

SL No of QP : 1485
 Unique Paper Code : 2163580003
 Name of the Paper : Developmental Biology of Plants
 Name of the Course : B.Sc. Applied Life Sciences with Agrochemicals
 and Pest Management (NEP)
 Semester : V
 Duration : 2 hours
 Maximum Marks : 60 Marks

Instructions for Candidates

1. Write your Roll No. in the top immediately on receipt of this question paper
2. Answer **Four** question in all, including Q. No. 1 which is compulsory.
3. Draw labelled diagram wherever necessary.
4. Answer all parts of a question together.

1. (a) Fill in the blanks: 5×1=5
 - (i)meristem is inserted between tissues that are no longer meristematic.
 - (ii) According to the histogen theory, three histogens are....., and
 - (iii) The maturation of male and female sex organs at different times is known as.....
 - (iv) type of endosperm is found in *Acalypha indica*.
 - (iv) Protoxylem lies towards the outside and metaxylem face inwards in.....xylem bundles.
- (b) Define the following (any five): 5×1=5
 - (i) Pollenkitt
 - (ii) Self-Sterility
 - (iii) Suspensor
 - (iv) Piliferous layer
 - (iv) Conjoint vascular bundles
 - (v) Brachysclereids
- (c) Find the odd one out (with reasons) from each group of terms: 5×1=5

- (i) Integument, Endothecium, Endothelium, funiculus
- (ii) Tectum, Baculum, Tapetum, Exine
- (iii) Chlorenchyma, Transfer cells, Aerenchyma, Collenchyma
- (iv) Vessels, Sieve tube elements, Xylem fibres, Companion cells
- (v) Phellogen, Intercalary meristem, Lateral meristem, Cork cambium

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

- (a) Periderm
- (b) Tunica corpus theory
- (c) Meristems on the basis of position
- (d) Secretory Tapetum
- (e) Anemophily
- (f) syngamy

3. Draw neat well labelled diagrams of the following (**any three**): 3×5=15

- (a) T.S. Tetrasporangiate anther showing locules with spore mother cells
- (b) A mature anatropous ovule
- (c) T.S. of Dicot stem
- (e) V.S. of monocot leaf

4. Differentiate between the following (**any Three**): 3×5=15

- (a) Microsporogenesis and Megasporogenesis
- (b) Nuclear endosperm and Cellular endosperm
- (c) Simple tissue and Complex tissue
- (d) Dictyo root and monocot root

5. (a) Discuss various types of stomata. (7)

(b) Describe types and function of endosperm. (8)

6. (a) Discuss post-fertilization development of caruncle, operculum and aril in the seeds. (7)

(b) Give an account of structure and function of vascular cambium in secondary growth in plants. (8)