

U.G. 4th Semester Examination - 2025**BOTANY****[MAJOR]****Course Code : BOT-MJ-T-5****(Gymnosperm and Palaeobotany)****[NEP-2020]**

Full Marks : 40

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any five questions: 2×5=10
- a) Mention two uses of fossil.
 - b) Write two fern characters of *Cycas*.
 - c) What is meant by sulphur shower?
 - d) Who constructed *Williamsonia seawardiana*?
What is morphotaxon?
 - e) Name two cultivated gymnosperms in India.
 - f) What is transfusion tissue?
 - g) Mention two characteristics of Progymnosperms.
 - h) What is numerical dating of rock? What is the half-life of C^{14} ?

[Turn over]

2. Answer any two questions: $5 \times 2 = 10$
- a) Draw and describe the megasporophyll of *Cycas*.
 - b) Discuss the salient features of Cycadophyta and Gnetophyta.
 - c) Write in brief the classification of gymnosperms by Gifford and Foster (1989).
 - d) Write a short note on Geological time scale.
3. Answer any two questions: $10 \times 2 = 20$
- a) Write on different forms of Polyembryony observed in *Pinus*. Draw and describe the female cone of *Pinus* and comment on gametophytic development. $5+5$
 - b) Give an account of the three-fold division of Indian Gondwana system and mention major megafloreal assemblage of each division. Mention the index or marker fossil of each division. $7+3$
 - c) Describe different modes of preservation of fossil following J. W. Schoph (1975). 10
 - d) What is 'mass extinction'? Write in brief the major events of mass extinction that occurred in this history of life in earth. Why no such significant mass extinction found in plant fossil? $2+5+3$