

**SENIOR INTER PREVIOUS EAMCET QUESTIONS  
EVALUATE YOURSELF SERIES - III**

**BOTANY**

**UNIT-I**

- Two adjacent filaments of *Spigogyra affinis* each 10 cells participating in reproduction. How many new *Spirogyra* plants are produced during sexual reproduction? (EAM-2009)  
1) 5                                      2) 10                                      3) 20                                      4) 40
- Arrange the following in **correct** sequence with reference to sexual reproduction in *Rhizopus* (EAM-2009)  
I) Formation of germ tube                                      II) Formation of zygothecia  
III) Formation of warty wall layer of zygothecium  
IV) Secretion of trisporic acid  
The correct sequence is  
1) IV, III, II, I                                      2) IV, II, III, I                                      3) II, I, IV, III                                      4) I, III, II, IV
- Which of the following taxa shows zooidogamous oogamy? (EAM-2009)  
I) *Spirogyra*                                      II) *Funaria*                                      III) *Pteris*                                      IV) *Cycas*  
The correct answer is  
1) I, II, III                                      2) I, III, IV                                      3) I, II, IV                                      4) II, III, IV
- Study the following lists (EAM-2009)  
**List - I**                                      **List - II**  
A) Coleorhiza                                      I) Development of sporophyte directly from gametophyte without intervention of gametes  
B) Apogamy                                      II) Development of gametophyte directly from sporophyte without the involvement of reduction division  
C) Indusium                                      III) An unbranched columnar stem with a crown of leaves  
D) Caudex                                      IV) Protective covering of radicle  
V) Protective structure of a sorus  

|    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | V        | II       | IV       | I        | 2) | IV       | I        | V        | III      |
| 3) | III      | V        | III      | V        | 4) | II       | III      | I        | V        |
- Which one of the following formed in *Spirogyra* is different based on its nucleus (EAM-2008)  
1) Zygothecium                                      2) Azygothecium                                      3) Aplanosporangium                                      4) Akinete
- Assertion (A)** : The life cycle in *Funaria* is called diplohaplontic  
**Reason (R)** : In *Funaria*, there is alternation of haploid gametophytic and diploid sporophytic phases, one becoming parent to the other (EAM-2008)  
1) Both A and R are true and R is the correct explanation of A  
2) Both A and R are true, but R is not the correct explanation of A  
3) A is true, but R is false                                      4) A is false, but R is false
- Read the following lists (EAM-2008)  
**List - I**                                      **List - II**  
A) Exarch                                      I) Rhizome of *Pteris*  
B) Endarch                                      II) Roots of *Pteris*  
C) Mesarch                                      III) Pinnule of *Cycas*  
D) Pseudomesarch                                      IV) Primary stem of *Pteris*  
The correct match is  

|    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | I        | III      | IV       | II       | 2) | II       | IV       | III      | I        |
| 3) | II       | IV       | I        | III      | 4) | III      | I        | I        | IV       |
- The parthenospores of *Rhizopus* are (EAM-2007)  
1) Uninucleate                                      2) Binucleate                                      3) Trinucleate                                      4) Multinucleate

9. **Assertion (A)** : Both apospory and apogamy are observed in pteris. **(EAM-2007)**  
**Reason (R)** : They are evident by the production of haploid sporophyte by apospory and diploid gametophyte by apogamy.  
 The correct answer is  
 1) (A) and (R) are true and (R) is the correct explanation of (A)  
 2) (A) and (R) are true but (R) is not the correct explanation of (A)  
 3) (A) is true but (R) is false  
 4) (A) is false but (R) is true
10. Study the following and identify two characters found in both Cycas and Pteris. **(EAM-2007)**  
 I. Formation of motile male gametes. II. Formation of haploid endosperm.  
 III. Formation of sporophyte directly from gametophyte without gametic union.  
 IV. Formation of archegonia in female gametophyte.  
 The correct pair is  
 1) I and IV 2) I and III 3) II and IV 4) III and IV
11. Study the following lists : **(EAM-2006)**
- |               |      |                |  |
|---------------|------|----------------|--|
| <b>List-I</b> |      | <b>List-II</b> |  |
| A) Apophysis  | I.   | Funaria        |  |
| B) Columella  | II.  | Cycas          |  |
| C) Columella  | III. | Funaria        |  |
| D) Apophysis  | IV.  | Spirogyra      |  |
|               | V.   | Rhizopus       |  |
- The correct match is :
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | I        | IV       | III      | II       | 2) | III      | V        | I        | II       |
| 3) | II       | I        | V        | III      | 4) | III      | II       | I        | V        |

