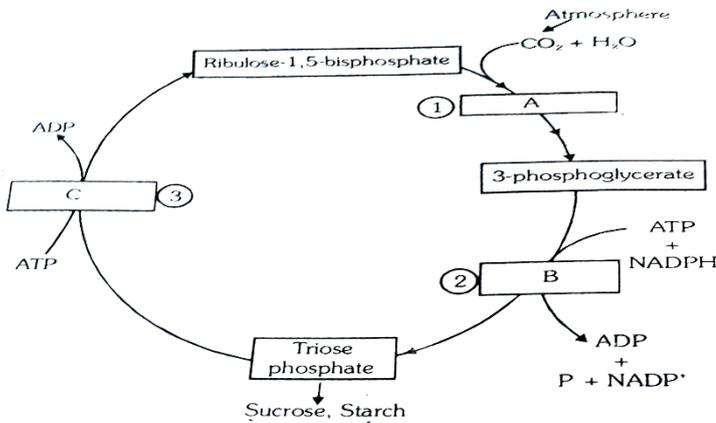


PART D

V. Answer ANY FOUR of the following:

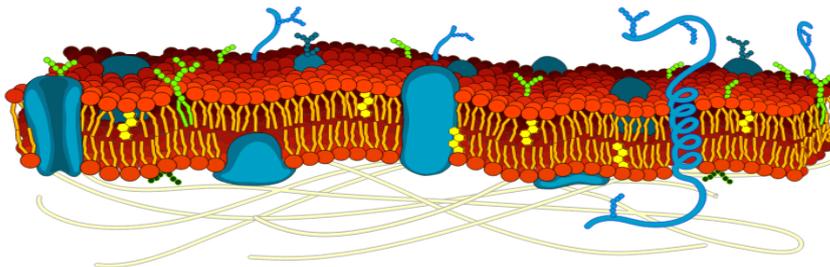
4x5=20

35. Schematic representation:



- Name the cycle and label part A, B and C.
- What is the primary CO₂ acceptor?
- Name the enzyme required for carboxylation.

36.



- Identify and name the diagram.
 - Who proposed it?
 - Explain its structure briefly.
 - List out its functions.
- Define inflorescence.
 - Explain different types of inflorescence.
 - What type of inflorescence is observed in family Solanaceae.
 - Explain the process of ultra filtration.
 - List out the important characteristics of phylum Mammalia.
 - Explain the prophase I of Meiosis I.
 - Define Aestivation. Draw and label the different types of aestivation.

VI. Answer ANY ONE of the following:

1x5=5

42. Give a schematic representation of Citric acid cycle.
43. a. List out the roles of two hormones which are secreted by non- endocrine cells or organs.
b. List out role of any 3 hormones produced by endocrine cells present in different parts of gastrointestinal tract.
44. Draw nucleus.
Label the following:
A-region where exchange of RNA and proteins takes place.
B-the material stained by the basic dyes.
C-A site for active ribosomal RNA synthesis.
D- The barrier between nucleoplasm and cytoplasm.
E- Name the cell which lacks nucleus.
