



# Syllabus

## For B.Sc 1<sup>st</sup> Semester Courses in

### Botany

### (June 2020 onwards)

- Contents:
- Theory Syllabus for Courses:
  - SBOT0101 – Thallophyta
  - SBOT0102 – Angiosperms
  
- Practical Course Syllabus for: SBOT01PR
- Evaluation and Assessment guidelines.

**F.Y. B.Sc. Botany**

**Course code: SBOT0101**

**Course Title: THALLOPHYTA**

**Learning Objectives:**

1. To understand morphology, structure and importance of algae, fungi and bryophytes.
2. To learn and state the meaning of scientific terms.
3. To differentiate between various groups of algae, fungi and bryophytes.

**Number of lectures: 45**

**Unit 1**

**(15 lectures)**

**Algae**

General characters of algae, classification of algae into 4 major classes - Cyanophyta, Chlorophyta, Phaeophyta and Rhodophyta; general characters of these classes, economic importance of algae. Type studies: distribution, life cycle and systematic position of *Nostoc* and *Spirogyra*.

**Unit 2**

**(15 lectures)**

**Fungi**

General characters of fungi; classification and general characters of classes: Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes, mode of nutrition in fungi, economic importance of fungi, Type studies: distribution, lifecycle and systematic position of *Rhizopus* and *Agaricus*.

**Unit 3**

**(15 lectures)**

**Bryophyta**

General characters and classification of Bryophytes: Hepaticae, Anthocerotae and Musci. Type studies; distribution, life cycle and systematic position of *Riccia*. Economic importance of bryophytes

**List of Recommended Reference Books**

1. Smith, Gilbert M; Cryptogamic Botany Algae & Fungi Volume 1; 2nd edition; McGraw-hill book Comp. Tokyo, 1955..
2. Vasishtha B.R. And A. K. Sinha- Botany for degree students Part 1 ALGAE; S. Chand & Company Ltd, 1st edition, revised 2005.
3. Smith, Gilbert M; Cryptogamic Botany Bryophyta & Pteridophyta Volume 2; 2nd edition; McGraw-hill book Comp. Tokyo, 1955.
4. Vasishtha B.R. And A. K. Sinha- Botany for degree students: Bryophyta; S. Chand & Company Ltd, 1st edition, revised 2005.
5. Dutta, A.C.; A Classbook of Botany; 15th edition; Calcutta: Oxford University Press, 1976.

**Practical: SBOTPR0101**

- I) Study of economically important algae and fungi.
- II) Study of stages in the life cycle of *Nostoc*, *Spirogyra*.
- III) Collection and identification of algae from the field.
- IV) Study of stages in the life cycle of *Rhizopus* and *Agaricus*.
- V) Study of the life cycle of *Riccia*.

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**F.Y. B.Sc. Botany**  
**Course Title: ANGIOSPERMS**

**Course code: SBOT0102**

**Learning Objectives:**

- 1. To understand the morphology, structure and functions of various parts of plants..
- 2. To learn the taxonomical terminology and understand the meaning of the same.
- 3. To study the anatomical structure and functions of various tissues.

**Number of lectures: 45**

**Unit 1** **(15 lectures)**

**Morphology of Angiosperms:**

Leaf: parts, simple and compound leaves, Inflorescence: types; Flower.

**Unit 2** **(15 lectures)**

**Angiosperms Taxonomy:**

Introduction to Systems of Classification – Artificial, Natural and Phylogenetic, Bentham and Hooker's system of classification, Study of following families: Leguminosae, Asteraceae, Amaryllidaceae.

**Unit 3** **(15 lectures)**

**Anatomy- Primary Structures:**

Tissue systems in plants: epidermal, ground and vascular tissue systems. Simple and compound tissues: parenchyma, collenchyma, sclerenchyma, xylem and phloem. Study of primary structures: dicot and monocot stem.

**List of Recommended Reference Books**

- 1. Dutta, A. C.; A Classbook of Botany; 15th edition; Calcutta: Oxford University Press, 1976.

2. Sivarajan, V. V.; Introduction to the principles of plant taxonomy; 2nd edition; Cambridge: Cambridge University Press, 1991.
  3. Subrahmanyam, N. S.; Modern plant taxonomy; New Delhi: 1st edition; Vikas Publishing House Pvt. Ltd., 1995.
  4. Lawrence, George H. M.; Taxonomy of Vascular Plants; 1st edition; New Delhi: Oxford & IBH Publishing Co., 1967.
  5. Fahn, A; Plant anatomy; 4<sup>th</sup> edition. Indian reprint; New Delhi: Aditya Books (P) Ltd., (1997).
  6. Eames, Arthur J.; MacDaniels, Laurence H.; An introduction to plant anatomy; 2nd edition.; New Delhi: Tata Mcgraw-Hill Publishing Company Limited, (1978, 2004)
  7. Esau, Katherine; Anatomy of seed plants; 2nd edition; New York: John Wiley & Sons, 1977.
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### **Practical: SBOTPR0102**

- I) Study of morphological characters of leaf, inflorescence and flower.
- II) Primary structure of typical dicot and monocot stem.
- III) Study of families prescribed in theory (any one plant species available from each family).
- IV) Field excursion.