**UNIT-II**

12. Study the following lists **(EAM-2009)**
- |                         |      |                             |  |
|-------------------------|------|-----------------------------|--|
| <b>List - I</b>         |      | <b>List - II</b>            |  |
| A) pasteurella pestis   | I)   | Angular leaf spot of cotton |  |
| B) Treponema pallidum   | II)  | Amphotericin                |  |
| C) Mycobacterium bovis  | III) | Actinomycosis of cattle     |  |
| D) Streptomyces nodosus | IV)  | Syphilis                    |  |
|                         | V)   | Plague                      |  |
- The correct match is
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | IV       | I        | II       | III      | 2) | II       | III      | IV       | V        |
| 3) | V        | IV       | III      | II       | 4) | II       | II       | I        | IV       |
13. Identify the **correct** pair of events when temperature phages infect bacteria **(EAM-2009)**  
 I) No prophages are formed II) Bacterial cell undergoes many divisions  
 III) Bacterial cell undergoes immediate lysis IV) Prophages are formed  
 The **correct** pair is  
 1) I, II 2) II, III 3) III, IV 4) II, IV
14. Study the following lists **(EAM-2008)**
- |                             |      |                 |  |
|-----------------------------|------|-----------------|--|
| <b>List - I</b>             |      | <b>List- II</b> |  |
| A) M13 bacteriophage        | I)   | dsRNA           |  |
| B) Rice dwarf virus         | II)  | ssRNA           |  |
| C) Cauliflower mosaic virus | III) | ssDNA           |  |
| D) Polio virus              | IV)  | dsDNA           |  |
- The correct match is
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | III      | I        | IV       | II       | 2) | II       | I        | III      | IV       |
| 3) | III      | IV       | II       | I        | 4) | IV       | III      | I        | II       |

15. Assign the following substances to the cell wall, flagella, 's' layer and pili of bacteria in correct sequence (**EAM-2008**)  
 I) Glycoprotein      II) Fimbriin      III) Teichoic acid      IV) Flagellin  
 The correct sequence is  
 1) III, I, IV, II      2) III, IV, I, II      3) II, IV, III, I      4) III, IV, II, I
16. Study the following lists : (**EAM-2007**)  
**List - I**  
 (A) Epulopiscium fishelsoni  
 (B) Bacillus thuringiensis  
 (C) Treponema pallidum  
 (D) Agrobacterium tumefaciens  
**List - II**  
 I. Vector  
 II. Acanthurus  
 III. Bacitracin  
 IV. Bioinsecticide  
 V. Syphilis
- The correct match is
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | II       | IV       | V        | I        | 2) | III      | I        | II       | IV       |
| 3) | V        | II       | I        | III      | 4) | IV       | II       | V        | III      |
17. Which of the following are **correct** to describe viruses ? (**EAM-2007**)  
 I. Simple and unicellular organisms.  
 II. Contain DNA or RNA and enclosed by protein coat.  
 III. Possess own metabolic systems and respond to stimuli.  
 IV. Maintain genetic continuity and undergo mutations.  
 The **correct** combination is  
 1) I and II      2) II and IV      3) II and III      4) I and III

