Total No. of printed pages = 4

63/2 (SEM-1) BOT 103

2021

(held in 2022)

BOTANY

(Theory Paper)

Paper Code : BOT-103

(Gymnosperm, Angiosperm Anatomy and Advanced Morphology)

Full Marks – 80

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer of the following questions [all questions are compulsory] : 1×6=6

   (i) The tissue found in all of a plant's organs is

   (a) Parenchyma

   (b) Sclerenchyma

   (c) Collenchyma

   (d) Chlorenchyma

[Turn over

(ii) The pith and cortex are indistinguishable in

(a) Monocot stem (b) Monocot root

(c) Dicot stem (d) Dicot root

(iii) Which is often referred to as the *Sago* palm ?

(a) *Cycas* (b) *Pinus*

(c) *Gnetum* (d) *Ginkgo*

(iv) Which of the following is not a distinguishing characteristic of Cycas ?

(a) Circinate type of foliage leaves

(b) Absence of vessels in the xylem

(c) Presence of arm parenchyma

(d) Presence of motile sperm

(v) Which period of Earth's history is the longest ?

(a) Precambrian Time

(b) Paleozoic Era

(c) Mesozoic Era

(d) Cenozoic Era

(vi) The leaflet's anatomical characteristics indicate that Cycas is a

(a) Xerophyte (b) Mesophyte

(c) Hydrophyte (d) Parasite.

2. Answer the following short questions : 2×5=10

(a) What is aerenchyma ? State its functions.

(b) Mention the xerophytic characters of Pinus.

(c) Differentiate between simple and complex tissue.

(d) The flower is a modified shoot. Justify the statement.

(e) Write any two characters of primitive stamens.

3. Write short notes on any *six* of the following : 5×6=30

(a) Cambium

(b) Salient features of Cycadofilicales

(c) General characteristic of dicot root anatomy

(d) Annual ring

(e) Bark vs. Cork

(f) Typs of placenta

(g) Economic importance of *Texas baccata L*

(h) Staminode.

4. Answer any *two* of the following questions : 10×2=20

(a) What is nodal anatomy? Draw and describe various leaf and branch gap patterns with traces. 2+8=10

(b) What is an apical meristem ? Describe various theories concerning the formation of apical meristem. 2+8=10

(c) Gnetum bridges the gap between gymnosperm and angiosperm, justify the statement with an example. 10

5. Answer any *one* of the following questions : 14×1=14

(a) Describe the morphology and reproduction in Ginkoales. Justify that *Ginkgo biloba* is a living fossil. 10+4=14

(b) Discuss the origin and evolution of angiospermic flower. Write the characteristic features of primitive flower. 8+6=14