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STD: XI

BIOLOGY

MARKS-50

**I.CHOOSE THE CORRECT ANSWER :****30X1=30**

- The correct statement regarding Blue green algae is
  - lack of motile structures
  - presence of cellulose in cell wall
  - absence of mucilage around the thallus
  - presence of floridean starch
- Endosperm in Gymnosperm is formed .....
  - at the time of fertilization
  - before fertilization
  - after fertilization
  - along with the development of embryo
- Which of the following is correct statement?
  - In *Pisum sativum* leaflets modified into tendrils
  - In *Atalantia* terminal bud is modified into thorns
  - In *Nepenthes* midrib is modified into lid
  - In *Smilax* inflorescence axis is modified into tendrils
- In an inflorescence where flowers are borne laterally in an acropetal succession the position of the youngest floral bud shall be .....
  - proximal
  - distal
  - intercalary
  - anywhere
- Which of the following is a flowering plant with nodules containing filamentous nitrogen – fixing micro – organisms?
  - Crotalaria juncea*
  - Cycas revoluta*
  - Cicer arietinum*
  - Casuarina equisetifolia*
- Keeping in view the fluid mosaic model for the structure of cell membrane, which one of the following statements is correct with respect to the movement of lipids and proteins from one lipid monolayer to the other.....
  - Neither lipid nor proteins can flip – flop
  - Both lipid and proteins can flip – flop
  - While lipids can rarely flip – flop proteins cannot
  - While proteins can flip – flop lipids cannot
- In S phase of the cell cycle .....
  - Amount of DNA doubles in each cell
  - Amount of DNA remains same in each cell
  - Chromosome number is increased
  - Amount of DNA is reduced to half in each cell
- Proteins perform many physiological functions. For example some functions as enzymes. One of the following represents an additional function that some proteins discharge .....

- (a) Antibiotics (b) Pigment conferring colour to skin  
(c) Pigments making colours of flowers (d) Hormones
9. When a leaf trace extends from a vascular bundle in a dicot stem, what would be the arrangement of vascular tissues in the veins of the leaf?  
(a) Xylem would be on top and the phloem on the bottom  
(b) Phloem would be on top and the xylem on the bottom  
(c) Xylem would encircle the phloem  
(d) Phloem would encircle the xylem
10. The common bottle cork is a product of:  
(a) Dermatogen (b) Phellogen (c) Xylem (d) Vascular cambium
11. Stomata of a plant open due to:  
(a) Influx of  $K^+$  (b) Efflux of  $K^+$  (c) Influx of  $Cl^-$  (d) Influx of  $OH^-$
12. Match the correct combination.

Minerals	Role
(a) Molybdenum	1. Chlorophyll
(b) Zinc	2. Methionine
(c) Magnesium	3. Auxin
(d) Sulphur	4. Nitrogenase
a) A - 1, B - 3, C - 4, D - 2	(b) A - 2, B - 1, C - 3, D - 4
c) A - 4, B - 3, C - 1, D - 2	(d) A - 4, B - 2, C - 1, D - 3

13. For every  $CO_2$  molecule entering the  $C_3$  cycle, the number of ATP & NADPH required:  
(a) 2 ATP + 2 NADPH (b) 2 ATP + 3 NADPH  
(c) 3 ATP + 2 NADPH (d) 3 ATP + 3 NADPH
14. **Assertion (A):** Oxidative phosphorylation takes place during the electron transport chain in mitochondria.  
**Reason (R):** Succinyl CoA is phosphorylated into succinic acid by substrate phosphorylation.  
(a) A and R is correct. R is correct explanation of A  
(b) A and R is correct but R is not the correct explanation of A  
(c) A is correct but R is wrong  
(d) A and R is wrong.

15. Select the correctly matched one:

A. Human urine	(i) Auxin -B
B. Corn gram oil	(ii) $GA_3$
C. Fungus	(iii) Abscisic acid II
D. Herring fish sperm	(iv) Kinitin
E. Unripe maize grains	(v) Auxin A
F. Young cotton bolls	(vi) Zeatin

- (a) A - (iii), B - (iv), C - (v), D - (vi), E - (i), F - (ii)  
(b) A - (v), C - (ii), D - (iv), E - (vi), F - (iii)  
(c) A - (iii), B - (v), C - (vi), D - (i), E - (ii), F - (iv)  
(d) A - (ii), B - (iii), C - (v), D - (vi), E - (iv), F - (i)

