

2016

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.

Use separate answer scripts for each Units.

Answer all questions:

UNIT—I

(Marks : 20)

(Paleobotany)

1. Answer any five of the following :

5×1

(a) What is meant by 'geochronology'?

(Turn Over)

- (b) State the subdivisions of Mesozoic Era.
- (c) What is meant by 'asthenosphere'?
- (d) What is meant by 'Pangaea'?
- (e) Mention the importance of Rikba bed in Lower Gondwana.
- (f) What is meant by ichno fossil?
- (g) Write two important plant mega fossils of Panchet Formation.
- (h) State the significance of 'Banded Iron Formation'.
2. Write brief notes any *two* of the following : $2 \times 2 \frac{1}{2}$
- (a) Coalified compression.
- (b) Basis of tri-partite classification of Indian Gondwana.
- (c) Peeling technique for the preparation fossil slide.
- (d) Megafloristics of Rajmahal Formation.
3. Answer any *one* of the following :
- (a) What is meant by Stratigraphy? Briefly describe the steps of stratigraphic deductions during correlation of rocks. Discuss the importance of plant fossils in stratigraphic correlation. $2+5+3$
- (b) Discuss the various biota recovered from the different strata of Precambrian Era. 10

UNIT—II

(Marks : 20)

(Palynology)

4. Answer any *five* of the following : 5×1
- (a) Mention different types of endoapertures met within colporate pollen grains.
 - (b) What is meant by Isopolar pollen grain ?
 - (c) What is meant by optical section in palynological connotation ?
 - (d) What are Xenogamous flowers ?
 - (e) What is pollen kitt ?
 - (f) What is polyad and where does it occur ?
 - (g) How does a monosulcate pollen grain differ from a monolete spore ?
 - (h) What would be the shape of a pollen grain having 100 μm PA and 60 μm ED.
5. Write brief notes any *two* of the following : $2 \times 2 \frac{1}{2}$
- (a) Chemical nature of sporopollenin.
 - (b) Pollen units.
 - (c) Palaeopalynology.
 - (d) Types of Supralectal ornamentation in exine.

6. Answer any *one* of the following :

1×10

(a) What is meant by 'hay-fever' or pollinosis? Illustrate the pathway of allergic reactions in human system after exposure of pollen grains. State briefly a conventional *in vivo* test for identification of allergenic pollen grains.

2+5+3

(b) What is meant by pollination? Discuss the different attributes of flowers those are pollinated by beetles, bees, butterflies and birds.

2+8
