QUESTION BANK FOR INTERMEDIATE PRACTICAL EXAMINATION IN BOTANY (With effect from March-2014)

TELANGANA STATE BOARD OF INTERMEDIATE EDUCATION (TSBIE) HYDERABAD

**Marks : 06**

- Technical description of vegetative characters - 1 Mark
- Technical description of floral characters - 2 Marks
- Identification of the family - 1 Mark
- Floral formula - ½ Mark
- Floral diagram - ½ Mark
- Labelled diagrams of Twig with inflorescence - ½ Mark
- L.S. of flower - ½ Mark

II. Take T.S. of the given material ‘B. Stain, mount and leave the preparation for evaluation, Identify it and draw a well labelled diagram (Sector only). (No need to write identification characters)

**Marks : 06**

- Preparation of slide - 3 Marks
- Identification - 1 Mark
- Labelled diagram (Sector only) - 2 Marks

III. Experiment ‘C’ - Marks : 06

- Performing the experiment - 3 Marks
- Writing the Aim, Principle, Observation and Inference/ result (no need to write procedure and no need to draw diagram) - 3 Marks

\[(\frac{1}{2} + 1 + 1 + \frac{1}{2})\]
IV. Identify D, E, F, G, H giving reasons  
(Diagrams are not needed)  
Identification - ½ Mark  
Reasons - ½ Mark  

(V. Record and Herbarium  
Record (Based on I and II Year Practical Syllabus) - 5 Marks  
Herbarium (Minimum of 15 herbarium sheets representing the Families included in the syllabus) - 2 Marks
Intermediate Botany Practical 
Question Bank

I. A. PLANT TAXONOMY (ప్లాంట్ టాకోనోమియో)
1. Fabaceae - *Tephrosia purpurea*

2. Solanaceae - *Datura metel*

3. Liliaceae - *Allium cepa*

II. B. ANATOMY (ఆనాటమియో)
4. T.S. of Dicot stem (Primary)

5. T.S. of Monocot stem

6. T.S. of Dicot root (Primary)

7. T.S. of Monocot root

III. C. Live Experiments (లివ్ ఎంపిక్యూట్స్)
8. The four experiments have to be alternated among the students (by lots) in the examination such that every student has to do one experiment.
i) Demonstrate the osmosis by potato osmoscope. Write the aim, principle, observation and inference / result.

ii) Study of plasmolysis in epidermal peel of leaf. Write the aim, principle, observation and inference / result.

iii) Demonstrate the transpiration by cobalt chloride paper method. Write the aim, principle, observation and inference / result.

iv) Separate chloroplast pigments by paper chromatographic technique (No need to determine Rf values). Write the aim, principle, observation and inference / result.

IV. D. Vegetative Morphology (వెగ్రాటన్ మారంభమేరివు)

9. Storage root : Carrot

వస్త్రించ ప్రపంచ

5
10. Epiphytic roots : Vanda

11. Nodular roots : Arachis

12. Rhizome : Zinger

13. Corm : Colocasia

14. Stem tuber : Potato

15. Bulb : Onion

16. Stem tendril : Passiflora

17. Thorns : Bougainvillea

18. Offsets : Pistia

19. Phylloclade : Opuntia

20. Phyllode : Acacia melanoxylon
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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>21.</td>
<td>Reproductive leaves</td>
<td><em>Bryophyllum</em></td>
</tr>
<tr>
<td>22.</td>
<td>Trap leaves</td>
<td><em>Nepenthes</em></td>
</tr>
<tr>
<td>23.</td>
<td>Verticillaster</td>
<td><em>Leucas</em></td>
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<tr>
<td>24.</td>
<td>Cyathium</td>
<td><em>Euphorbia</em></td>
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<tr>
<td>25.</td>
<td>Hypanthodium</td>
<td><em>Ficus</em></td>
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<tr>
<td>26.</td>
<td>Berry</td>
<td><em>Tomato</em></td>
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<tr>
<td>27.</td>
<td>Hesperidium</td>
<td><em>Citrus</em></td>
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<tr>
<td>28.</td>
<td>Pepo</td>
<td><em>Cucumis</em></td>
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<tr>
<td>29.</td>
<td>Pome</td>
<td><em>Apple</em></td>
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<tr>
<td>30.</td>
<td>Drupe</td>
<td><em>Coconut</em></td>
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### F. ALGAE AND FUNGI (అల్గి, ఫంగి)

<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.</td>
<td>Nostoc</td>
<td>Vegetative filament</td>
</tr>
<tr>
<td>32.</td>
<td>Spirogyra</td>
<td>Vegetative filament</td>
</tr>
<tr>
<td>33.</td>
<td>Rhizopus</td>
<td>Vegetative mycelium</td>
</tr>
<tr>
<td>34.</td>
<td>Agaricus</td>
<td>Basidiocarp</td>
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</tbody>
</table>

### G. BRYOPHYTA, PTERIDOPHYTA (బ్రైపోయ్టా, ప్టెరిడోఫ్యుటా)

<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.</td>
<td>Marchantia</td>
<td>Thallus</td>
</tr>
<tr>
<td>36.</td>
<td>Funaria</td>
<td>Plant with sporophyte</td>
</tr>
<tr>
<td>37.</td>
<td>Pteris</td>
<td>Plant</td>
</tr>
<tr>
<td>38.</td>
<td>Selaginella</td>
<td>Plant</td>
</tr>
</tbody>
</table>
### H. GYMNOSPERMS, ANGIOSPERMS (మనిషిశరణ, రామిశరణ)

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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.</td>
<td><em>Cycas</em></td>
<td>Microsporophyll</td>
</tr>
<tr>
<td>40.</td>
<td><em>Cycas</em></td>
<td>Megasporophyll</td>
</tr>
<tr>
<td>41.</td>
<td><em>Pisum</em> (pea)</td>
<td>Plant</td>
</tr>
<tr>
<td>42.</td>
<td><em>Zea</em> (corn)</td>
<td>Plant</td>
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Guidelines to lecturers for question No.3 - Experiments in Botany Practicals.

Experiment - I: Osmosis by potato Osmoscope
The whole experiment should be done by the student at the time of practical examination.

Experiment - II: Study of plasmolysis in epidermal peel of leaf.
The whole experiment should be done by the student at the time of practical examination. Lecturer should give *Rheo/Tradescantia* leaves or any other leaf and 20% sucrose/ sodium chloride (NaCl) solution to students.

Experiment - III: Transpiration by cobalt chloride paper method
Cobalt chloride paper has to be prepared by the lecturers in advance and the same to be given to the students for performing the actual experiment.

**Note:** The students need not be prepare cobalt chloride paper.

Experiment - IV: Separation of leaf pigments or ‘chloroplast pigments by paper chromatographic technique.
The leaf extract is to be prepared by the student only at the time of examination to perform the experiment.

**Note:** Practical examiners are advised to begin the examination, with Question No. 3 experiments in order to give sufficient time to the students to get the result.