

2026

BOTANY — HONOURS

Paper : DSCC-7

(Palaeobotany and Palynology)

Full Marks : 75

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words
as far as practicable.*1. Answer *any six* questions from the following :

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| (a) State the geological age of Lower Gondwana. Name one major floral component of Indian Lower Gondwana. | 1+1 |
| (b) State two salient features of <i>Rhynia gwynne-vaughanii</i> . | 2 |
| (c) Mention the stratigraphic ages of occurrence of <i>Williamsonia</i> and <i>Lepidodendron</i> . | 1+1 |
| (d) What is duripartic preservation? | 2 |
| (e) State the chemical nature of sporopollenin. | 2 |
| (f) Draw tricolpate pollen grain in polar and equatorial views. | 1+1 |
| (g) Distinguish between colpus and sulcus. | 2 |
| (h) What is pollen calendar? | 2 |
| (i) Which rock type is most suitable for preservation of fossils? Why? | 2 |

2. Write brief answer on *any three* of the following :

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| (a) Outline the Geological Time scale upto the period. Name the dominant plant groups of the Mesozoic Era. | 3+2 |
| (b) Give a brief account of the conditions favouring fossilization process. | 5 |
| (c) Give an account of sporoderm stratification with suitable illustrations. | 5 |
| (d) Write a short note on the nomenclature of fossil plants. | 5 |
| (e) Define aeropalynology. Explain why aeropalynology is important with respect to human health. | 5 |

3. Answer *any four* questions from the following :

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| (a) State the importance of plant fossil study. Briefly describe the principles of fossil dating. What are the differences between absolute dating and relative dating? | 5+4+3 |
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- (b) Name the different organ genera of the reconstructed plant *Calamites*. State the geological age of occurrence and geographical distribution of that fossil plant. Describe the different reproductive organs of *Calamites* with suitable diagrams. 2+2+8
- (c) Describe the wood anatomy, pollen and ovule bearing organs of the reconstructed plant *Lyginopteris* with diagrams. 4+4+4
- (d) Discuss the role of fossil spores and pollen grains in palaeoclimate reconstruction. Add a brief note on the types of phytoliths and their significance. 6+(3+3)
- (e) Define pollination biology. State the different types of pollination. Give an account of various pollinator groups with examples. 2+4+6
- (f) Write notes on the following : 4×3
- (i) NPC classification
 - (ii) Types of fossils
 - (iii) RAST.
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