

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

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- 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.

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