


UNIVERSITY OF MYSORE
Estd. 1916

Vishwavidyanilaya Karyasoudha
Crawford Hall, Mysuru- 570 005

No.AC2(S)/55/2024-25

Dated: 20.07.2024

Notification

Sub:-Syllabus and Scheme of Examinations of Botany (UG) programme (I & II Semester) from the Academic year 2024-25.

- Ref:-**1. Decision of Board of Studies in Botany (CB) meeting held on 07-06-2024.
2. Decision of the Faculty of Science & Technology meeting held on 19-06-2024.
3. Decision of the Academic Council meeting held on 28-06-2024.

The Board of Studies in Botany (CB) which met on 07-06-2024 has resolved to recommend & approved the Syllabus and Scheme of examinations of Botany (UG) programme (I & II Semester) from the Academic year 2024-25.

The Faculty of Science & Technology and Academic Council at their meetings held on 19-06-2024 and 28-06-2024 respectively has also approved the above said Syllabus and Scheme of examinations hence it is hereby notified.

The syllabus and Scheme of Examinations content may be downloaded from the University Website i.e., www.uni-mysore.ac.in.


Registrar
Registrar
University of Mysore
Mysore

To:-

1. All the Principal of affiliated Colleges of University of Mysore, Mysore.
2. The Registrar (Evaluation), University of Mysore, Mysuru.
3. The Chairman, BOS/DOS in Botany, Manasagangothri, Mysore.
4. The Dean, Faculty of Science & Technology, DOS in Mathematics, MGM.
5. The Director, Distance Education Programme, Moulya Bhavan, Manasagangothri, Mysore.
6. The Director, PMEB, Manasagangothri, Mysore.
7. Director, College Development Council, Manasagangothri, Mysore.
8. The Deputy Registrar/Assistant Registrar/Superintendent, Administrative Branch and Examination Branch, University of Mysore, Mysuru.
9. The PA to Vice-Chancellor/ Registrar/ Registrar (Evaluation), University of Mysore, Mysuru.
10. Office Copy.

UNIVERSITY  **OF MYSORE**

**FRAMING OF DURATION FOR DEGREE PROGRAMME AND REVISION OF
SYLLABUS FOR UNDERGRADUATE COURSES & CONTINUOUS ASSESSMENT
AND GRADING PATTERN (CGPA)**

(Ref: Govt order No. ED 166 UNE 2023, Bengaluru, dated 05-05-2024)

FOR UNDER GRADUATE PROGRAMS

B.Sc. BOTANY

Syllabus and Scheme of Examination

2024 – 25

ALLOCATION OF CREDITS (2024-25 onwards)

Sem	Course code	Practical/ Theory	TITLE OF THE COURSE DISCIPLINE CORE COURSE (COMPULSORY)	Hrs/ Week L:T:P	Credits	Max marks
I	DSCB* - 1.1	Theory	Diversity of Microbes, Algae, Fungi & Phytopathology	3 Hrs.	3	80+20
		Practical	”	4 Hrs.	2	40+10
II	DSCB* - 1.2	Theory	Bryophytes, Pteridophytes, Gymnosperms, Palaeobotany & Anatomy of Angiosperms	3 Hrs.	3	80+20
		Practical	”	4 Hrs.	2	40+10
III	DSCB* – 1.3	Theory	Reproductive Biology, Plant Ecology, Biodiversity & Conservation	3 Hrs.	3	80+20
		Practical	”	4 Hrs.	2	40+10
	DSEB1.1	Elective	Nursery, Gardening & Floriculture	2 Hrs.	2	40+10
IV	DSCB* – 1.4	Theory	Plant Physiology & Metabolism, Cell Biology & Molecular Biology	3 Hrs.	3	80+20
		Practical	”	4 Hrs.	2	40+10
	DCB**- 1.1	Compulsory	Mushroom culture technology	2 Hrs.	2	40+10
	DSEB - 1.2	Elective	Medicinal plants	2 Hrs.	2	40+10
V	DSEB - 1.2	Theory	Morphology of Angiosperms, Taxonomy, Economic Botany & Ethnobotany	3 Hrs.	3	80+20
		Practical	”	4 Hrs.	2	40+10
	DCB**- 1.2	Theory	Floriculture	2 Hrs.	2	40+10
VI	DSEB - 1.3	Theory	Genetics, Genetic Engineering, Plant Biotechnology & Evolution	3 Hrs.	3	80+20
		Practical	”	4 Hrs.	2	40+10
	DCB** - 1.4	Theory	Botanical products	2 Hrs.	2	40+10

