

**2009**

**M.Sc.**

**3rd Semester Examination**

**BOTANY**

**PAPER—XVI**

**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.*

*Write the answers to the questions of each Unit in separate books.*

**UNIT—I**

**[Marks : 20]**

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

- (a) What is permineralization?
- (b) Define 'half-life' of a radioelement.
- (c) What are 'ichnofossils'?
- (d) Define 'index fossil'.

**(Turn Over)**

- (e) What is ment by 'form-genus' ?
- (f) Name two microbiota known from the gunflint formation.
- (g) Mention the geologically oldest evidence of eukaryotic cell. What is its age ?
- (h) Name two characteristic megafloral remains of Telchir Formation.

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

- (a) Megafloristics of Panchet Formation ;
- (b) Sea-floor spreading ;
- (c) Megafloristics of Karharbari Formation;
- (d) Destructive plate margin.

3. Answer any one of the following :  $10 \times 1$

- (a) What is meant by 'chemical evolution' ? Discuss the plausible means of origin of organic monomers on prebiotic earth.

2+8

- (b) What is meant by the "Gondwana sequence" ? How is it classified ? Describe briefly the megafloristics of Middle Gondwana. Formations.

2+4+4

**UNIT--II****[ Marks : 20 ]**

4. Answer any five of the following: 1×5
- (a) What do you mean by "radially symmetrical isopolar type of pollen grain" ?
  - (b) Define an "ulcus". ?
  - (c) What is meant by compound aperture ?
  - (d) What is "LO analysis" ?
  - (e) Mention a genus where pollen grains remain united in tetrads.
  - (f) What is "glitonogamy" ?
  - (g) What do you mean by 'pollination syndrome' ?
  - (h) What is "Sphingophily" ?
5. Write brief notes on any two of the following :  $2\frac{1}{2} \times 2$
- (a) Melissopalynology;
  - (b) Sporopollenin;
  - (c) Extraexinous wall materials;
  - (d) Contrivances for cross pollination.

6. Answer any one of the following : 10×1
- (a) Discuss in detail about the sporoderm structure of a typical angiospermous pollen grain. Describe with suitable illustrations the surface features of sporoderm of pollen grains. 3+7
- (b) What is aeropalynology? What do you mean by allergic rhinitis? Describe the mechanism of allergic reactions caused by pollen grains. How are the allergenic taxa are identified from the airspora? 1+1+5+3
-