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 : 1×7=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 : 10×3=30

(a) "*Gnetum* form a connecting bridge in between gymnosperms and angiosperms" to support this comment, put forward yours 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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