

NEW
Part II 3-Tier
2015

BOTANY
(Honours)
PAPER—V
(PRACTICAL)

Full Marks : 100

Time : 6 Hours

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

[Instructions to the Examiners]

1. Specimen 'A' — Bacterial suspension/curd should be supplied to all students of a batch.
2. For each Batch of candidates two specimens (B) with reproductive structures should be selected. Alternate specimens should be supplied to the candidates of the same batch from the following algae :

Oedogonium spp. — Macrandrous thallus with oogonium.

Chara spp. — Thallus with nodule and globule.

Vaucheria spp. — With sex organs.

Ectocarpus spp. — Thallus with gametangia/
sporangia.

Polysiphonia spp. — Thallus with cystocarp/
Tetrasporangia.

3. Any two specimens (C) of the following fungi with reproductive structures should be selected and supplied alternately to the candidates of the same batch :

Rhizopus spp. — Thallus with sporangia and zygospore.

Penicillium spp. — Thallus with conidia.

Ascobolus spp. — Fruit body.

Agaricus spp. — Mature basidiocarp.

Polyporus spp. — Fruit body.

4. Specimen 'D' — Any two specimen should be selected and supply alternately to the candidates of the same batch from the following Bryophytes :

Riccia spp. — Thallus with sporophyte.

Marchantia spp. — Thallus with Antheridiophore/ Archigoniophore.

Anthoceros spp. — Gametophyte thallus bearing sporophyte.

Funaria spp. — Thallus with sporophyte.

5. Specimen 'E' — Any two specimens should be selected and supplied alternately to the candidates of the same batch from the following Pteridophytes :

Lycopodium spp.

Selaginella spp.

Equisetum spp.

Marsilea spp.

Adiantum spp.

Supply the suitable sized plants with reproductive structure.

6. A card from a batch must be drawn by each candidate. A separate sheet should be provided to them for the work (Plant Pathology) as instructed in the drawn card. Each card must contain one of the following instructions (a or b):

- (a) Demonstrate the sub-culturing techniques and submit your requisition slip before demonstration.

[Requisition—2, Demonstration—3]

- (b) Work out the specimen 'F', identify the disease and the causal organism. Leave your preparation.

[Label drawing—2, Identification with reason—2, Slide preparation—1]

- * Candidates must submit requisition slip before demonstration. PDA slant, any stock culture of a fungus and the demanded equipments are to be supplied after the submission of the requisition slip.
- ** Specimen 'F' — Any two specimen should be provided to all the candidates of the same batch from the following :

Brown spot of rice — infected leaves.

Black stem rust of wheat (uredospore/teleutospore) — infected leaves.

Tikka disease of ground nut — infected leaves.

Colocasia leaf spot — infected leaf.

7. Any five permanent slides/microscopic materials for specimens 'G', 'H', 'I', 'J' and 'K' from the following groups (not more than one from any group and from amongst the genera mentioned under each group) :

Algae : (Excepting the specimen 'B')

- Anabaena* — Thallus with akinete/heterocyst.
Oedogonium — With oogonia/antheridia/dwarf male.
Coleochaete — Thallus with sex organs/spermocarp.
Chara — With sex organs.
Vaucheria — Thallus with sex organs.
Ectocarpus — Unilocular/plurilocular sporangia.
Polysiphonia — Cystocarp/spermatangia/
 Tetrasporangia.

Fungi : (Excepting the specimen 'C')

- Rhizopus* — Sporangia/Zygosporangium.
Penicillium — Conidiophore and Conidia.
Ascobolus — V. S. of ascocarp.
Agaricus — Section through the gills showing
 basidia and basidiospores.
Polyporus — Any sectional view.

Bryophyta : (Excepting the specimen 'D')

- Riccia* — V. S. through antheridia/archegonia.
 T.S. through sporophyte bearing
 thallus
Marchantia — V. S. through Antheridiophore/
 Archegoniospore/Gemma Cup.
Anthoceros — V. S. through antheridia/sporophyte.
Funaria — L. S. of capsule/T.S. of gametophyte.

Pteridophyte : (Excepting the specimen 'E')

Lycopodium — T.S. of stem/L.S. of strobillus.

Selaginella — T.S. of stem/L.S. of strobillus.

Equisetum — T.S. of stem/L.S. of strobillus.

Adiantum — T.S. of pinnule showing sorus.

Marsilea — L.S./T.S. of sporocarp.

Gymnosperm :

Cycas — Male cone/microsporophyll/megasporophyll/T.S. of coralloid root.

Pinus — L.S. of male cone/L.S. of female cone / T.S. of needle, T.L.S. of stem.

Ephedra — L.S. of ovule.

Gnetum — L.S. of ovule.

Fossil slide (Palaeobotany) :

Lyginopteris — T.S. of stem.

Calamites — T.L.S. of stem.

Lepidocarpon — L.S. of ovule.

8. Laboratory note books, Field note book and Records should be properly signed by the concerned teachers. (for question no. 8, 9, 10 & 11).
9. Examiners should ask any question related to practical and theoretical syllabus. (for question no. 12).

[General Instruction]

1. Nobody except the examiners are allowed to enter the examination hall after the commencement of examination. When required, Laboratory attendents/assistants must do their jobs in presence of examiner(s) only.
2. Repeation of specimens in the very next day should be avoided as far as practicable.
3. Evaluation should always show part marking and should be done jointly by all the examiners.
4. A list of specimens allotted to each batch should accompany the answer scripts (batch-wise). The list should bear the signature and full names (in block letters) of all the examiners.
5. Separate loose sheets should be used for Q. No. 6 and Q. No. 7.
6. Answer scripts and all loose sheets should bear the signature of the examiner.
7. Marks should be sent in the printed award sheets supplied by the University and in separate sealed covers.
8. Answer scripts should be sent in separate sealed cover.
9. Marks and answer scripts in sealed packets should be sent by internal examiner messenger to the Head Examiner / Co-ordinator at his / her residence or official address, **within two weeks after examination.**
10. Remuneration bills should be sent along with the answer scripts in a separate cover.