

COMBINED COMPETITIVE EXAMINATION (MAIN)

BOTANY

Paper—I

Time : 3 hours

Full Marks : 200

- Note :** (1) The figures in the right-hand margin indicate full marks for the questions.
(2) Attempt **five** questions in all.
(3) Question No. **1** is compulsory.

1. (a) Distinguish between the following : 2×10=20

- (i) Bacteria and Viruses
- (ii) Bacteria and Cyanobacteria
- (iii) Homospory and Heterospory
- (iv) Pollinia of Asclepiadaceae and Orchidaceae
- (v) Xylem and Phloem
- (vi) Colony and Plaque
- (vii) Flower and Inflorescence
- (viii) Bacteriophages and Plasmids
- (ix) Genus and Species
- (x) Cymose and Racemose

(b) Choose the correct option : 2×5=10

- (i) Plastids are absent in
 - 1. Cyanophyta
 - 2. Chlorophyta
 - 3. Rhodophyta
 - 4. Phaeophyta

(ii) Which of the following has prokaryotic cells?

1. *Nostoc*
2. *Ulothrix*
3. *Sargassum*
4. *Spirogyra*

(iii) Penicillin is produced by

1. *Aspergillus*
2. *Albugo*
3. *Penicillium*
4. *Spirulina*

(iv) The common term for Anthocerotaceae is

1. stonewort
2. liverwort
3. thornwort
4. hornwort

(v) Juvenile stage of *Funaria* gametophyte is

1. sarconema
2. protonema
3. peristome
4. apospore

(c) Explain any five of the following :

2×5=10

- (i) Apogamy
- (ii) Polyembryony
- (iii) Differences between homospory and heterospory
- (iv) Role of embryology in classification of angiosperms
- (v) Fermentation
- (vi) Sporocarp of *Marsilea*
- (vii) Secondary growth in *Pinus* stem

