

**JUNIOR INTER PREVIOUS EAMCET QUESTIONS
EVALUATE YOURSELF SERIES - I**

BOTANY

UNIT-I

1. A teacher was explaining about a constant physical contact involving almost equal physiological inter-dependence in two different thalloid forms. He was trying to explain one of the following

(EAM-2009)

- | | |
|--------------------------------|------------------------------------|
| 1) Mycorrhizal association | 2) Establishment of heterothallism |
| 3) Operation of heterothallism | 4) Advent of Lichen formation |

2. Identify the scientists worked extensively on chlorophyllous and non-chlorophyllous Thallophytes, respectively (EAM-2008)

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|------------|-----------------|------------|---------------|
| I) Iyengar | II) Swaminathan | III) Mehta | IV) Maheswari |
|------------|-----------------|------------|---------------|

The correct pair is

- | | | | |
|----------|-----------|------------|------------|
| 1) I, IV | 2) I, III | 3) II, III | 4) III, IV |
|----------|-----------|------------|------------|

3. Study the following lists : (EAM-2007)

List - I

- (A) Rendle
- (B) Sawada
- (C) Majumdar
- (D) M.O.P. Iyengar

	A	B	C	D
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- | | | | | |
|----|----|-----|-----|----|
| 1) | IV | III | V | II |
| 3) | I | V | III | II |

List - II

- I. Plant environment
- II. Taxon of Zygnemataceae
- III. Fungal secretion
- V. Group of cells alike in form and function

	A	B	C	D
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|----|-----|-----|----|---|
| 2) | III | II | IV | I |
| 4) | II | III | I | V |

4. Study the following lists : (EAM-2006)

List-I

- A) Zacharias Janssen
- B) Camerarius
- C) Stephen Hales
- D) Knoll and Ruska

List-II

- I. Sexual reproduction
- II. Conduction of water.
- III. Compound microscope
- IV. Crystallization of urease
- V. Electron microscope

The correct match is :

	A	B	C	D
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|----|----|----|----|-----|
| 1) | V | II | IV | III |
| 3) | II | IV | I | III |

	A	B	C	D
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|----|-----|----|-----|---|
| 2) | III | I | II | V |
| 4) | V | II | III | I |

UNIT-IIA

5. In *Duranta* the nature of vasculated defensive structures represent the modification of (EAM-2009)

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|--|---------------------------------------|
| 1) Axillary bud as in <i>Bougainvillea</i> | 2) Terminal bud as in <i>Carissa</i> |
| 3) Stipules as in <i>Acacia</i> | 4) Apical bud as in <i>Artabotrys</i> |

6. Study the following lists (EAM-2009)

List - I

- A) Entire leaf modified into a spine
- B) Leaf except stipules modified into a tendril
- C) Stipules modified into a tendril
- D) First leaf of axillary bud modified into a spine

List - II

- I) *Clematis*
- II) *Citrus*
- III) *Euphorbia*
- IV) *Lathyrus*
- V) *Smilax*

The correct match is

	A	B	C	D
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|----|-----|-----|---|----|
| 1) | III | IV | V | II |
| 3) | II | III | I | V |

	A	B	C	D
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|----|-----|----|----|-----|
| 2) | III | I | IV | II |
| 4) | V | II | I | III |

