

2015

M.Sc.

3rd Semester Examination

BOTANY

PAPER—BOT-304

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer all questions.

UNIT—I (Marks : 20)

(Palaeobotany)

1. Answer any five of the following : 5×1

(a) What is meant by a 'Formation' in stratigraphy?

(b) What is index fossil?

(Turn Over)

- (c) Mention two important leaf genera of Rajmahal Formation.
- (d) What is amber?
- (e) Write the contribution of Siegel & Siegel (1966) regarding discovery of microbes.
- (f) Why 'Kult. Formation' is called 'Barren Measure'?
- (g) Define 'Coacervates'.
- (h) What is cellular permineralisation?

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

- (a) Coal ball;
- (b) Radiocarbon dating;
- (c) Megafloristics of Talchir Formation;
- (d) Formation of Primary and Secondary rocks.

3. Answer any *one* of the following :

- (a) State the Wegener's theory of 'Continental drift'. Discuss the biological and geophysical evidences in favour of this theory. Explain briefly the mechanism of the drift in the light of 'plate tectonics'. $2+4+4$
- (b) What does it mean by Indian Gondwana? Write the basis of tri-partite classification of Indian Gondwana Sequence. Describe the megafloral succession through Middle Gondwana. $2+3+5$

UNIT—II (Marks : 20)**(Polynology)**

4. Answer any *five* of the following : 5×1
- (a) What is meant by 'polynomorphs' in palaeopological connotations ?
 - (b) What are cantherophilous flowers ?
 - (c) What are 'reagins' ?
 - (d) What is meant by 'amb' of a pollen grain ?
 - (e) Differentiate colpus from sulcus ;
 - (f) Cite apertural types of pteridoplyte spores ;
 - (g) What is perine ?
5. Write brief notes any *two* of the following : 2×2½
- (a) LO-analysis ;
 - (b) Autogamy and Allogamy ;
 - (c) Polination syndrome ;
 - (d) Melissopalynology ;
 - (e) What does it mean by forensic polynology ?

6. Answer any *one* of the following :

- (a) Differentiate stenopalyny from eurypalyny. Describe the role of pollen morphological data in deliquiting major toxonomic groups of plant kingdom. 3+7
- (b) Describe with illustration the stratification of exine. With proper illustration describe the supratectal sclupturing of exine. 4+6
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