



DAB-003-2014006

Seat No. _____

B. Sc. (Sem. IV) (CBCS) (W.E.F. 2020) Examination

April - 2022

Botany : B - 401

(Fundamental & Advance Botany)

Faculty Code : 003

Subject Code : 2014006

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

[Total Marks : 70

- Instructions :**
- (1) This question paper contains ten questions. Write any five questions.
 - (2) Write answers of all the questions in main answer sheet.
 - (3) Draw neat and labeled diagram wherever necessary.
 - (4) Figures to the right side indicate full marks for the question.

- 1 (a) Answer the following objective type questions : 4
- (1) Write down three types of simple tissues.
 - (2) What are the complex tissues ?
 - (3) Root hair arise from _____.
 - (4) In dicot stem which type of vascular bundles are found ?
- (b) Answer in brief : 2
Write down any two differences between dicot and monocot root.
- (c) Answer in detail : 3
Describe : Types of parenchyma.
- (d) Write note on : 5
Explain : Anatomy of dicot stem with diagram.

- 2 (a) Answer the following objective type questions : 4
- (1) In monocot stem the hypodermis is made up of _____.
 - (2) What are libriform fibres ?
 - (3) Write down names of thickening found in collenchyma.
 - (4) Write down names of xylem components.
- (b) Answer in brief : 2
- Write down any two differences between anatomy of dicot and monocot stem.
- (c) Answer in detail : 3
- Describe : Sclerids.
- (d) Write note on : 5
- Explain structure and function of phloem.
- 3 (a) Answer the following objective type questions : 4
- (1) Write down the names of pollen grain wall.
 - (2) The intine of pollen grain is made up of _____.
 - (3) What is pollenkit ?
 - (4) Define : double fertilization.
- (b) Answer in brief : 2
- Draw labelled diagram of typical ovule.
- (c) Answer in detail : 3
- Describe : Ultra structure of pollen wall.
- (d) Write note on : 5
- Types of ovules.
- 4 (a) Answer the following objective type questions : 4
- (1) The exine of pollen grain is made up of _____.
 - (2) In which type of ovule the chalaza, funicle and micropyle falling in straight line ?
 - (3) The process of double fertilization was discovered by _____.
 - (4) What do you mean by triple fusion ?
- (b) Answer in brief : 2
- Describe : Anatropous ovule.
- (c) Answer in detail : 3
- Describe : Germination of pollen grain.
- (d) Write note on : 5
- Double fertilization.

- 5 (a) Answer the following objective type questions : 4
- (1) Write down examples of Imbibition process.
 - (2) The phenomenon of Osmosis is carried out through _____ membrane.
 - (3) Write down the size of sand particles.
 - (4) Which type of water is hold by soil particle due to surface tension ?
- (b) Answer in brief : 2
Describe : Humus.
- (c) Answer in detail : 3
Describe : Diffusion.
- (d) Write note on : 5
Explain : Soil profile.
- 6 (a) Answer the following objective type questions : 4
- (1) What is pedology ?
 - (2) Which water is available for plants from soil ?
 - (3) What is soil erosion ?
 - (4) What do you mean by seed dormancy ?
- (b) Answer in brief : 2
Describe : soil water.
- (c) Answer in detail : 3
Describe : Osmosis.
- (d) Write note on : 5
Explain : causes of seed dormancy.
- 7 (a) Answer the following objective type questions : 4
- (1) What is the ideal size of typical herbarium ?
 - (2) What is scion ?
 - (3) What is vasculum ?
 - (4) Write down the macro nutrient require for kitchen gardening.
- (b) Answer in brief : 2
Describe : Cleft grafting.
- (c) Answer in detail : 3
Describe : Air layering.
- (d) Write note on : 5
Explain : Steps involved in herbarium technique.

- 8 (a) Answer the following objective type questions : 4
- (1) What is kitchen gardening ?
 - (2) What is stock ?
 - (3) Who used the term herbarium for collection of plants ?
 - (4) What is difference between whip and cleft grafting ?
- (b) Answer in brief : 2
Describe : layering.
- (c) Answer in detail : 3
Describe : Whip grafting.
- (d) Write note on : 5
Explain : kitchen gardening in detail.
- 9 (a) Answer the following objective type questions : 4
- (1) What is GIS ?
 - (2) What is hydroponics ?
 - (3) What is patent ?
 - (4) State true or false : kolhapuri chappal is trademark.
- (b) Answer in brief : 2
Describe shortly geographical indication with examples.
- (c) Answer in detail : 3
Describe : copyright.
- (d) Write note on : 5
Explain : hydroponics in detail.
- 10 (a) Answer the following objective type questions : 4
- (1) Write full form of SAR.
 - (2) Write down the range of pH require for hydroponics.
 - (3) Tebleron chocolate comes under _____.
 - (4) Write down name of micronutrient require for hydroponics.
- (b) Answer in brief : 2
Describe : Disadvantages of hydroponics.
- (c) Answer in detail : 3
Describe : Advantages of hydroponics.
- (d) Write note on : 5
Explain : Patent and trademarks.