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3 (Sem-2) BOT M1

2015

BOTANY

(Major)

Theory Paper : 2.1

**(Gymnosperms, Palaeobotany and Plant
Anatomy)**

Full Marks – 60

Time – 2½ hours

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

1. Answer the following : 1×7=7
- (a) What is the other name of Bennettitales ?
 - (b) Name a fossil genus belonging to the class Equisetinae.
 - (c) What is precocious germination ?
 - (d) What is tent pole ?
 - (e) In which living cell of Angiosperm the nucleus is not found ?

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- (f) What is the main constituent of cork cell ?
- (g) What is lithocyst ?

2. Answer the following : $2 \times 4 = 8$

- (a) How are intercellular spaces formed in higher plants ?
- (b) Write on the geological history of Bennettitales.
- (c) Write the differences between heart wood and sap wood.
- (d) What is coralloid root ? How are they formed ?

3. Answer any *three* of the following : $5 \times 3 = 15$

- (a) Describe the anomalous secondary growth taking place in any monocot plant.
- (b) Draw a diagram of *Rhynia* plant and write a note showing it as ancestor of land plants.
- (c) What are the techniques used in studying fossils ?
- (d) Why are the *Cycads* and *Ginkgo biloba* called living fossils ?
- (e) Describe the structure of female cone in *Thuja*.

4. Answer any *three* of the following : $10 \times 3 = 30$

- (a) Describe with diagram the structure of tissues found in Dicotyledonous stem. How does it help in normal secondary growth ?
- (b) Give an illustrated account of anomalous primary structures found in some plants of Angiosperms citing examples.
- (c) Describe the development of male and female gametophytes of *Cycas*.
- (d) Giving suitable diagrams write an account of the external morphology and strobilar structure of *Lepidodendron*. What is its importance in origin of seed habit ?
- (e) Describe the structures of the male and female cone of *Pinus*.
- (f) Write the salient features of Cycadofilicales. What is its importance in evolution ?