7. Which of the following two are the resultant of stipule modifications (EAM-2008)
 I) Spines in Ziziphus II) Tendrils in smilax III) Tendrils in Nepenthes
 IV) Spines in Argemone V) Thorns in bougainvillea
 The correct pair is
 1) I, III 2) I, II 3) II, V 4) III, V
8. Identify a pair of the following plants which show modification of axillary buds into tendrils and hooks respectively (EAM-2008)
 I) Hugonia II) Duranta III) Passiflora IV) Dioscorea
 The correct pair is
 1) I, II 2) II, III 3) III, I 4) IV, I
9. The aerial, short and branched roots of an autotrophic plant that provide stability are known as (EAM - 2007)
 1) Lateral roots 2) Haustoria 3) Velamen roots 4) Clinging roots
10. Study the following statements: (EAM-2007)
 I. Bulb of *Allium cepa* is a modified stem.
 II. "Cloves" of *Allium sativum* are fleshy scale leaves.
 III. Corm of *Colocasia* is a modified root.
 IV. Tendril in *Vitis vinifera* is a modified axillary bud.
 Identify the correct pair :
 1) I and II 2) II and IV 3) II and III 4) I and IV
11. Arrange the following plants in the ascending order based on the number of leaflets in a leaf (EAM-2007)
 I. *Hardwickia* II. *Gynandropsis* III. *Marselia* IV. *Citrus*
 1) I, III, II, IV 2) IV, I, III, II 3) IV, I, II, III 4) II, IV, III, I
12. Which one of the following has epiphytic features and aerial and flattened photosynthetic roots, without formal organization of stem and leaves ? (EAM-2006)
 1) *Tinospora* 2) *Trapa* 3) *Taeniophyllum* 4) *Vanda*
13. Parts of two plants were observed. Structure A develops aerially and produces roots when comes in contact with the soil. Structure B develops from underground part of the stem, grows obliquely becomes aerial and produces roots on its lower surface. Identify, respectively the structures of A and B: (EAM-2006)
 1) Sucker, Stolon 2) Stolon, Runner 3) Stolon, Sucker 4) Runner, Stolon

UNIT-IIB

14. Study the following table (EAM-2009)
- | | | |
|---|--|---|
| I) Modified aerial stem | Unisexual flowers develop acropetally | Chalazal entry of pollen |
| II) Flowers achlamydeous | Pedicels of all the flowers are of same length | Presence of false whorl |
| III) Cohesion of bracts forming a cup | Centrifugal opening of flowers | Male flowers many |
| IV) Flower formation on one side in a spiral manner | Presence of rachilla | Terminal part of the peduncle is flowerless |
- Select the **correct** pair of answers in which the former represents the set of characters present in *Poinsettia* and the latter in the pair represents the set of characters present in *Casuarina*
 1) II, III 2) I, II 3) IV, III 4) III, I
15. A student observed 34 inflorescences in *bougainvillea* and 42 inflorescences in *Poinsettia*. Find out the number of flowers in *bougainvillea* and the number of female flowers in *Poinsettia* respectively (EAM-2009)
 1) 34, 126 2) 68, ∞ 3) 204, 164 4) 102, 42

16. Study the following table (EAM-2008)

I) False whorl like inflorescence	Many sessile bisexual flowers	Leonotis
II) Single flower like inflorescence	Many stalked staminate and pistillate flowers	Poinsettia
III) Fruit-like inflorescence	Many sessile staminate flowers on the top and pistillate flowers at the base and sterile flowers in between	Ficus
IV) Fleshy axis of inflorescence	Many stalked staminate flowers at the base and pistillate flowers on the top and sterile flowers in between	Colocasia

The correct pair is

- 1) I, III 2) I, IV 3) II, III 4) II, IV

17. Read the following lists (EAM-2008)

List - I

- A) Gall flowers
B) Sympodial axis
C) Achlamydeous
D) Achlamydeous

List - II

- I) Theobroma
II) Bougainvillea
III) Ficus
IV) Euphorbia
V) Hemelia

	A	B	C	D		A	B	C	D
1)	III	V	I	II	2)	III	IV	II	I
3)	III	IV	I	II	4)	III	V	IV	I

18. In the flowers of a plant, the ovarian part is fused, but styles and stigmas are free. Its ovary becomes unilocular due to breakdown of partition wall and the ovules are attached to a central axis. Identify the plant (EAM-2008)

- 1) Dianthus 2) Abutilon 3) Nymphaea 4) Michelia

19. In an inflorescence, two types of small, sessile flowers were observed. They are arranged in centripetal manner and have reduced hair like sepals. Which pair of the following characters are NOT associated with such flowers (EAM-2008)

- I) Nectar glands at the base of the corolla II) Axile placentation
III) Superior ovary IV) Scaly bracts

The correct pair is

- 1) II, III 2) III, IV 3) I, II 4) I, IV

(EAM-2007)

20. **Assertion (A)** : The type of inflorescence in Sphaeranthus is cyathium.