### UNIT-III A

18. The osmotic potential and pressure potential of three cells (A, B, C) located in different parts of an actively transpiring plant are given below (**EAM-2009**)
- | Cell | Osmotic potential (MPa) | Pressure potential (MPa) |
|------|-------------------------|--------------------------|
| A    | -0.87                   | 0.44                     |
| B    | -0.92                   | 0.34                     |
| C    | -0.68                   | 0.27                     |
- The correct answer is  
 1) A, B, C      2) A, C, B      3) C, A, B      4) B, C, A
19. The number of stomata and epidermal cells in 1mm<sup>2</sup> leaf area of lower epidermis of the leaves of X, Y and Z plants are given below. Arrange the plants in decreasing order of their stomatal Index : (**EAM-2009**)
- | Plant | Number of Stomata | Number of Epidermal cells |
|-------|-------------------|---------------------------|
| X     | 30                | 150                       |
| Y     | 60                | 240                       |
| Z     | 90                | 400                       |
- The correct answer is  
 1) X, Y, Z      2) Y, Z, X      3) Z, Y, X      4) Y, X, Z
20. Identify three of the following plants which exhibit the physiological process described as Necessary Evil (**EAM-2008**)  
 I) Potamogeton      II) Sagittaria      III) Limnophila      IV) Nymphaea  
 The correct match is  
 1) I, II, III      2) II, III, IV      3) I, II, IV      4) I, III, IV
21. Study the following table showing the components of water potential in closely arranged mesophyll cells namely A, B and C (**EAM-2008**)
- | Cell | Osmotic potential (MPa) | Pressure potential (MPa) |
|------|-------------------------|--------------------------|
| A    | -0.21                   | 0.05                     |
| B    | 0.22                    | 0.02                     |
| C    | -0.23                   | 0.05                     |

Identify two of the following which show correct direction of water movement between two cells

- I)  $A \rightarrow B$                       II)  $B \rightarrow C$                       III)  $C \rightarrow A$                       IV)  $C \rightarrow B$   
 1) I, II                                  2) II, III                                  3) I, IV                                  4) II, IV

22. In photoactive plants, during day time the following ionic flux of guard cell is directly involves the expenditure of energy (EAM-2008)  
 1) Outward movement of malate                      2) Inward movement of potassium ions  
 3) Outward movement of protons                      4) Inward movement of chloride
23. When pea seeds and wheat grains are soaked in water, pea seeds showed more swelling than the wheat. The reason is (EAM-2007)  
 1) Imbibition capacity of proteins is more than that of starch  
 2) Presence of less hydrophilic colloids in the wheat grains  
 3) Cell membrane of pea seeds is more permeable  
 4) Cell walls of wheat grains are less permeable
24. Which one of the following denotes the water potential of the mesophyll cell in wilted condition (EAM-2007)  
 1) Equal to the value of osmotic potential  
 2) Equal to the value of pressure potential  
 3) Greater than the value of its osmotic potential  
 4) Equal to zero
25. A soil sample is found to have 25% of its volume occupied by soil water. Of this, 10% is hygroscopic water and the remaining is capillary water. What is the field capacity of this soil ? (EAM-2006)  
 1) 10%                                  2) 15%                                  3) 25%                                  4) 35%
26. Which one of the following is the reason for higher rate of transpiration in sorghum as compared to maize ? (EAM-2006)  
 1) Increased shoot / root ratio                      2) Increased rate of respiratory quotient  
 3) Increased rate of photosynthesis                      4) Decreased shoot / root ratio
27. Study the following lists : (EAM-2006)
- |  |  |                |  |
|--|--|----------------|--|
| <b>List-I</b>                                  |  | <b>List-II</b> |  |
| A) Water potential of 10% salt solution        |  | I. Positive    |  |
| B) Pressure potential in a normal cell         |  | II. Negative   |  |
| C) Pressure potential in a plasmolysed cell    |  | III. Positive  |  |
| D) Matric potential on the surface of the wood |  | IV. Negative   |  |
|  |  | V. Zero        |  |
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | II       | III      | V        | IV       | 2) | III      | IV       | II       | I        |
| 3) | I        | II       | IV       | III      | 4) | V        | IV       | II       | I        |

### UNIT - IIIB

28. Study the following lists (EAM-2009)

List - I

- A) Photolysis of water  
 B) Diazotrophy  
 C) Cytochrome 'C' oxidase  
 D) Biosynthesis of IAA

