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(Pages : 2)

Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Botany

**BOT 5B 05—GYMNOSPERMS, PALAEOBOTANY, PHYTOGEOGRAPHY AND
EVOLUTION**

Time : Three Hours

Maximum : 80 Marks

Part A

I. Answer *all* questions (1 mark each) :

- 1 Define genetic drift.
- 2 State 'Age and area hypothesis' ?
- 3 What is an ovuliferous scale ?
- 4 What is carbon dating ?
- 5 Define selection.
- 6 What is transfusion tissue ?
- 7 Name an eminent paleobotanist in India.
- 8 What is polymerisation ?
- 9 Give an example for a pycnoxylic wood.
- 10 What is discontinuous distribution ?

(10 × 1 = 10 marks)

Part B

II. Answer *all* questions. Short answer (2 marks each) :

- 11 Differentiate between protenoids and prions.
- 12 What are coralloid roots ? Add a note on its significance.
- 13 Give a brief note on fossil deposits in India.
- 14 Enlist the different phytogeographic zones of India.
- 15 Enumerate the angiosperm features of *Gnetum*.
- 16 Write a note on endemism with examples.
- 17 Explain continental drift.
- 18 Draw a neat labeled sketch of T. S. of *Pinus needle*.

Turn over

- 19 Comment on *Rhynia*.
20 Describe the evolution of prokaryotic cells.

(10 × 2 = 20 marks)

Part C

III. Answer any *six* questions. Short essay (5 marks each) :

- 21 Describe the role of mutation in evolution.
22 Write an account on geological time scale.
23 Describe the female cone of *Pinus* with diagram.
24 What are the causes and consequences of glaciation ?
25 What is speciation ? Add a note on isolating mechanisms.
26 Compare the male gametophyte of *Cycas* with *Gnetum*.
27 Explain the nature of pre-biotic earth and the factors led to the origin of life.
28 Briefly describe the economic importance of Gymnosperms.

(6 × 5 = 30 marks)

Part D

IV. Answer any *two* questions. Essay (10 marks each) :

- 29 Explain the various theories on origin and evolution of species.
30 With the help of diagrams, describe the anatomy of primary and secondary wood of *Gnetum*.
31 What are fossils ? Write an account on fossil formation and types of fossils ?

(2 × 10 = 20 marks)