Reason (R) : In cyathium type of inflorescence, the flowers are achlamydeous.

- 1) (A) and (R) are true and (R) is the correct explanation of (A)
2) (A) and (R) 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.

21. In a tetradynamous androecium, one of the following is seen : (EAM-2007)

- 1) Outer whorl of 4 smaller stamens and inner whorl of 2 larger stamens
2) Outer whorl 2 larger stamens and inner whorl of 4 smaller statements
3) Outer whorl of 4 larger stamens and inner whorl of 2 smaller stamens
4) Outer whorl of 2 smaller stamens and inner whorl of 4 larger stamens

22. Arrange the following plants in the ascending order on the number of carpels they possess : (EAM-2006)

- I) Oenothera II) Acacia melanoxylon III) Squill IV) Lettuce

The correct sequence is :

- 1) IV, III, I, II 2) II, IV, III, I 3) II, III, IV, I 4) I, IV, III, II

UNIT-III

(EAM-2009)

23. **Assertion (A) :** In syconus type of fruit, the achenes formed are fewer than the total number of flowers in the inflorescence from which it is formed.
Reason (R) : Upper and middle flowers cannot develop into fruits.
 The correct answer is
 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 true
24. There are 10 flowers in one individual plant of *Crotalaria*. In each microsporangium of every stamen of all the flowers, there are 30 microspore mother cells. How many pollen grains are formed from that plant (EAM-2009)
 1) 4,000
 2) 10,000
 3) 24,000
 4) 48,000
25. A perennial shrub has compound leaves and solitary zygomorphic and epigynous flowers. Each flower reveals dichlamydeous condition with many stamens and multiple fruit with exalbuminous seeds. What is the ratio of advanced and primitive characters in it (EAM-2009)
 1) 1:2
 2) 2:3
 3) 1:1
 4) 3:2
26. Arrange the following fruits in descending order based on the number of locules in the ovary from which it develops (EAM-2008)
 I) Carcenulus II) Schizocarp III) Cremocarp IV) Regma
 The correct sequence is
 1) II, I, IV, III
 2) I, IV, III, II
 3) II, IV, III, I
 4) II, III, I, IV
27. Identify the characters with reference to the plant in which eight nucleated embryo sac was first studied by Strasburger (EAM-2008)
 I) Micropyle, chalaza and funiculus are arranged in the same vertical line in the ovule
 II) Presence of both unisexual and bisexual flowers in the same plant
 III) Filiform apparatus helps in conduction of food materials from endosperm to egg apparatus
 IV) Long funiculus coils like a watch spring around the ovule
 Identify the correct pair
 1) I, IV
 2) II, III
 3) I, II
 4) III, IV
28. Waering isolated a dormancy inducing substance from the leaves of a plant. From which type of gynoecium does the fruit of that plant develop? (EAM-2007)
 1) Bicarpellary syncarpous gynoecium with inferior ovary
 2) Bicarpellary syncarpous gynoecium with superior ovary
 3) Tricarpellary syncarpous gynoecium with superior ovary
 4) Monocarpellary gynoecium with half inferior ovary
29. In the fully organized polygonum type of embryosac, what is the ratio of haploid, diploid and triploid nuclei? (EAM-2006)
 1) 3 : 1 : 3
 2) 6 : 0 : 1
 3) 6 : 1 : 0
 4) 3 : 2 : 3
30. What type of cell division takes place in the functional megaspore initially in angiosperms? (EAM-2006)
 1) Homeotypic without cytokinesis
 2) Reductional without cytokinesis
 3) Somatic followed by cytokinesis
 4) Meiotic followed by cytokinesis
31. Coffee plant has chromosome number of m in its somatic cells. What is the chromosome number in the edible part of coffee seed? (EAM-2006)
 1) m
 2) $2m$
 3) $3m$
 4) $4m$
32. Two dry fruits (A and B) were observed. Both developed from uni-locular ovaries of monocarpellary gynoecia. In fruit A, pericarp and seed coat are free. It liberated the seeds only after the disintegration of the pericarp. Fruit B adheisced dorsiventrally liberating the seeds. In the following the former in the pair represents A and latter B. To which types of fruits, A and B respectively belong? (EAM-2006)
 1) Achene and legume
 2) Nut and follicle
 3) Cy[psela and siliqua
 4) Pyxidium and septicidal capsule