List - II

- I) Zinc  
 II) Copper  
 III) Manganese  
 IV) Molybdenum  
 V) Boron

The correct match is

- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | III      | II       | I        | V        | 2) | III      | IV       | II       | I        |
| 3) | V        | II       | III      | IV       | 4) | IV       | I        | III      | II       |

29. Assume that an actively respiring cell has  $3x$  number of  $K^+$  in its cytoplasm and  $2x$  number of  $K^+$  outside. After some time,  $x$  number of  $K^+$  entered into the cell. What is the process by which  $K^+$  transport has taken place (EAM-2009)
- 1) Primary active transport
  - 2) Secondary active transport
  - 3) Diffusion
  - 4) Passive transport
- (EAM-2008)
30. **Assertion (A)** : Salt resistant plants survive in saline habitats by maintaining low internal  $Na^+$  levels.  
**Reason (R)** : Salt resistant plants get rid off excess  $Na^+$  by ATP energized antiporter
- 1) Both A and R are true and R is the correct explanation of A
  - 2) Both A and R are true, but R is not the correct explanation of A
  - 3) A is true, but R is false
  - 4) A is false, but R is false
31. **Assertion (A)** :  $K^+$  ion accumulation found in *Nitella* depends on its respiratory activity.  
**Reason (R)** : Absorption of all ions in plants completely depends on the usage of metabolic energy.  
 The correct answer is (EAM-2007)
- 1) (A) and (R) are true and (R) is the correct explanation of (A)
  - 2) (A) and (R) are true but (R) is not the correct explanation of (A)
  - 3) (A) is true but (R) is false
  - 4) (A) is false but (R) is true.
32. By which mechanism, the salt resistant plants can get rid off excess  $Na^+$  ions to the outer side, through the roots ? (EAM-2006)
- 1)  $H^+$ -ATPase uniport system
  - 2)  $Na^+$ -ATPase uniport system
  - 3)  $H^+ - Cl^-$  symport system
  - 4)  $Na^+ - H^+$  antiport system.

### UNIT-III C

33. Four respiratory enzymes are given below. Arrange them in increasing order of the carbon number of the substrates on which they act (EAM-2009)
- I) Enolase                      II) Aconitase                      III) Fumerase                      IV) Alcohol dehydrogenase
- The correct order is
- 1) II, IV, III, I
  - 2) IV, I, II, III
  - 3) I, IV, III, II
  - 4) IV, I, III, II
34. The ratio between 2-carbon and 3-carbon intermediates having  $-NH_2$  group formed in photosynthetic oxidation cycle is (EAM-2009)
- 1) 1 : 1
  - 2) 2 : 1
  - 3) 3 : 2
  - 4) 3 : 4
35. Which of the following respiratory substrate requires the highest number of  $O_2$  molecules for its complete oxidation (EAM-2009)
- 1) Tripalmitin
  - 2) Triolein
  - 3) Tartaric acid
  - 4) Oleic acid
36. What is the amino acid sequence encoded by the base sequence : UCA UUU UCC UGG AGU of a m-RNA segment (EAM-2009)
- 1) Methionine - Phenylalanine - Serine - Glycine - Serine
  - 2) Glycine - Serine - Phenylalanine - Serine - Glycino
  - 3) Serine - Phenylalanine - Serine - Glycine - Serine
  - 4) Serine - Phenylalanine - Glycine - Serine - Glycine
37. Identify two physiological processes induced by two different phytohormones having a common precursor which is formed due to the catalytic activity of pyruvic dehydrogenase complex (EAM-2009)
- I) More female flowers in cucumber                      II)  $\alpha$ -amylase production in barley grain  
 III) Acceleration of fruit ripening in tomato                      IV) Delay in sprouting of potato tubers
- The correct combination is
- 1) I, II
  - 2) I, III
  - 3) II, IV
  - 4) III, IV



