

2021

## BOTANY— HONOURS

Paper : CC-5

Full Marks : 50

*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 five** questions :

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| (a) Define index fossil. Give an example.              | 1+1 |
| (b) What is duripartic preservation? Give an example.  | 1+1 |
| (c) What is coal ball? State its significance.         | 1+1 |
| (d) Distinguish between epidogenesis and apoxogenesis. | 2   |
| (e) What is parichnos scar? Where do you find it?      | 1+1 |
| (f) Distinguish between colpus and sulcus.             | 2   |
| (g) What is <i>Artisia</i> ? Mention its affinity.     | 1+1 |
| (h) Why is pollen a good forensic tool?                | 2   |

2. Answer **any two** of the following :

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|---|---|
| (a) Give an account of the factors controlling the processes of fossilization.            | 5 |
| (b) Comment on the female gametophyte of <i>Lepidodendron</i> .                           | 5 |
| (c) What is Melissopalynology? How can it combat fraud and inaccurate labelling of honey? | 5 |

3. Answer **any three** of the following :

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|--|-----------|
| (a) Schematically represent the different Eras and Periods of standard geological time scale, highlighting the major floral events.  | 6+4       |
| (b) Explain with examples how fossil plants are reconstructed and named.   | 5+5       |
| (c) Give an account of the adaptive evolutionary modifications of early vascular land plant <i>Rhynia gwynne-vaughanii</i> . Add a note on its stem anatomy with labelled sketches.                                    | 6+4       |
| (d) Name the different organ genera of the reconstructed plant <i>Williamsonia</i> . Describe its pollen and ovule bearing organs with labelled diagrams. State the Geological age of occurrence of this fossil plant. | 2+3½+3½+1 |
| (e) Give an illustrated account of the major aperture types found in pollen grains. Schematically represent NPC classification as proposed by Erdtman.   | 5+5       |
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