16. Which of the following is not present in same rank?  
 (a) Primata (b) Orthoptera (c) Diptera (d) Insecta
17. In which of the following organisms, self-fertilization is seen?  
 (a) Fish (b) Round worm (c) Earthworm (d) Liver fluke
18. Prevention of substances from leaking across the tissue is provided by –  
 (a) Tight junction (b) Adhering junction (c) Gap junction (d) Elastic junction
19. In the head region of Cockroach pairs of and shaped eyes occur.  
 (a) One pair, sessile compound and kidney shaped  
 (b) Two pairs, stalked compound and round shaped  
 (c) Many pairs, sessile simple and kidney shaped  
 (d) Many pairs, stalked compound and kidney shaped
20. The sphincter of Oddi guards .....
- (a) Hepatopancreatic duct (b) Common bile duct  
 (c) Pancreatic duct (d) Cystic duct
21. Asthma is caused due to .....
- (a) inflammation of bronchus and bronchioles (b) inflammation of bronchiole  
 (c) damage of diaphragm (d) infection of lungs
22. Which of the following is not involved in blood clotting?  
 (a) Fibrin (b) Calcium (c) Platelets (d) Bilirubin
23. The hormone which helps in the reabsorption of water in kidney tubules is .....
- a. Cholecystokinin b. Angiotensin II  
 c. Antidiuretic hormone d. Pancreozymin
24. Skeletal muscles are attached to the bones by .....
- (a) Tendon (b) Ligament (c) Pectin (d) Fibrin
25. **Assertion:** The imbalance in the concentration of Na<sup>+</sup>, K<sup>+</sup> and proteins generates action potential.  
**Reason:** To maintain the unequal distribution of Na<sup>+</sup> and K<sup>+</sup>, the neurons use electrical energy.
- (a) Both Assertion and Reason are true and Reason is the correct explanation of the Assertion.  
 (b) Both Assertion and Reason are true but the Reason is not the correct explanation of Assertion.  
 (c) Assertion is true, but Reason is false.  
 (d) Both Assertion and Reason are false.
26. Which part of the human brain is concerned with the regulation of body temperature?  
 (a) Cerebellum (b) Cerebrum  
 (c) Medulla oblongata (d) Hypothalamus
27. Spermatogenesis in mammalian testes is controlled by?  
 (a) Luteinising hormone (b) Follicle stimulating hormone  
 (c) FSH and prolactin (d) GH and prolactin
28. Serum calcium level is regulated by?  
 (a) Thyroxine (b) FSH  
 (c) Pancreas Assertion is true, but Reason is false  
 (d) Thyroid and parathyroid
29. Silk is obtained from  
 (a) Laccifer lacca (b) Nosema bombycis  
 (c) Attacus ricini (d) Attacus mylitta

30. Match the following

- (1) Bombyx mori – a) Champa – (1) Muga  
(2) Antheraea assamensis – b) Mulberry – (II) Eri  
(3) Antheraea mylitta – c) Arjun – (III)Tassar  
(4) Attacus ricini – d) Castor – (IV) Mulberry Select the correct one.  
(a) 1 – b – IV                      (b) 2 – a – I                      (c) 3 – c – III                      (d) 4 – d – II

**II. ANSWER ANY TEN OF THE FOLLOWING :**

**10X2=20**

31. Why do farmers plant leguminous crops in crop rotations/mixed cropping?  
32. Write the distinguishing features of Monera.  
33. What do you infer from the term Pycnoxylic?  
34. Mention two characters shared by Gymnosperms and Angiosperms.  
35. Do you think shape of the chloroplast is unique for algae? Justify your answer.  
36. A tree is believed to be releasing oxygen during nighttime. Do you believe the truthfulness of this statement? Justify your answer by giving reasons?  
37. In Botany class, teacher explains, Synthesis of one glucose requires 30 ATPs in C4 plants and only 18 ATPs in C3 plants. The same teacher explains C4 plants are more advantageous than C3 plants. Can you identify the reason for this contradiction?  
38. Name the respiratory organs of flatworm, earthworm, fish, prawn, cockroach and cat.  
39. Why is pneumonia considered a dangerous disease?  
40. What are the main duties of a worker bee?  
41. Give the economic importance of Silkworm?  
42. List any three common uses of shellac?  
43. What are the advantages of artificial insemination?

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