DSCB* Discipline Core Course Botany; **DSEB*** Discipline Elective Botany;

DCB* Discipline Compulsory Course Botany

Botany – First semester (2024-25 onwards) - DSCB 1.1

Diversity of Microbes, Algae, Fungi and Phytopathology

Code: - 48 Hrs (3 Hrs of instruction/ week: 3 Credits)

Course outcome

1. Students will be in position to understand the general characters, classification and economic importance of Mollicutes, Viruses, Bacteria, Cyanobacteria, Algae, Fungi and Lichens
2. They know the structure and reproduction of various forms included in the syllabus
3. They will acquire the basic knowledge of various plant diseases mentioned in the syllabus and their management

Unit I: Microbial diversity - 16 Hrs.

A brief account of microbes in soil, air, food and water.

Brief account of five kingdom (Whittaker) and three domain (Carl Woese) system of classification.

Virology: History, general characters, classification, ultrastructure and multiplication of TMV and Bacteriophage (T4); Transmission of Viruses.

Viroids: General characters and fine structure of PSTVd.

Prions: General characters and diseases [Creutzfeldt-Jakob disease (CJD), Bovine spongiform encephalopathy (BSE)].

Mycoplasma: History and general characters.

Phytoplasma: Introduction, classification and diseases (Sandal spike disease).

Bacteriology: Introduction, classification (based on nutrition); Ultrastructure and reproduction (Budding, fission and endospore formation); Genetic recombination (Conjugation, transduction and transformation) and economic importance.

Unit II: Algae and Lichens - 16 Hrs.

Cyanobacteria: General characters and economic importance of Cyanobacteria.

Type study: *Nostoc*

General characters, classification and economic importance of algae.

Type study: *Chlorella*, *Oedogonium*, *Caulerpa*, *Diatom* (Pennales), *Sargassum* and *Polysiphonia*.

Lichens: General characters, classification (based on morphology and fungal component), structure, reproduction and Economic importance.

Unit III: Fungi and Phytopathology - 16Hrs

Fungi: General characters, classification (Ainsworth's) and economic importance.

Type study: *Rhizopus*, *Albugo*, *Penicillium*, *Puccinia* and *Fusarium*.

Phytopathology: Introduction, classification (based on causal organism) and disease triangle.

Plant diseases: Host, causal organism, symptoms and management of Little leaf of brinjal, Tobacco mosaic disease, Citrus canker, Tikka disease of groundnut, Late blight of potato, Coffee rust and Algal rust; Biopesticides.

Suggested readings

1. Alexopolous, J. and Charles, W. M. 1988. Introduction to Mycology. Wiley Eastern, New Delhi.
2. Chopra, G. L. 1973. Text Book of Algae. S. Nagin and Co. Jalandhar.
3. Dube, H. C. 1983. An Introduction of Fungi. Vikas Publication House, New Delhi.
4. Dutta, A. C. 1998. Botany for Degree Students. Oxford University Press.
5. Ganguli, H. C., Das, K. S. and Datta C. 1935. College Botany. (Vol. II). New Central Book Agency (P) Ltd.
6. Mehrotra, R. S. and Aneja, K. R. 1990. An Introduction of Mycology. Wiley Eastern Ltd.
7. Pandey, B. P. 2001. College Botany Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant Pathology, Industrial Microbiology and Bryophyta. S. Chand and Company Ltd, New Delhi.
8. Pandey, B. P. 2007. Botany for Degree students: Diversity of Microbes, Cryptograms, Cell Biology and Genetics. S. Chand and Company Ltd, New Delhi.
9. Pelczar, M. J. 2001. Microbiology. 5th edition, Tata Mc Graw-Hill Co, New Delhi.
10. Prescott, L., Harley, J. and Klein, D. 2005. Microbiology. 6th edition, Tata McGraw- Hill Co. New Delhi.
11. Sambamurthy, A. V. S. S. 2006. A text book of Plant Pathology. I. K. International Pvt. Ltd., New Delhi.
12. Sambamurthy, A.V.S. S. 2006. A Textbook of Algae. I.K. International Pvt. Ltd., New Delhi.
13. Sharma, O. P. 2006. A Text Book of Thallophyta. McGraw Hill Publishing. Co. New Delhi.
14. Singh, R. S. 1984. Introduction to Principles of Plant Pathology. Oxford and IBH Publication Co. Pvt. Ltd, New Delhi.
15. Singh, V., Pande, P. C. and Jain, D. K. 2006. A Textbook of Botany. Rastogi Publications, Meerut.
16. Smith G. M., 1955. Cryptogamic Botany- Algae, Fungi and Lichens. Vol. I. McGraw-Hill Book Co., New York.
17. Srivastava, H. N. 1998. Algae. Pradeep Publications, Jalandar.
18. Srivastava, H. N. 1993. Fungi. Pradeep Publications, Allahabad.
19. Sundarajan, S. 1998. College Microbiology. Vol 1. Vardhana Publications, Bangalore.
20. Sundarajan, S. 1993. College Botany. Vol I and II. Himalaya Publishing Company, Bangalore.
21. Vashishta, B. R., Sinha A. K. and Singh, V. P. 2008. Botany for Degree Students: Algae. S. Chand and Company Ltd, New Delhi.

