ated with
idial and
is called

(1×3=3)

wing :
×5=15)

T.O.

Discuss different seed dispersal mechanisms and its adaptations in plants. (15)

29 DEC

[This question paper contains 8 printed pages.]

29 DEC 2022

Your Roll No.....

Sr. No. of Question Paper : 1714

Unique Paper Code : 42164301

Name of the Paper : Plant Anatomy and Embryology

Name of the Course : **B.Sc. (programme) Life Science**

Semester : III

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **Section A** and **Section B** on separate sheets.
3. **All** parts of a question must be answered together.
4. Supplement your answer with well labelled diagram.

P.T.O.

3. Write short notes on any **three** of the following : (5×3=15)

(a) Sclerenchyma

(b) Cytohistological zonation

(c) Vascular Cambium

(d) Secondary growth in stem

(e) Seasonal activity of cambium

4. (a) What are meristematic tissues? Describe different types of meristematic tissues with example. (7+8=15)

OR

Define xerophytes. What adaptive features they possess to withstand that environment? (7)

(b) Give a brief account of various theories to describe shoot apical meristem.

OR

Describe Metcalfe and Chalk theory and different types of structural configuration proposed by them. (8)

SECTION B

(38 MARKS)

Attempt **three** *questions from* **Section B** *including Question number* **1**, *which is compulsory.*

1. Fill in the blanks **(any eight)** : (1×8=8)

(a) The phenomenon of double fertilization was given by _____

(b) Pollination by bats is known as _____

(c) Ubisch bodies are produced by _____ tapetum.

(d) A small opening at the apical end of the ovule is known as _____

(e) The condition where the stigma loses its receptivity by the time the anthers of the same flower dehisce is known as _____

(f) The phenomenon which involves fusion of nucleus of one of the sperms with the polar nuclei is called _____.

(g) The basal region of an ovule where funiculus is attached is called as _____.

(h) Geitonogamy and xenogamy are the types of _____ pollination.

(i) Finger like projections present in synergid cells are called as _____.

(j) _____ type of embryo sac is genetically most heterogenous.

2. Differentiate between any **three** of the following : (5×3=15)

(a) Dichogamy and herkogamy

(b) Self pollination and cross pollination

(vi) The wall thickening impregnated with suberin and lignin on the radial and transverse walls of endodermis is called _____.

(b) Define the following terms (**any three**)

(i) Chlorenchyma

(ii) Quiescent centre

(iii) Hypostomatic leaf

(iv) Bulliform cells (1×3=3)

2. Differentiate between any **three** of the following : (3×5=15)

(a) Sclereids and fibres

(b) Isobilateral and dorsiventral leaf

(c) Storied and Non-storied cambium

(d) Heart wood and Sap wood

(e) Monocot and dicot root

P.T.O.