

2017

BOTANY

( Major )

Paper : 2:1

( Gymnosperm, Paleobotany and Plant Anatomy )

Full Marks : 60

Time : 3 hours

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

1. Answer the following :  $1 \times 7 = 7$

- (a) What is spur?
- (b) What is quiescent centre?
- (c) Name the chief organization of India with its location involved in paleobotanical study.
- (d) What is pavement tissue?
- (e) What do you mean by *Pteris* and *Dendron* with regards to fossil study?

- (f) Mention the function of periderm.
- (g) Write the name of best known fossil plant of carboniferous period.

2. Answer the following : 2×4=8

- (a) Mention the xerophytic characters found in *Pinus* needle.
- (b) What do you mean by secondary medullary rays?
- (c) Write on the infiltration theory of fossil formation.
- (d) Draw a chart diagram of the life cycle of *Thuja*.

3. Answer any *three* from the following : 5×3=15

- (a) Write on the morphology of the ovuliferous scale of *Pinus*.
- (b) Write on the structure of sieve tubes and their functions.
- (c) Briefly describe the process of fossilization.
- (d) Write the differences between heartwood and sapwood.
- (e) "*Ginkgo* is a living fossil." Justify the statement.

4. Answer the following questions :  $10 \times 3 = 30$

- (a) "*Gnetum* form a connecting bridge in between gymnosperms and angiosperms" to support this comment, put forward your views. 10

Or

Give an illustrated account of male and female gametophytes of *Cycas*.  $5+5=10$

- (b) With diagrammatic sketch, describe the formation of cambium ring and secondary tissue in dicotyledonous stem. What is annual ring?  $8+2=10$

Or

Classify the meristematic tissue on the basis of their position in the plant body. Give proper sketch. With the help of diagram, describe the Korper-Kappe theory of root meristem.  $7+3=10$

- (c) Give an illustrated account of the vegetative and reproductive structures of *Rhynia*.  $5+5=10$

Or

Write about the general characters of Cycadofilicales. Give an example of fossil plant belonging to Bennettitales.  $9+1=10$

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