Scheme of question paper (2024-25 onwards)
(Theory)

B.Sc., Degree I Semester Examination
Diversity of Microbes, Algae, Fungi and Phytopathology

Code:

Time: 3 Hrs

Max Marks: 80

I. Define/ Explain any EIGHT the following **8 X 1 = 08**

- 5 from Unit I
- 3 from Unit II
- 2 from Unit III

II. Write short notes on any FIVE of the following **5 X 3 = 15**

- 2 from Unit I
- 3 from Unit II
- 2 from Unit III

III. Answer any FIVE of the following **5 X 5 = 25**

- 2 from Unit I
- 2 from Unit II
- 3 from Unit III

IV. Describe any FOUR of the following in detail **4 X 8 = 32**

- 2 from Unit I
- 2 from Unit II
- 2 from Unit III

Unit	1 Mark	3 Marks	5 Marks	8 Marks	Total
I	1 X 5 = 5	3 X 2 = 6	5 X 2 = 10	8 X 2 = 16	37
II	1 X 3 = 3	3 X 3 = 9	5 X 2 = 10	8 X 2 = 16	38
III	1 X 2 = 2	3 X 2 = 6	5 X 3 = 15	8 X 2 = 16	39

Assessment method

Assessment		Marks
C ₁	Assignment	10
C ₂	Test	10
C ₃	Semester end exam	80

Theory Model Question Paper (2024-25 onwards)

I Semester - Paper I (DSCB 1.1)

Diversity of Microbes, Algae, Fungi and Phytopathology

Code:

Time: 3 Hrs

Max Marks: 80

Instruction: Draw neat labeled diagrams wherever necessary

I. Define/ Explain any EIGHT of the following

8 X 1 = 8

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

II. Write short notes on any FIVE of the following

5 X 3 = 15

- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.

III. Answer any FIVE of the following

5 X 5 = 25

- 18.
- 19.
- 20.
- 21.
- 22.
- 23.
- 24.

IV. Describe any FOUR of the following in detail

4 X 8 = 32

- 25.
- 26.
- 27.
- 28.
- 29.
- 30.

Practical Syllabus (2024-25 onwards)

I Semester - Paper I (DSCB 1.1)

Diversity of Microbes, Algae, Fungi and Phytopathology

Code: - 64 Hrs (1 Practical of 4 Hrs / week: 2 Credits)

Equipments used in Microbiology lab: Inoculation loop & needle, Hot air oven, Incubator, Pressure cooker Laminar air flow chamber, Hemocytometer, Colony counter.

Photographs /Charts of Microbiologists and their contribution

Staining of bacteria: Simple (positive and negative) and Gram staining.

