2020

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.

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1.	Answer any five of the following:		
	(a)	Which rock type is most suitable for preservation of fossils? Why?	1+1
	(b)	What are chemical fossils? Give an example.	1+1
	(c)	Which geological period is called the 'Age of Ferns'? Why?	1+1
	(d)	State the chemical nature of sporopollenin.	2
	(e)	Mention the reasons behind Edward's renaming of Rhynia major.	2
	(f)	What is hydrasperman reproduction?	2
	(g)	Distinguish between spores and pollen grains.	2
	(h)	Name the form genera of the root and leaf of Lepidodendron.	2
2.	Answer any two of the following:		
	(a)	Write a short note on the principle of radiometric dating of rocks / fossils.	5
	(b)	Comment on the gametophyte of Rhynia.	5
	(c)	What is Aeropalynology? Write a brief note on the role of Aeropalynology on human hea	ılth. 1+4
3.	Answer any three of the following:		
	(a)	Give an outline of the three-fold subdivisions of Indian Gondwana. Mention at le characteristic megafossil genera from the respective subdivisions.	east five 2½+7½
	(b)	Describe the modes of cellular permineralisation and authigenic preservation of fossils me one example from each type.	ntioning 4+4+2
	(c)	Characterise the stem anatomy and fructifications of the reconstructed plant <i>Calamites</i> with illustrations.	suitable 4+6

(d) State the geological age of the reconstructed plant *Cordaites*. Describe its leaf anatomy and female fructifications with labelled sketches. 1+4+5

(e) Give an account of sporoderm stratification as proposed by Erdtman and Faegri with labelled sketches. Draw the different exine ornamentation patterns found in spores and pollen grains.

5+5