

M.Sc. 3rd Semester Examination, 2011

BOTANY

PAPER—BOT-304

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

UNIT – I

[Marks : 20]

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

(a) Define a 'stratum'.

(b) What is *Kakabekia umbellata* ?

(c) Define 'ichnofossil'.

- (d) State two significant events in the Devonian plant life.
- (e) Define biostratigraphy.
- (f) What is meant by the 'half-life' of a radioelement ?
- (g) Name two female fructifications known from Indian Lower Gondwana.
- (h) What is 'palaeomagnetism' ?

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

- (i) Megafloristics of 'Karharbari Formation'
- (ii) Radiocarbon dating
- (iii) Permineralized fossil
- (iv) Indian Lower Gondwana sphenopsids.

3. Answer any *one* of the following :

- (a) What is meant by the "Indian Gondwana sequence" ? Discuss the basis of three-fold classification of the sequence. Describe the megafloral succession through Middle Gondwana.

1 + 2 + 7

- (b) Explain briefly the Wegener's Theory of Continental Drift. Discuss the mechanism of the drift in light of major plate 'Tectonics'. How many plates are present on the earth? Describe the types of plate boundaries. 10

UNIT – II

[Marks : 20]

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

- (a) What is meant by spiraperturate of a pollen grain?
- (b) What is compound aperture?
- (c) Define omniaperturate type of pollen grains.
- (d) What is meant by oblate pollen grain?
- (e) Differentiate stenopalyny from eurypalyny.
- (f) What is 'Forensic Polynology'?
- (g) What is meant by 'dichogamy'?
- (h) Define 'sapromyophilous' flower.

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

- (i) Melissopalynology
- (ii) Palaeopalynology
- (iii) Pollination syndrome
- (iv) LO analysis of pollen grains.

6. Answer any *one* of the following :

- (a) What is meant by sporoderm ? Describe with suitable illustrations the surface features of sporoderm. 2 + 8
- (b) What is meant by allergic rhinitis ? How pollen grains cause allergy in human system ? State briefly the clinical tests that are employed to identify the allergenic pollen taxa from a mixture of pollen grains. 2 + 6 + 2