33. Arrange the following plants in the descending order based on the number of their mericarps **(EAM-2006)**
 I. Ricinus II. Coriandrum III. Ocimum IV. Abutilon
 1) IV, III, II, I 2) II, I, III, IV 3) IV, III, I, II 4) I, IV, II, III
34. Which of the following pairs in angiosperms are diploid and triploid, respectively **(EAM-2006)**
 1) Secondary nucleus and endosperm 2) Microspore mother cell and egg cell
 3) Polar nucleus and secondary nucleus 4) Endosperm and antipodal cells

UNIT-V

35. The chemical substances found most abundantly in the middle lamella is released into the Phragmoplast by **(EAM-2009)**
 1) Endoplasmic 2) Golgi complex 3) Spindle fragments 4) Interzonal fibres

36. Study the following lists **(EAM-2009)**

List - I

- A) Initiation of spindle fibres
 B) Synthesis of RNA and Protein
 C) Action of endonuclease
 D) Movement of chromatids towards opposite poles

List -II

- I) Anaphase - I
 II) Zygotene
 III) G₁ phase
 IV) Pachytene
 V) Anaphase - II

The **correct** match is

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

37. If there are 120 adenine molecules in a B-DNA double helical structure showing 20 coils, what is the number of pyrimidine nucleotides forming three hydrogen bonds in it **(EAM-2009)**
 1) 80 2) 100 3) 120 4) 140
38. From the following identify the two correct statements with reference to meiosis **(EAM-2008)**
 I) Bead like structures are absent on chromosomes
 II) Displacement of chiasmata occurs in diakinesis
 III) Separation of two basic sets of chromosomes IV) No division of centromere
 The correct statements are
 1) II, III 2) II, IV 3) III, IV 4) I, III
39. In a DNA segment having six coils, there are 22 nitrogen base pairs linked by two hydrogen bonds. How many cytosine bases are found in that segment **(EAM-2008)**
 1) 22 2) 38 3) 44 4) 76
40. Which one of the following statements is incorrect about the properties of DNA ? **(EAM-2007)**
 1) DNA is denatured when heated up to 70°C.
 2) DNA shows high absorption of UV radiation at 260
 3) DNA directly participates in protein synthesis
 4) Pyrimidines of DNA are cytosine and thymine

(EAM-2007)

41. **Assertion (A) :** Ribosomes are considered as the most primitive cell organelles.
Reason (R) : Ribosomes occur in all eukaryotic organisms.
 The correct answer is
 1) (A) and (R) true and (R) is the correct explanation of (A)
 2) (A) and (R) are true but (R) is not correct explanation of (A)
 3) (A) is true but (R) is false. 4) (A) is false but (R) is true.
42. The triploid number of chromosomes of the first taxon is 10 times more than the haploid number of chromosomes of the second taxon, while the diploid number of the third taxon is 6 times more than the haploid number of the fourth taxon. Which one of the following shows the ascending order of the number of chromosomes in their respective endosperm ? **(EAM-2006)**
 1) Oryza - Allium - Saccharum - Nicotiana 2) Allium - Oryza - Nicotiana - Nicotiana
 3) Nicotiana - Saccharum - Oryza - Allium 4) Saccharum - Oryza - nicotiana - Allium