

**NEW**  
**Part-III 3-Tier**  
**2015**  
**BOTANY**  
**(Honours)**  
**PAPER—VII**  
**(PRACTICAL)**

Full Marks : 100

Time : 6 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.*

1. (a) Dissect and display the morphological parts of the specimen 'A'. Characterise it with suitable labelled sketches. 8  
*[ Dissection & display—2 ; Labelled sketches—3 ; Morphological characters—3 ]*
- (b) Write the morphological comments of the specimen 'B<sub>1</sub>', 'B<sub>2</sub>' and 'B<sub>3</sub>'. 2×3
2. Draw, label and describe the specimen 'C' with proper botanical terms. Dissect the flower and leave the preparation. Write the floral formula and draw the floral diagram. Identify the family and genus with reasons following the supplied published key. 18  
*[ Drawing & labelling—3+2 ; Description—5 ; Dissection of floral parts—2 ; Floral formula—1 ; Floral diagram—1 ; Identification the family with reasons—2 ; Identify the genus with reasons—2 ]*

*(Turn Over)*

3. (a) Cut a thin transverse section of the specimen 'D' and make suitable stained preparation of the specimen. Draw, label and identify the specimen with anatomical comments. Leave your preparation. 12

[ Section cutting—1 ; Staining—1 ; Mounting—1 ;  
Drawing—3 ; Labelling—2 ; Anatomical Comments—4 ]

- (b) Cut a thin T.L.S./R.L.S. of the specimen 'E' and prepare a temporary slide. Draw, label and identify the specimen with anatomical comments. Leave your preparation. 8

[ Section cutting—1 ; Drawing—2 ; Labelling—2 ;  
Anatomical Comments—2 ; Identification—1 ]

4. (a) Make a temporary preparation of the crude drug powder of the specimen 'F'. Draw, label and identify the crude drug. 4

[ Labelled sketches—2 ; Identification with reasons—2 ]

- (b) Identify the specimen 'G' performing at least two chemical tests for tannin / alkaloids.. 2+2

5. Identify the specimens 'H', 'I', 'J', 'K', 'L' and 'M'. Mention their family names, generic names and specific epithets.

$1\frac{1}{2} \times 6$

[ Family— $\frac{1}{2}$  ; Generic name— $\frac{1}{2}$  ; Specific epithet— $\frac{1}{2}$  ]

6. Submission :

- (a) Herbarium specimens. 6  
(b) Laboratory Note Book. 10  
(c) Field records. 3  
(d) Permanent Slides (made during practical classes) 2

7. Viva-Voce. 10

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**[Instructions to the Examiners]**

1. (a) For morphological studies any *two* specimens (*Canna* flower, *Calotropis* flower, *Nymphaea* flower ; inflorescence of *Tridax* sp., *Ficus* sp. and *Oryza* sp.) should be selected alternately for each batch of examinees.
- (b) For morphological comments any *three* specimens should be selected for each batch from the following items :  
  
inflorescence, stipules, cohesion and adhesion of stamens and carpels, fruits, and modification of leaves.

*(Turn Over)*

2. For each batch of candidates *two* specimens with flowers should be selected from the angiospermic families as prescribed in the syllabus. Alternate specimens should be given to the candidates of the same batch.

3. (a) Any *two* of the following specimens should be selected and allotted to the candidates of the same batch.

Root : *Vanda* sp. ; *Tinospora* sp.

Stem : *Bignonia* sp. ; *Boerhaavia* sp.

*Aristolochia* sp. ; *Tecoma* sp.

*Dracaena* sp. ; *Strychnos* sp.

Leaf : *Bambusa* sp. ; *Nerium* sp.

(b) Any *one* of the following specimens should be allotted to each candidate in a batch.

Wood block of *Shorea robusta* or *Tectona grandis* or *Dalbergia sissoo*.

4. (a) For each batch of candidates *one* suitable specimen from crude drug powder (powder of *Alstonia* bark, *Adhatoda* leaf, *Zingiber* rhizome, and *Strychnos* seed) should be selected. Repetition of the same specimen for different batches should be avoided as far as practicable.

(b) For chemical tests, *one* suitable specimen from the crude drug powder (powder of *Terminalia chebula* for tannin; powder of leaf / whole plant of *Catharanthus roseus* for alkaloid) should be selected for each batch of examinees.

5. Any *five* angiospermic flowering twigs (other than those selected for Q. No. 2) *one* each from different families as per theoretical syllabus should be selected. Out of the five specimens *one* must be from monocotyledons.
6. Laboratory Note Books, Field Records should be properly signed by the concerned teachers. The candidates should submit duly identified herbarium specimens as indicated in the syllabus.
7. Examiners should ask any question related to practical and theoretical syllabus.

**[Special Points]**

1. Marks should be sent in the printed award sheets supplied from the University.
2. Evaluation should always show part markings and should be done jointly by all the examiners.
3. Q. 1(b) and Q. 5. should be supplied at the same time and should be done in separate sheets.
4. All loose-sheets should bear signatures of all the examiners.
5. A list of (key to) specimens allotted to each batch should accompany the answer-scripts (batch wise). The list

should bear full signatures and full names (in block letters) of all the examiners.

6. Marks and answer-script packets along with remuneration bills (in separate envelope) should be sent to Head Examiner.
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