3 (Sem–5/CBCS) BOT HC 1

2023

BOTANY

(Honours Core)

Paper : BOT–HC– 5016

(Reproductive Biology of Angiosperms)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following : 1×7=7

   (a) Who wrote the book, *An Introduction to the Embryology of Angiosperms* in 1950 ?

   (b) What is 'Florigen' ?

   (c) Name the most common embryo sac found in angiosperms.

   (d) Dispersal of seeds by human being is called _____. *(Fill in the blank)*

(e) Who first reported 'Hypostase' in ovule ?

(f) Growth of a vegetative shoot beyond the flower as sometimes seen in roses is called _____.

(Fill in the blank)

(g) A pollinarium contains —

(i) pollinia, viscidium and stipe

(ii) pollinia, caudicle and stipe

(iii) pollinia, viscidium, caudicle and stipe

(iv) pollinia, caudicle and viscidium

(Choose the correct answer)

2. Answers the following : 2×4=8

(a) What is MGU ?

(b) Distinguish between xenogamy and geitonogamy.

(c) Give a brief account of apomixis.

(d) What do you mean by tenuinucellate ovules ?

3. Answer ***any three*** of the following : 5×3=15

(a) Give an account of the structure of pollen wall.

(b) What is polyembryony ? Discuss the significance of polyembryony.

(c) Give a brief account of homomorphic and heteromorphic self incompatibility.

(d) Give an illustrated account of the scope of palynology.

(e) Discuss the contribution of S. G. Nawaschin to reproductive biology.

4. Answer ***any three*** of the following : 10×3=30

(a) Give an account of NPC system for classification of pollen grains and mention its significance. 8+2=10

(b) What is megasporogenesis ? Describe the process of megasporogenesis and megagametogenesis with the help of suitable diagrams. 1+9=10

(c) What do you mean by embryo-endosperm interaction ? Give an account of the embryo-endosperm interaction in an ovule. Mention the functions of endosperm. 2+6+2=10

(d) Define pollination. What is the significance of pollination ? Give an account of different types of cross pollination. 1+2+7=10

(e) What is the importance of seed dispersal in plants ? Discuss the dispersal of seeds by wind and water. 2+8=10

(f) What do you mean by induction of flowering ? Describe the genetic and molecular mechanism of flower development. 2+8=10
