

ANNEXURE– II

MODEL QUESTIONS –BOTANY

1. **Assertion (A):** In the leaves of the sugarcane C₃ and C₄ cycles are spatially separated.

Reason (R): Hatch and Slack pathway occurs in bundle sheath cells and Calvin cycle in mesophyll cells.

- 1) Both (A) and (R) are true.(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

2. Arrange the following in the order of their occurrence in the life cycle of an angio- spermic plant:

I. Primary Endosperm Nucleus
III. Xenogamy

II. Microsporogenesis
IV. Pericarp

The correct sequence is:

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

3. If one strand of DNA molecule has the nucleotide sequence TACAATCGGTAA, the new stand synthesized in transcription will have the nucleotide sequence as:

- 1) ATGTTAGCCATT
- 2) TACAATCGG TAA
- 3) AUGUUA GCC AUU
- 4) TUCUUTC GG TUU

4. Study the following lists:

List I

- A) Spadix
B) Umbel
C) Spike
D) Head

List II

- I. *Allium*
II. *Tridax*
III. *Cocos*
IV. *Achyranthus*
V. *Hibiscus*

The correct match is:

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

5. Prokaryotic cell possesses the following:

- | | |
|--------------------|---------------------------|
| I. Chloroplast | II. Cellwall |
| III. 70 Sribosomes | III. Well defined nucleus |

The correct combination is:

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