Q. P. Code: 52069

[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.

Q1. A) Choose the **correct option** from the following: 10

a) _____ is required for guttation in *Nephrolepis*.
i) Ramentum ii) Hydathode iii) Stolon iv) Caudex

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) Stolons of *Nephrolepis* arise from _____.
i) Root ii) Rhizomatic stem iii) Rachis iv) Leaf

d) *Nephrolepis* sporangium produces _____ number of haploid kidney shaped spores.
i) 16 ii) 32 iii) 64 iv) Indefinite

e) The stem of female plant of *Cycas* shows_____ growth.
i) Sympodial ii) Monopodial iii) Centripodial iv) Multipodial

f) *Cycas* leaves show typical _____ adaptation.
i) Mesophytic ii) Hydrophytic iii) Xerophytic iv) Halophytic

g) *Cycas* shows _____ type of Pollination.
i) Anemophilous ii) Entomophilous iii) Hydrophilous iv)Chiropthrophilous

h) _____stipules are found in *Hibiscus rosa-sinensis*.
i) Adnate ii) Interpetiolar iii) Free lateral iv) Intrapetiolar

i) Pulvinus leaf base found in _____ leaf.
i) Banana ii) Mango iii) Pea iv) Spider-lily

j) *Gossypium herbaceum* is commonly known as _____.
i) Lady's finger ii) Cotton plant iii) Century plant iv) Deccan Hemp

Q1. B) Answer the following in **one sentence:** 10

a) What is Indusium?
b) Write functions of *Nephrolepis* stolon.
c) Write function of transfusion tissue of *Cycas* leaflet.
d) State the method of germination of *Cycas.*
e) Give names of two racemose inflorescence.

Q2. Answer **any two** from the following: 20

a) Give an account of external morphology of *Nephrolepis.*
b) Describe advanced types of steles giving suitable examples.
c) Describe the structure of prothallus and sex organs in *Nephrolepis.*
d) Describe the structure of sorus and sporangium of *Nephrolepis*.

Q3. Answer **any two** from the following: 20

a) Describe T.S. of *Cycas* leaflet. Add a note on its xerophytic adaptations.
b) Explain the process of pollination, fertilization and formation of seeds of *Cycas.*
c) Write a detailed note on microsporophyll of *Cycas*.
d) Give an account of economic importance of gymnosperms.

Q4. Answer **any two** from the following: 20

a) Give classification, distinguishing characters, two plants of economic importance and floral formula of family Amaryllidaceae.
b) Describe various types of compound leaves with examples.
c) What are stipules? Explain its types.
d) Assign the following plants to their respective families giving reasons and give their economic importance:
i) *Abelmoschus esculentus*
ii) *Polianthes tuberosa*

Q5. Write Short note on **(any four):** 20

a) Systematic position of *Nephrolepis*
b) Schematic representation of *Nephrolepis* life-cycle
c) Coralloid roots of *Cycas*
d) V.S of *Cycas* ovule
e) Capitulum inflorescence
f) Distinguishing characters of Malvaceae

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