



**DAB-003-1012006**

Seat No. \_\_\_\_\_

**B. Sc. (Sem. II) (CBCS) Examination**

**April - 2022**

**B-201 : Angiosperms, Tools & Techniques,  
Biochemistry & Genetics  
(General Option) (Old Course)**

**Faculty Code : 003**

**Subject Code : 1012006**

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

[Total Marks : 70

- Instructions :** (1) This question paper contains ten questions. Any five questions are compulsory.  
(2) Draw neat and labeled diagram wherever necessary.  
(3) Figures to the right side indicate full marks for the question.

- 1 (a) Objective type questions : 4  
(1) What is the main function of leaf ?  
(2) The leaf margin with rounded teeth is known as \_\_\_\_\_.  
(3) Write only names of different habitat.  
(4) State different region of root.
- (b) Answer in brief : 2  
Give any two functions of root.
- (c) Answer in detail : 3  
Give the examples of any three of following leaf shape with diagram.  
(a) Acicular, (b) Reniform, (c) Rotund, (d) Oblique, (e) Lanceolate
- (d) Write a note on : 5  
Describe stem in detail.
- 2 (a) Objective type questions : 4  
(1) Give the names of the three main parts of a leaf.  
(2) Write only any one function of root.  
(3) Write any two function of stem.  
(4) Define habit.
- (b) Answer in brief : 2  
Draw a labelled diagram of typical leaf.
- (c) Answer in detail : 3  
Write about herb, shrub and tree.
- (d) Write a note on : 5  
Explain in detail types of leaf.

- 3 (a) Objective type questions : 4
- (1) What is the main function of flower ?
  - (2) State any two names of Racemose inflorescence.
  - (3) What is the function of corolla ?
  - (4) Give the name of fruit type of pomegranate and apple ?
- (b) Answer in brief : 2  
Draw a labelled diagram of typical flower.
- (c) Answer in detail : 3  
Describe types of dry dehiscent fruits.
- (d) Write a note on : 5  
Explain in detail types of inflorescence.
- 4 (a) Objective type questions : 4
- (1) State the name of Cymose inflorescence.
  - (2) What is fruit ?
  - (3) Define Placentation.
  - (4) True or false : Cyathium is a special type of inflorescence.
- (b) Answer in brief : 2  
Describe different position of flower.
- (c) Answer in detail : 3  
Explain in brief about types of racemose inflorescence.
- (d) Write a note on : 5  
What is aestivation ? Describe types of aestivation in detail.
- 5 (a) Objective type questions : 4
- (1) The scientific name of Jasud is \_\_\_\_\_.
  - (2) Give one difference between polypetalae and gamopetalae.
  - (3) The scientific name of Lal Karen (red oleander) is \_\_\_\_\_.
  - (4) Give the name of scientists who has given natural plant classification system.
- (b) Answer in brief : 2  
Give any two distinguishing characters of Poaceae family.
- (c) Answer in detail : 3  
Give any two distinguishing characters and floral diagram of Nyctaginaceae family.
- (d) Write a note on : 5  
Explain Bentham and Hooker's system of classification with reasons and merits.

- 6 (a) Objective type questions : 4  
 (1) What is taxonomy ?  
 (2) The scientific name of maize is \_\_\_\_\_.  
 (3) Give the scientific name of Four O'clock plant.  
 (4) Give the common name of Vinca rosea.
- (b) Answer in brief : 2  
 Give the floral formula : Bracteate, Actinomorphic, bisexual, 5 fused sepals, 5 free petals, 10 free stamens, 2 syncarpous carpels.
- (c) Answer in detail : 3  
 Give the classification and distinguishing characters of Apocynaceae family.
- (d) Write a note on : 5  
 Explain Malvaceae family with floral diagram and floral formula.
- 7 (a) Objective type questions : 4  
 (1) Who invented simple optical microscopy ?  
 (2) Define chromatography.  
 (3) Give the full form of MS media used for plant tissue culture.  
 (4) Who gave the concept of pH ?
- (b) Answer in brief : 2  
 Explain in brief 'Totipotency'.
- (c) Answer in detail : 3  
 Write principle and applications of colorimeter.
- (d) Write a note on : 5  
 Explain with diagram principle, working technique of SEM and TEM.
- 8 (a) Objective type questions : 4  
 (1) True or false : magnification term is used in microscopy.  
 (2) Give any one name of sanitizer used for surface sterilization.  
 (3) Give the full form of PTC.  
 (4) True or false : Beer Lambert's law is for explanation of working of colorimeter.
- (b) Answer in brief : 2  
 Write the principle and working of pH meter.
- (c) Answer in detail : 3  
 Explain in brief 'Growth hormones' with respect to PTC.
- (d) Write a note on : 5  
 Explain in brief with diagram 'Paper chromatography'.

- 9 (a) Objective type questions : 4
- (1) Amino acids required in the human diet and not synthesized by the body are called \_\_\_\_\_.
  - (2) Who proposed  $\beta$  - Oxidation theory ?
  - (3) Result of phenotypic ratio of  $F_2$  generation in Mendel's experiment of inheritance of two genes (dihybridization) is \_\_\_\_\_.
  - (4) True or false : Transcription occurs in Ribosomes.
- (b) Answer in brief : 2  
Draw a labelled diagram of Watson-Crick model of DNA molecule.
- (c) Answer in detail : 3  
Write a note on translation.
- (d) Write a note on : 5  
Explain mono hybrid experiment of Mendel.
- 10 (a) Objective type questions : 4
- (1) Lock and Key hypothesis was proposed by \_\_\_\_\_.
  - (2) True or False : Amino acids are building block of protein.
  - (3) The distance, between two adjacent nucleotide is \_\_\_\_\_.
  - (4) The branch of science which deals with study of enzyme is known as \_\_\_\_\_.
- (b) Answer in brief : 2  
Write the names of classes of enzymes which is given by Enzyme commission of the International Union of Biochemistry.
- (c) Answer in detail : 3  
Write a short note on general characters of amino acids.
- (d) Write a note on : 5  
Discuss the mechanism of DNA replication.
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