Structure and reproduction of *Nostoc* and *Chlorella*

Structure and reproduction of *Oedogonium*

Structure and reproduction of *Caulerpa* and *Sargassum*

Structure and reproduction of *Polysiphonia* and Pennate Diatom

Structure and reproduction of *Rhizopus*, *Albugo*

Structure and reproduction of *Penicillium* and *Puccinia*,

Structure and reproduction of *Fusarium* and Lichens

Host, causal organism, symptoms and management of Sandal spike, TMV, Citrus canker, Algal rust (Avocado)

Tikka disease of Groundnut, Late blight of Potato and Coffee rust

Biopesticides (Neem, *Trichoderma*, *Bacillus subtilis*, NPV)

Assessment method

Assessment		Marks
C ₁	Continuous assessment (CA)	05
C ₂	Submission	05
C ₃	Semester end exam	40

Practical Question Paper Scheme (2024-25 onwards)
I Semester - Practical I (DSCB 1.1)

Diversity of Microbes, Algae, Fungi, and Phytopathology

Code:

Time: 3 Hrs

Max. Marks: 40

- | | |
|---|-------------|
| I. Perform the experiment A and leave for evaluation | - 07 |
| II. Prepare a temporary stained slide of the materials B & C sketch, label and identify with reasons. Leave the preparation for evaluation | - 10 |
| III. Write critical comment on the materials D, E & F | - 12 |
| IV. Identify the slides G, H & I with reason | -06 |
| V. Record | - 05 |

Practical Question Paper Scheme (SEB)
I Semester - Practical I (DSCB 1.1)

Diversity of Microbes, Algae, Fungi, and Phytopathology

Code:

Time: 3 Hrs

Max. Marks: 40

- | | |
|---|-------------|
| I. Perform the experiment A and leave for evaluation
[Simple staining (positive and negative) / differential staining]
(Principle- 1; Procedure- 2; Performance with result- 4) | - 07 |
| II. Prepare a temporary stained slide of the materials B & C sketch, label, and identify with reasons. Leave the preparation for evaluation
(1 from Cyanobacteria/ Algae, 1 from Fungi)
(Identification- 1; Preparation- 2; Reasons with labeled diagram- 2) | - 10 |
| III. Write critical comment on the materials D, E & F
(1 each from Fungi, Virus / Bacteria/ Mycoplasma disease and Algae/Lichen)
(Identification- 1, Causal organism- 1, Symptoms and Management- 2) | - 12 |
| IV. Identify the slides G, H & I with reason
(1 each from Algae/ Cyanobacteria, Fungi/ Lichen and Bryophyte)
(Identification- 1; Reasons with labeled diagram- 3) | -06 |
| V. Record | - 05 |

Note: Each student shall bring the practical record to the practical examination for evaluation without which he / she shall not be allowed to appear for the practical examination.

Theory Syllabus (2024-25 onwards)

II Semester - Paper II (DSCB 1.2)

Bryophytes, Pteridophytes, Gymnosperms, Palaeobotany and Anatomy of Angiosperms

Code: - 48 Hrs (3 Hrs of instruction/ week: 3 Credits)

Course outcome

1. Students will be able to understand the salient features, classification and economic importance of Bryophytes, Pteridophytes and Gymnosperms
2. They will know the Morphology, Anatomy and Reproduction of Bryophytes, Pteridophytes, Gymnosperms and fossil plants included in the syllabus
3. They will acquire the knowledge of geological time scale, fossils and fossilization
4. Students are able to understand various types of tissues and their functions
5. They will understand the anatomical structures of root, stem and leaf of dicots and monocots

Unit I - 15 Hrs

Bryophytes: General characters, classification and economic importance of Bryophytes

Type Study - *Riccia*, *Marchantia*, *Anthoceros* and *Polytrichum* (Developmental details not required).

Paleobotany: Geological time scale, fossils and fossilization; Types of fossils.

Type study: *Rhynia* and *Cycadeoidea*

Unit II - 15 Hrs

Pteridophytes: General characters classification and economic importance.

Stelar Evolution.

Type study: *Psilotum*, *Selaginella*, *Equisetum*, *Pteris* and *Marsilea* (Developmental details not required); Heterospory and seed habit (Brief account).

Unit III - 15 Hrs

Gymnosperms: General characters, classification and economic importance of Gymnosperms.

Type study: *Cycas*, *Pinus* and *Gnetum*.

Anatomy of Angiosperms: Epidermal tissue system (Epidermis, trichomes, stomata and Hydathodes) and Secretory tissue (Laticiferous tissues). - 1 Hrs

Vascular bundles, types of vascular bundles. - 1 Hrs

Anatomy of monocot and dicot root, stem and leaf.

