

M.Sc. 3rd Semester Examination, 2010

BOTANY

PAPER—XVI

Full Marks : 40

Time : 2 hours

Answer all questions

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

UNIT—I

[Marks : 20]

1. Answer any five questions from the following : 1 × 5

(a) Define 'formation'.

- (b) What is meant by 'authigenic preservation'?
- (c) What is an 'amber'?
- (d) Mention the periods (chronologically) of Palaeozoic era.
- (e) Differentiate 'form-genus' from 'organ genus'.
- (f) What is *Isuasphaera isua*?
- (g) What is meant by the 'principle of superposition'?
- (h) Name two characteristic megafloreal remains of Parsora formation.

2. Write brief notes on any *two* of the following : $2\frac{1}{2} \times 2$

- (i) Fossil DNA
- (ii) Prebiotic 'Secondary Atmosphere'
- (iii) Chemical Evolution
- (iv) Megafloristics of 'Rajmahal Formation'.

3. Answer any *one* of the following :

- (a) What is meant by stratigraphy? Describe the steps of stratigraphic deductions. Discuss briefly the importance of plant fossils in stratigraphy. 2 + 5 + 3
- (b) Classify Lower Gondwana sequence in Damodar Valley Basin. Discuss megafloreal succession through the sequence. 2 + 8

UNIT—II

[Marks : 20]

4. Answer any *five* questions from the following : 1 × 5

- (a) What is meant by 'amb' of a pollen grain?
- (b) Distinguish between 'clava' and 'pila'.
- (c) What is 'pollen-kitt'?
- (d) What are 'reagins'?
- (e) What is meant by 'unifloral honey'?

(f) What is 'tegillum' ?

(g) What do you mean by 'allogamy' ?

(h) What is meant by ornithophily ?

5. Write brief notes on any *two* of the following : $2\frac{1}{2} \times 2$

(i) Forensic palynology

(ii) Advantages and disadvantages of cross-pollination.

(iii) Pollinaria

(iv) Exineless pollen grains.

6. Answer any *one* of the following :

(a) What is meant by aperture of a pollen grain ?
With suitable illustrations, briefly describe different types of aperture found in spores and pollen grains. 2 + 8

(b) Give a brief account of the significance of spore-pollen morphological features in taxonomic deductions. 10