

Total No. of Questions – 21

Regd.

Total No. of Printed Pages – 2

No.

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Part – III
BOTANY, Paper – I
(English Version)

Time : 3 Hours]

[Max. Marks : 60

Note : Read the following instructions carefully :

- (i) Answer all the questions of Section – A. Answer any six questions out of eight in Section – B and answer any two questions out of three in Section – C.
- (ii) In Section – A, questions from Sr. Nos. 1 to 10 are of “Very Short Answer Type”. Each question carries two marks. Every answer may be limited to 5 lines. Answer all the questions at one place in the same order.
- (iii) In Section – B, questions from Sr. Nos. 11 to 18 are of “Short Answer Type”. Each question carries four marks. Every answer may be limited to 20 lines.
- (iv) In Section – C, questions from Sr. Nos. 19 to 21 are of “Long Answer Type”. Each question carries eight marks. Every answer may be limited to 60 lines.
- (v) Draw labelled diagrams, wherever necessary for questions in Sections – B and C.

SECTION – A

Note : Answer all questions. Each answer may be limited to 5 lines : $10 \times 2 = 20$

1. What is the basic unit of classification ? Define it.
2. Give the main criteria used for classification by Whittaker.
3. Name the books written by Parasara and mention the important aspects discussed in those books.
4. Differentiate fibrous roots from adventitious roots.

5. Define placentation. What type of placentation is found in *Dianthus* ?
6. Write the floral formula of solanum plant.
7. What is referred to as satellite chromosome ?
8. Medicines are either man-made (i.e. Synthetic) or obtained from living organisms like plants, bacteria, animals etc. and hence the latter are called natural products. Sometimes natural products are chemically altered by man to reduce toxicity or side effects. Write against each of the following whether they were initially obtained as a natural product or as a Synthetic Chemical.
 - (a) Penicillin
 - (b) Sulfonamide
 - (c) Vitamin C
 - (d) Growth Hormone
9. If a tissue has at a given time 1024 cells, how many cycles of mitosis had the original parental single cell undergone ?
10. Hydrophytes show reduced xylem. Why ?

SECTION - B

Note : Answer any six questions. Each answer may be limited to 20 lines : $6 \times 4 = 24$

11. What are the characteristic features of Euglenoids ?
12. Give a brief account of Prothallus.
13. Define : (a) Juvenile phase, (b) Reproductive phase
14. Describe the essential floral parts of plants belonging to Liliaceae.
15. What is Cytoskeleton ? What functions is it involved in ?
16. Though redundantly described as a resting phase, interphase does not really involve rest. Comment.
17. State the location and function of different types of meristems.
18. Write a brief account on classification of Xerophytes.

SECTION - C

Note : Answer any two questions. Each answer may be limited to 60 lines : $2 \times 8 = 16$

19. Explain how stem is modified variously to perform different functions.
20. Draw the diagram of a microsporangium and label its wall layers. Write briefly about the wall layers.
21. Describe the internal structure of a monocot root.