

Q.P. Code :32379

[Time: Three Hours]

[Marks:100]

Please check whether you have got the right question paper.

N.B:1. All questions are compulsory.**2. Figures to the right indicate full marks.****3. Draw neat and labelled diagrams wherever necessary.**Q.1 A) Choose the **correct option** from the following:

10

- a. Ramentum of *Nephrolepis* is _____.
i) Unicellular ii) Multicellular iii) Bicellular iv) Tricellular
- b. In *Nephrolepis*, the vascular bundle with xylem in the centre, surrounded by phloem is called _____.
i) Centripetal ii) Amphicribal iii) Centrifugal iv) Leptocentric
- c. *Nephrolepis* is _____ plant.
i) heterosporous ii) homosporous iii) bisporous iv) tetrasporous
- d. The stem of female plant of *Cycas* shows _____ growth.
i) Sympodial ii) Monopodial iii) Centripodial iv) Multipodial
- e. _____ is absent in xylem of Gymnosperms.
i) Parenchyma ii) Vessels iii) Trachieds iv) Fibres
- f. Vascular bundles of *Cycas* rachis are arranged in _____ form.
i) Circular ii) Elongated iii) Elliptical iv) Horse – shoe
- g. Multicostate convergent reticulate venation is found in _____.
i) Banana ii) Mango iii) *Ficus* iv) *Zizypus*
- h. _____ stipules are found in *Hibiscus rosa-sinensis*.
i) Adnate ii) Interpetiolar iii) Free lateral iv) Intrapetiolar
- i. Monadelphous stamens are found in _____ family.
i) Amaryllidaceae ii) Malvaceae iii) Cruciferae iv) Asteraceae
- j. Capitulum inflorescence is found in _____.
i) *Hibiscus* ii) *Helianthus annuus* iii) *Centella* iv) *Vinca*

Q.P. Code :32379

- Q.1 B) Answer the following in **one sentence**: 10
- Define chemotaxis.
 - What is Indusium?
 - Mention the functions of scale leaves of *Cycas*.
 - State the method of germination of *Cycas* seed.
 - What are stipules?
- Q.2 Answer **any two** from the following: 20
- Describe external morphology of *Nephrolepis* sporophyte.
 - Explain sexual reproduction of *Nephrolepis*.
 - Describe advanced types of steles giving suitable examples.
 - Describe internal structure of *Nephrolepis* rachis.
- Q.3 Answer **any two** from the following: 20
- Describe T.S. of *Cycas* leaflet. Add a note on its xerophytic adaptations.
 - Give detailed account of megasporophyll of *Cycas*.
 - Describe secondary growth in *Cycas* root.
 - Give an account of economic importance of gymnosperms.
- Q.4 Answer **any two** from the following: 20
- Give classification, distinguishing characters, two plants of economic importance and floral formula of family Amaryllidaceae.
 - Describe various types of cymose inflorescence.
 - Describe different types of leaf venations.
 - Explain various types of leaf modifications.
- Q.5 Write short notes on (**any four**): 20
- Prothallus of *Nephrolepis*.
 - Sporangium of *Nephrolepis*.
 - Coralloid roots of *Cycas*.
 - Phyllotaxy.
 - Distinguishing characters of Malvaceae.
 - Systematic position of *Cycas* with reasons.

-----XXXXX-----