

2019

BOTANY

(Major)

Paper : 4-1

(**Morphology, Palynology and Embryology
of Angiosperms**)

Full Marks : 60

Time : 3 hours

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

1. Answer the following : 1×7=7

- (a) Name the characteristic inflorescence which is also known as 'Syconus'.
- (b) What is syntelome?
- (c) What is phyllode?
- (d) What do you mean by epiphyllous?
- (e) What is progamy?

- (f) What is forensic palynology?
- (g) Name the most common embryo sac found in angiosperms.

2. Answer the following : 2×4=8

- (a) What is pollen kit?
- (b) Write on the characters of primitive stamen.
- (c) What is double fertilization?
- (d) Mention at least four advance characters of angiosperms.

3. Write briefly on any *three* of the following : 5×3=15

- (a) Development of cymose inflorescence from solitary flower
- (b) Morphology of an orchid flower
- (c) Condition necessary for *in vitro* culture
- (d) Cohesion of carpel
- (e) Types and function of endosperms

4. Answer the following : 10×3=30

- (a) Explain the various theories regarding the origin and evolution of probable ancestors of flowering plants. 10

Or

Describe the different aspects and prospects of palynology. 5+5=10

- (b) What is microsporogenesis? Describe with proper diagram, the different steps involved in the formation of microspores in angiosperms. 1+9=10

Or

What is female gametophyte? Describe with neat diagram, the monosporic and bisporic embryo sac. 2+4+4=10

- (c) What is polyembryony? Describe different types of polyembryony found in angiosperms. 1+9=10

Or

With proper diagram, describe the development of a typical dicotyledonous embryo. 10
