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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)

Contd.

(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 : $2 \times 4 = 8$

(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 : $5 \times 3 = 15$

(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. $2+8=10$