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### **Evaluation and Assessment: SBOT0101 and SBOT0102 courses**

#### **Evaluation (Theory): Total marks per course - 100.**

##### **CIA- 40 marks**

CIA 1: Written test -20 marks

CIA 2: Written Test / Assignment / Field Trip & Report -20 marks

##### **End Semester Examination – 60 marks**

One question from each unit for 20 marks, with internal choice. Total marks per question with choice -28 to 30.

#### **Evaluation of SBOT1PR (Practical) Total marks per Practical course - 100.**

**End Semester Practical Examination – (SBOTPR0101- 50 marks and SBOTPR0102- 50 marks)**

**Template for SBOT0101 Course End Semester Examination in Semester 1**

<b>UNITS</b>	<b>KNOWLEDGE</b>	<b>UNDERSTANDING</b>	<b>APPLICATION and ANALYSES</b>	<b>TOTAL MARKS- Per unit</b>
<b>1</b>	12	04	04	20
<b>2</b>	12	04	04	20
<b>3</b>	12	04	04	20
<b>-TOTAL - Per objective</b>	36	12	12	<b>60</b>
<b>% WEIGHTAGE</b>	60	20	20	<b>100%</b>

**Template for SBOT0102 Course End Semester Examination in Semester 1**

<b>UNITS</b>	<b>KNOWLEDGE</b>	<b>UNDERSTANDING</b>	<b>APPLICATION and ANALYSES</b>	<b>TOTAL MARKS- Per unit</b>
<b>1</b>	12	04	04	20
<b>2</b>	12	04	04	20
<b>3</b>	12	04	04	20
<b>-TOTAL - Per objective</b>	36	12	12	<b>60</b>
<b>% WEIGHTAGE</b>	60	20	20	<b>100%</b>

St. Xavier's College, Mumbai.  
**ASSESSMENT OF WRITTEN ASSIGNMENT- TYPE - I**

Dept. of Botany; Course Code \_\_\_\_\_ Date \_\_\_\_\_ Roll No \_\_\_\_\_

Name of student: \_\_\_\_\_ UIDNo \_\_\_\_\_ Marks \_\_\_\_\_ / 20

Title of Assignment: \_\_\_\_\_

**Assessment Grid** : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows. In boxes that have more than one set of marks, cancel out the marks that are not applicable and circle the correct marks.

**Assessment of Written Assignment: 20 Marks**

100%	ASSIGNMENT	80-100% (17-20 Marks)	60-80% (13-16 Marks)	40- 60% (9-12 Marks)	20-40% (5-8 Marks)	0-20% (0-4 Marks)
60 %	<b>Content</b> Impression of wide reading (research), good knowledge and comprehensive understanding. Evidence of thoughtful input. Ability to critique, Bibliography mentioned ----- Marks -----	Excellent  12 / 11 / 10	Good  9 / 8	Satisfactory  7 / 6	Poor  5 / 4	Very Poor  3 / 2 / 1
30 %	<b>Organization</b> Effective presentation, logical format, clear statement of ideas, relevant details, sequence of information and ideas could be easily followed, references / footnotes / endnotes ----- Marks -----	Effective organization  6	Few problems  5	Many problems  4	Inadequate presentation. Ineffective format, communication of ideas, lack of relevant details – but an attempt  3	No attempt to organize  2
5%	<b>Vocabulary</b>  ----- Marks -----	Richness of vocabulary  1	Very good range of vocabulary with some errors  1	Good range of vocabulary with some errors  0.5	Small range of vocabulary with errors  0.5	Little of no effort to demonstrate vocabulary knowledge  0
5%	<b>Grammar, spellings, mechanics</b>  ----- Marks -----	Grammar, spellings punctuations correct  1	Very few errors  1	Some errors  0.5	Many errors  0.5	No effort  0

Comments:

Name and Signature of Faculty \_\_\_\_\_.

St. Xavier's College, Mumbai.  
**ASSESSMENT OF WRITTEN ASSIGNMENT- TYPE - II**

Dept. of Botany; Course Code \_\_\_\_\_ Date \_\_\_\_\_ Roll No \_\_\_\_\_

Name of student: \_\_\_\_\_ UIDNo \_\_\_\_\_ Marks \_\_\_\_\_ / 20

Title of Assignment: \_\_\_\_\_

**Assessment Grid** : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows. In boxes that have more than one set of marks, cancel out the marks that are not applicable and circle the correct marks.