Secondary growth in dicot stem and Anomalous secondary growth in *Dracaena* stem - 1 Hrs

Suggested readings

1. Andrews, H. N. 1961. *Studies in Paleobotany*. John Wiley, New York.
2. Bhatnagar, S. P. and Mitra, A. 1966 *Gymnosperms*. New age International (P) Ltd. Publishers.
3. Bierhorst, D. W. 1971. *Morphology of Vascular Plants*. The MacMillan Co., N.Y. and Collier- MacMillan Ltd., London.
4. Chamberlain, C. J. 1935. *Gymnosperms- Structure and Evolution*. Chicago Press.
5. Chestor, A. A. 1947. *Introduction to Palaeobotany*. McGraw Hill, London.
6. Coulter, J. M. and Chamberlain, C. J. 1964. *Morphology of Gymnosperms*. Central Book Depot, Allahabad.
7. Dutta, A. C. 1998. *Botany for Degree Students*. Oxford University Press.
8. Dutta, S. C. 1966. *An Introduction to Gymnosperms*. Asia Publications House, Mumbai.
9. Eames, A. J. 1936. *Morphology of Vascular Plants (Lower Groups)*. McGraw Hill, N.Y.
10. Easu, K. 1979. *Anatomy of seed plants*. Wiley Eastern Ltd. New Delhi
11. Fahn, A. 1969. *Plant Anatomy*. 2nd Edition, Wiley, New York.
12. Frank, C. 1990. *The inter-relationships of the Bryophytes*. New Phytologist. Today and Tomorrow's Printers and Publishers.
13. Gangulee, H. C., Kar and Kumar, A. 1982. *College Botany- Vol. II*. Central Book Agency, Calcutta.
14. Pandey, S. N. and Chadha, A. 2009. *Plant Anatomy and Embryology*. Vikas Publishing House Pvt Limited.
15. Pandey, S. N., Mishra, S. P. and Trivedi, P. S. 2007. *A Textbook of Botany- Vol. II*. Rastogi Publications, Meerut.
16. Rashid, A. 1999. *An Introduction to Pteridophyta*. MKM Publisher Pvt Ltd.
17. Shripad, N. A. 1995. *Paleobotany*. Oxford and I.B.H. New Delhi.
18. Singh, V., Pande, P. C. and Jain, D. K. 2005. *Diversity and Systematics of Seed plants*. Rastogi Publications, Meerut.
19. Singh, V., Pande, P. C. and Jain, D. K. 2006. *A Textbook of Botany*. Rastogi Publications, Meerut.
20. Sporne, K. R. 1971. *The Morphology of Gymnosperms: The Structure and Evolution of Primitive seed Plants*. Hutchinson University Library, London.
21. Sporne, K. R. 1974. *Morphology of Pteridophytes*. Hutchinson and Co., London.
22. Tayal M. S. 2004. *Plant Anatomy*. Rastogi Publications.
23. Vashishta, P. C. 1982. *Peridophyta*. S. Chand and Co. Ltd., New Delhi.

Theory Question Paper Scheme (2024-25 onwards)
II Semester - Paper II (DSCB 1.2)

Bryophytes, Pteridophytes, Gymnosperms, Palaeobotany and Anatomy of Angiosperms

Code:

Time: 3 Hrs

Max Marks: 80

Instruction: Draw neat labeled diagrams wherever necessary

Code:

Time: 3 Hrs

Max Marks: 80

I. Define/ Explain any EIGHT of the following **8 X 1 = 08**

- 2 from Unit I
- 3 from Unit II
- 2 from Unit III
- 3 from Anatomy

II. Write short notes on any FIVE of the following **5 X 3 = 15**

- 2 from Unit I
- 2 from Unit II
- 2 from Unit III
- 1 from Anatomy

III. Answer any FIVE of the following **5 X 5 = 25**

- 2 from Unit I
- 2 from Unit II
- 2 from Unit III
- 1 from Anatomy

IV. Describe any FOUR of the following in detail **4 X 8 = 32**

- 2 from Unit I
- 2 from Unit II
- 2 from Unit III

Unit	1 Mark	3 Marks	5 Marks	8 Marks	Total
I	1 X 5 = 5	3 X 2 = 6	5 X 2 = 10	8 X 2 = 16	37
II	1 X 3 = 3	3 X 3 = 9	5 X 2 = 10	8 X 2 = 16	38
III	1 X 2 = 2	3 X 2 = 6	5 X 3 = 15	8 X 2 = 16	39

