



MBA-003-1014006

Seat No. _____

B. Sc. (Sem. IV) (CBCS) Examination

March / April - 2018

Botany : B-401

(Anatomy, Embryology, Physiology, Ecology & Application)

(New Course)

Faculty Code : 003

Subject Code : 1014006

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :**
- (1) This question paper contains five questions. All are compulsory.
 - (2) Draw neat and labelled diagrams wherever necessary.
 - (3) Figures to the right indicate marks.

- 1 (a) Write answers in very short : 4
 - (1) Give two species name for Secondary growth in Monocot stem
 - (2) Give difference between Proto-xylem and Meta-xylem
 - (3) Define word: Secondary growth.
 - (4) What is the function of Pericycle in Dicot root?
- (b) Write answers in brief : (any 1 out of 2) 2
 - (1) Only draw the labelled diagram of Maize stem.
 - (2) Give two differences between Monocot root and Dicot root.
- (c) Write notes on : (any 1 out of 2) 3
 - (1) Draw only labelled diagram of Dracaena stem.
 - (2) Give three differences between Monocot stem and Dicot stem.

- (d) Write answers in detail : (any 1 out of 2) 5
- (1) Describe anatomical structure of Dicot leaf.
 - (2) Describe anomalous secondary growth in Bignonia stem.
- 2** (a) Write answers in very short : 4
- (1) Full form of PMC and MMC.
 - (2) How many haploid cells are found in typical embryo sac?
 - (3) Give any one example of Fritillaria type of embryo sac?
 - (4) Define word: double fertilization
- (b) Write answers in brief : (any 1 out of 2) 2
- (1) Give process of any one Bisporic embryo sac development
 - (2) Give process of any one Tetrasporic embryo sac development
- (c) Write notes on : (any 1 out of 2) 3
- (1) Explain Megasporogenesis (diagram not necessary)
 - (2) Describe different types of entry of pollen tube into ovule (diagram not necessary)
- (d) Write answers in detail : (any 1 out of 2) 5
- (1) Describe development of Male gametophyte
 - (2) Explain process of double fertilisation.
- 3** (a) Write answers in very short : (any 1 out of 2) 4
- (1) Define word: Osmosis.
 - (2) Give one importance of diffusion in plant
 - (3) What is the difference between hypertonic and hypotonic solutions?
 - (4) What is the difference between Endosmosis and Exosmosis?

- (b) Write answers in brief : (any 1 out of 2) **2**
- (1) Give two significance of Imbibition
 - (2) Write significance of seed dormancy
- (c) Write notes on : (any 1 out of 2) **3**
- (1) Explain types of direction of Translocation
 - (2) Which methods are used for breakdown of seed dormancy
- (d) Write answers detail : (Any 1 out of 2) **5**
- (1) Describe Munch's hypothesis
 - (2) Describe vernalization
- 4** (a) Write answers in very short : **4**
- (1) Which kind of water is most useful for plant?
 - (2) Give the two names of processes for soil formation
 - (3) Give two importance of crop rotation
 - (4) Define word: Edaphology
- (b) Write answers in brief : (any 1 out of 2) **2**
- (1) Give the particle (mm) size of Sand, Silt and Clay soil
 - (2) Write short note on Soil moisture
- (c) Write notes on : (any 1 out of 2) **3**
- (1) Explain any three soil erosion causing agencies.
 - (2) Explain any three soil conservation methods.
- (d) Write answers in detail : (any 1 out of 2) **5**
- (1) Describe Soil profile
 - (2) Describe Remote Sensing for ecology
- 5** (a) Write answers in very short : **4**
- (1) Give any two advantages of artificial seed.
 - (2) Define word: Pure line population.
 - (3) Define word: Polyploidy.
 - (4) Give the scientific name of GULBAS (used in cytoplasmic inheritance)

- (b) Write answers in brief : (any 1 out of 2) **2**
- (1) Give two advantages of mass selection.
 - (2) Write short note on Auto polyploidy
- (c) Write notes on : (any 1 out of 2) **3**
- (1) Write down method for making artificial seed
 - (2) Give any three Phenotypic effect of Polyploidy
- (d) Write answers in detail : (any 1 out of 2) **5**
- (1) Describe Herbarium process
 - (2) Describe Cytoplasmic/Chloroplast inheritance in variegated four o'clock plant.
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