

OLD

2015

Part-I 3-Tier

BOTANY

PAPER—II

(Honours)

Full Marks : 90

Time : 4 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group—A

1. Answer any ten questions of the following : 2×10
- (a) What is bryo-monitoring ?
 - (b) What is meant by 'Nematodontous' type of peristome teeth ?
 - (c) Name two heterosporous taxa of pteridophytes.
 - (d) Who is the proponent of 'Telome' concept ?

(Turn Over)

- (e) Mention the tree species of *Gnetum*.
- (f) Distinguish between phyllospermae and stachyospermae.
- (g) What is meant by the term copal?
- (h) What is Coal ball?
- (i) What is meant by the term amber?
- (j) What is meant by aperture of a pollen grain?
- (k) What are stenopalynous taxa?
- (l) What is 'anomocytic' type of stomata?
- (m) What is bark?
- (n) Mention two active principles of *Strychnos* seed.
- (o) Write one terpenoid compound and one phenolics of plant origin.

Group—B

Answer any *five* of the following : 8×5

2. Why *Sphagnum* is termed as 'bog moss' or 'peat moss'? Write its morpho-anatomical features. Mention the economic importance of *Sphagnum*. 2+4+2
3. What is protosteles? How does it differ from eustele? Illustrate different types of stelar structures found in different species of *Lycopodium*. 2+1+5

4. What is meant by long shoot and dwarf shoot? Write the distribution of *Pinus* in India. 2+6
5. Characterize cycadofilicales. Describe the structure of *Lagenostoma* ovule. 3+5
6. Define fossil. Mention the factors responsible for fossilization process. What is compression? 2+4+2
7. Discuss briefly the secondary growth in *Aristolochia* and *Tecoma* stems. 4+4
8. Define Pharmacognosy. What are chemical and pharmacological drugs? What is drug evaluation? 2+4+2
9. What is NPC system of classification? Who discovered it? Classify spores / pollen grains according to NPC system of classification. 2+1+5

Group—C

Answer any two of the following.

10. Write notes on : 5×3
- (i) Structure and development of the sporophyte of *Anthoceros* ;
 - (ii) Wood anatomy of *shorea* ;
 - (iii) Morpho-anatomy of *Lepidodendron*.

11. Write notes on :

5×3

- (i) Male and female fructifications of *Williamsonia* plant ;
- (ii) Angiospermic characters of *Gnetum* ;
- (iii) Reproductive structure of *Equisetum*.

12. Write notes on :

5×3

- (i) Petrification ;
- (ii) Melissopalynology ;
- (iii) Ultrastructure of plant cell wall.

13. Differentiate between :

5×3

- (i) Male gametophyte of *Ephedra* and *Gnetum* ;
 - (ii) Photosynthetic tissue of *Riccia* and *Anthoceros* ;
 - (iii) Coralloid root and mycorrhizal root.
-