48. Which phytohormone has viral-inhibitory property ? (EAM-2006)  
 1) IAA                                      2)  $GA_3$                                       3) ABA                                      4) 2, 4 - D
49. Study the following lists : (EAM-2006)
- |               |                         |      |                           |                |  |  |  |
|---------------|-------------------------|------|---------------------------|----------------|--|--|--|
| <b>List-I</b> |                         |      |                           | <b>List-II</b> |  |  |  |
| A)            | Oxygen evolving complex | I.   | Potassium ferric oxalate  |                |  |  |  |
| B)            | Proton gradient         | II.  | High oxygen concentration |                |  |  |  |
| C)            | Hill reagent            | III. | ATP synthesis             |                |  |  |  |
| D)            | Photo-respiration       | IV.  | Phephytin                 |                |  |  |  |
|               |                         | V.   | Photolysis of water       |                |  |  |  |
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | V        | III      | I        | II       | 2) | I        | II       | IV       | V        |
| 3) | V        | I        | IV       | II       | 4) | I        | IV       | III      | V        |
50. Study the following table : (EAM-2006)
- |      |                 |                 |                 |
|------|-----------------|-----------------|-----------------|
| I.   | Dehydration     | Condensation    | Decarboxylation |
| II.  | Isomerisation   | Decarboxylation | Hydration       |
| III. | Decarboxylation | Condensation    | Hydration       |
| IV.  | Condensation    | Decarboxylation | Isomerisation   |
- Select the correct pair of answer in which the former in the pair shows the set of reactions taking place during Kreb's cycle and the latter in the pair shows the set of reactions that do not take place during glycolysis :
- 1) I and III                                      2) I and II                                      3) II and III                                      4) II and IV
51. In E.coli., a finished polypeptide has 162 amino acids of which the first amino acid is not a methionine compound. How many nucleotides of DNA are required to code this polypeptide ? (EAM-2006)  
 1) 486                                      2) 54                                      3) 489                                      4) 492
52. The following statements are given about plant growth hormones (EAM-2006)
- I. Kinetin is a degradative substance from DNA molecule.  
 II. ABA is present in all the plants  
 III. Low ratio of cytokinins to auxins favours root formation only.  
 IV. ABA is synthesized catabolically through mevalonate pathway.
- The correct combination is :
- 1) I and II                                      2) II and III                                      3) I and III                                      4) III and IV
53. Which of the following substances induces mobilization of carbohydrates during germination of barley seeds (EAM-2006)  
 1) Auxin                                      2) Gibberellin                                      3) Cytokinin                                      4) Abscisic acid

#### UNIT-IV

54. Read the following table (EAM-2009)
- |                 |                 |  |
|-----------------|-----------------|--|
| I) DCMU         | Herbicide       | Inhibitor of Non-cyclic electron transport |
| II) PMA         | Fungicide       | Reduce transpiration                       |
| III) Colchicine | Alkaloid        | Causes male sterility                      |
| IV) Soilrite    | Sodium alginate | Encapsulation of somatic embryos           |
- 1) I, II                                      2) I, III                                      3) II, III                                      4) II, IV
55. Study the following lists (EAM-2009)
- |               |   |      |                     |                 |  |  |  |
|---------------|---|------|---------------------|-----------------|--|--|--|
| <b>List-I</b> |   |      |                     | <b>List -II</b> |  |  |  |
| A)            | Usage of bisexual flowers as female parents                         | I)   | Clonal selection    |                 |  |  |  |
| B)            | Incorporation of several desirable characters into a single variety | II)  | Pure line selection |                 |  |  |  |
| C)            | Exploiting hybrid vigour for many generations                       | III) | Emasculatation      |                 |  |  |  |
| D)            | Improving local varieties of self pollinated crop                   | IV)  | Hybridization       |                 |  |  |  |
|               |   | V)   | Polyploidy breeding |                 |  |  |  |
- The correct match is
- |    |          |          |          |          |    |          |          |          |          |
|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
|    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |    | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) | IV       | V        | III      | I        | 2) | II       | III      | IV       | V        |
| 3) | III      | IV       | I        | II       | 4) | I        | V        | II       | IV       |