**Assessment of Written Assignment: 20 Marks**

100%	ASSIGNMENT	80-100% (17-20 Marks)	60-80% (13-16 Marks)	40- 60% (9-12 Marks)	20-40% (5-8 Marks)	0-20% (0-4 Marks)
50 %	<b>Content</b> Impression of wide reading (research), good knowledge and comprehensive understanding. Evidence of thoughtful input. Ability to critique, Bibliography mentioned ----- Marks -----	Excellent  10 / 9	Good  8 / 7	Satisfactory  6 / 5	Poor  4 / 3	Very Poor  2 / 1
30 %	<b>Organization</b> Effective presentation, logical format, clear statement of ideas, relevant details, sequence of information and ideas could be easily followed, references / footnotes / endnotes ----- Marks -----	Effective organization  6 / 5	Few problems  4	Many problems  3	Inadequate presentation. Ineffective format, communication of ideas, lack of relevant details – but an attempt  2	No attempt to organize  1
10%	<b>Vocabulary</b>  ----- Marks -----	Richness of vocabulary  2	Very good range of vocabulary with some errors  1.5	Good range of vocabulary with some errors  1	Small range of vocabulary with errors  1	Little of no effort to demonstrate vocabulary knowledge  0.5
10%	<b>Grammar, spellings, mechanics</b>  ----- Marks -----	Grammar, spellings punctuations correct  2	Very few errors  1.5	Some errors  1	Many errors  1	No effort  0.5

Comments:

Name and Signature of Faculty \_\_\_\_\_.

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**ASSESSMENT OF WRITTEN ASSIGNMENT**

Dept. of \_\_\_\_\_ Course Code \_\_\_\_\_ Date \_\_\_\_\_

UIDNo \_\_\_\_\_ Roll No \_\_\_\_\_ Marks \_\_\_\_\_/20

Name of student: \_\_\_\_\_

Title of Assignment: \_\_\_\_\_

**Assessment Grid** : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows. In boxes that have more than one set of marks, cancel out the marks that are not applicable and circle the correct marks.

<b>REPORT (Parameters)</b>	<b>Marks</b>	<b>80 – 100% Excellent</b>	<b>60 -80% Good</b>	<b>40 – 60% Satisfactory</b>	<b>20 – 40% Poor</b>	<b>0 – 20% Very Poor</b>
Reference Papers reviewed	10	10 / 9	8 / 7	6 / 5	4 / 3	3 / 2
Any other parameters based on which evaluation is done	10	10 / 9	8 / 7	6 / 5	4 / 3	3 / 2

Comments:

Name of the Faculty \_\_\_\_\_.

Signature of the Faculty \_\_\_\_\_



St. Xavier's College, Mumbai.  
**ASSESSMENT OF BOTANY FIELD TRIP REPORT**

Dept. of Botany; Course Code \_\_\_\_\_ Date \_\_\_\_\_ Roll No \_\_\_\_\_

Name of student: \_\_\_\_\_ UIDNo \_\_\_\_\_ Marks \_\_\_\_\_ / 20

Place of visit \_\_\_\_\_

**Assessment Grid :** Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows

(20)	Field Trip and Report	80-100% 17-20 Marks	60-80% 13-16 Marks	40-60% 09-12 Marks	20-40% 05-08 Marks	0-20% 0-04 Marks
30%  (06)	<b>Organization of report</b>  ----Marks----	Introduction about the location, vegetation, Botanical Names, Family, Local name, Description using Botanical Term, reporting all the species seen, Handwritten or typed.  6	Few mistakes, few species missing from the report  5	Many mistakes  4	Inadequate presentation, ineffective format, lack or relevant detail, but an attempt  3	No attempt to organize  2
50%  (10)	<b>Content</b>  ----Marks----	Excellent reporting of all the species observed in the field, ecological and morphological data,  10 / 9	Good reporting, species observed in the field but few of them missing in the list  8	Satisfactory, many species or relevant data missing from the report  6	Poor, inadequate and insufficient data or just a list of the species without any data.  5	Very poor, no data  4 / 3
10% (02)	<b>Conclusion</b>  ----Marks----	Excellent conclusion based on self observation. Type of forest and vegetation  2	Good conclusion, comments not independent  2 / 1	Satisfactory, but insufficient  1 / 0.5	Poor, irrelevant conclusion  0.5	Very poor, no conclusion  0.5
5% (01)	<b>References</b>  ----Marks----	Proper references, in required format  1	Proper references but no format  1	Few references  0.5	Irrelevant references  0	No references  0
5% (01)	<b>Attendance / participation</b>  ----Marks----	Attended and participated actively  1	Attended and participated  1	Infrequent Participation  0.5	No participation  0	Absent  0

Comments:

Name and Signature of Faculty \_\_\_\_\_