

SET FOR DEPTT.
4.1, 4.2 (M) Paper
2018

3 (Sem-4) BOT M 1

2018

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 found in Lamiaceae.
- (b) Give an example of tree where phyllode is found.
- (c) Name the gymnospermic taxon which forms a bridge in between gymnosperms and angiosperms.

(2)

(d) Name the characteristic pollen sac found in Orchidaceae.

(e) What is egg apparatus?

(f) What is fertile telome?

(g) What is cap block?

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

(a) What is sporopollenin? Mention its function.

(b) Give a diagrammatic sketch of an inferior ovary with proper labelling.

(c) Draw a polygonum type of embryo sac with proper labelling.

(d) What is apomixis?

3. Write short notes on any *three* of the following : $5 \times 3 = 15$

(a) Origin of head from dichasium

(b) Primitive stamen

(c) Biological importance of pollen kit

(d) Double fertilization and its significance

(e) Structure of a typical megasporangium

(3)

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

(a) What is phyllode theory? Describe the different aspects of this theory. $2+8=10$

Or

Describe with neat diagram the different types of cohesion and adhesion of stamens. $5+5=10$

(b) Describe in detail with proper diagram about the development of female gametophyte. 10

Or

What is germ pores? Describe with neat diagram the different steps involved in the formation of male gametes. $1+9=10$

(c) How does endosperm form? Describe different types of endosperms. What is ruminant endosperm? $2+6+2=10$

Or

Describe the development of a typical monocotyledonous embryo with suitable diagram. 10