Assessment method

Assessment		Marks
C ₁	Assignment	10
C ₂	Test	10
C ₃	Semester end exam	80

Theory Model Question Paper (2024-25 onwards)
II Semester - Paper I (DSCB 1.2)

Bryophytes, Pteridophytes, Gymnosperms, Palaeobotany and Anatomy of Angiosperms

Code:

Time: 3 Hrs

Max Marks: 80

Instruction: Draw neat labeled diagrams wherever necessary

I. Define/ Explain any EIGHT of the following

8 X 1 = 8

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

II. Write short notes on any FIVE of the following

5 X 3 = 15

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III. Answer any FIVE of the following

5 X 5 = 25

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- 19.
- 20.
- 21.
- 22.
- 23.
- 24.

IV. Describe any FOUR of the following in detail

4 X 8 = 32

- 25.
- 26.
- 27.
- 28.
- 29.

Practical Syllabus (2024-25 onwards)
II Semester - Practical II (DSCB 1.2)

Pteridophytes, Gymnosperms, Paleobotany and Anatomy of Angiosperms

Code: - 64 Hrs. (1 practical of 4 Hrs / week: 2 Credits)

Meristems, simple and complex tissues

Anatomy of monocot and dicot root

Anatomy of monocot and dicot stem

Anatomy of monocot and dicot leaf

Morphology, anatomy and reproduction of *Riccia* and *Marchantia*

Morphology, anatomy and reproduction of *Anthoceros* and *Polytrichum*

Morphology, anatomy and reproduction of *Psilotum* and *Rhynia*

Morphology, anatomy and reproduction of *Selaginella* and *Equisetum*

Morphology, anatomy and reproduction of *Pteris* and *Marsilea*

Morphology, anatomy and reproduction of *Cycas* and *Cycadioidea*

Morphology, anatomy and reproduction of *Pinus*

Morphology, anatomy and reproduction of *Gnetum*

Visit to Geology Museum / Fernarium

Assesment method

Assesment		Marks
C ₁	Continuous assessment (CA)	05
C ₂	Submission / Assignment	05
C ₃	Semester end exam	40

Practical Question Paper (2024-25 onwards)
II Semester - Practical II (DSCB 1.2)

Pteridophytes, Gymnosperms, Paleobotany, Morphology of Angiosperms and Anatomy

Code:

Time: 3 Hrs

Max. Marks: 40

- | | |
|---|-------------|
| I. Identify the specimens A, B and C with reasons | -09 |
| II. Prepare a temporary stained slide of the material D sketch, label and identify with reasons. Leave the preparation for evaluation. | - 05 |
| III. Comment on the materials E, F and G | -09 |
| IV. Identify the slides / Chart H, I, J and K with reasons | - 12 |
| VI. Record | - 05 |

Practical Question Paper Scheme (2024-25 onwards)
II Semester - Practical II (DSCB 1.2)

Pteridophytes, Gymnosperms, Palaeobotany and Anatomy of Angiosperms

Code:

Time: 3 Hrs

Max. Marks: 40

- | | |
|---|-------------|
| I. Identify the specimens A, B and C with reasons | - 09 |
| (1 each from Bryophytes, Pteridophytes and Gymnosperms) | |
| (Identification -1; Reasons with labeled diagram- 2) | |
| II. Prepare a temporary stained slide of the material D sketch, label and identify with reasons. Leave the preparation for evaluation. | - 05 |
| (from Anatomy) | |
| (Mounting- 3; Identification- 1; Reasons with labeled diagram- 1) | |
| III. Comment on the materials E, F and G | - 09 |
| (1 each from Bryophytes, Pteridophytes and Gymnosperms/Paleobotany) | |
| (Identification- 1; Reasons with labeled diagram- 2) | |
| IV. Identify the slides / Chart H, I, J and K with reasons | - 12 |
| (1 each from Bryophytes, Pteridophytes, Gymnosperms and Anatomy of Angiosperms) | |
| (Identification- 1; Reasons with labeled diagram- 2) | |
| VI. Record | - 05 |

Note: Each student shall bring the practical record to the practical examination without which he / she shall not be allowed to appear for the practical examination.

