

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?

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(f) What is forensic palynology?

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

2. Answer the following :  $2 \times 4 = 8$

(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 :  $5 \times 3 = 15$

(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

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( Continued )

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4. Answer the following :  $10 \times 3 = 30$

(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

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