

Krantiguru Shyamji Krishna Verma

Kachchh University

Mundra Road

BHUJ : 370 001



SYLLABUS (CBCS)

B. Sc. Semester I

BOTANY

CODE : CEBO101

With effect from June 2011

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KSKV Kachchh University, Bhuj - Kachchh

F.Y. B.Sc. (Botany) Syllabus as CBCS System

Semester I (w.e.f. June 2011)

Name of the Paper : **Plant Diversity and Cytogenetics**

Paper No. : **Botany- 101 (CEBO101)**

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|---------------|---|-------------------|
| Unit-1 | Plant Diversity | [10 Marks] |
| 1.1 | Classification of kingdoms (Five and Seven kingdom systems) | |
| 1.2 | Introduction to different branches of Botany | |
| 1.3 | General account of Bacteria and Viruses | |
| 1.4 | Classification of Algae to Angiosperms. Main characters and differences only to differentiate them. | |
| 1.5 | Fossils-General account | |
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| Unit-2 | Thallophyta and Bryophyta | [15 Marks] |
| 2.1 | Life histories of Nostoc and Spirogyra | |
| 2.2 | Economic importance of Algae | |
| 2.3 | Life history of Mucor | |
| 2.4 | Economic importance of Fungi | |
| 2.5 | Life history of Riccia | |
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| Unit-3 | Morphology and Taxonomy | [20 Marks] |
| 3.1 | Morphology of Root, Stem, Leaf, Inflorescence and Flower (w/o modifications) | |
| | Root:- Different regions, types and functions. | |
| | Stem:- Habit and Types and Modifications | |
| | Leaf:-Bearing of leaves, Phyllotaxy, Stipules and types of leaves | |
| | Inflorescence:- Racemose, Cymose and Special | |
| | Flower:- Bracts, Symmetry, Presence of reproductive part, Number of floral parts, Position of floral organs, Calyx, Corolla, Perianth, Androecium. Gynoecium and Placentation | |
| 3.2 | Unique features of Angiosperms | |

- 3.3 Study of angiosperm families: Malvaceae, Apocynaceae, Nyctaginaceae and Amaryllidaceae

Unit-4 Cell biology and Genetics [15 Marks]

- 4.1 Cell cycle and Cell division
- 4.2 Structure of Plant cell
- 4.3 Nucleic acids: structure
- 4.4 Protein synthesis

Reference Books:-

Semester-1

Fundamental Principles of Bacteriology, by P.B. Shah, D.V. Prajapati and Others

A Text Book of Botany Vol I & II, by Pandey S.N. , Mishra S.P. & Trivedi P.S.

A Text Book of Botany Vol I & II, by Ganguli, Das & Dutta

A Text Book of Botany, by **Ganguli & Kar**

Algae, Fungi, Brayophata, Pteridophyta, by B.R.Vashshta

Algae, Fungi, Brayophata, Pteridophyta, by B.P.Pandey

Introductory Mycology, by Alexopoulos & Mims

Cryptogamic Botany Vol I &II, by G.M.Smith

College Botany, by A.C. Datta

College Botany, by B.P. Pandey

A Text Book of Systematic Botany, by R.N. Sutariya

Flora of the Indian Desert, by M.M.Bhandari

Flora of Gujarat, by G.L.Shah

Flora of Saurashtra, by Shantapau S. J.

Flora of Saurashtra, by Bole & Pathak

Vanaspatishastra, J.I.Thakar

Kachchh Swasthan ni Vanshpatio, by J.I.Thakar

Practical Botany, Vol I & II, Bendre & Kumar

Books for FY & SY Botany, by Nirav Publication

Taxonomy of Vascular Plants, by George H.M. Lawrence

Cell Biology, Genetics, Ecology and Evolution, by Verma P.S. , Agarwal V.K.

Elements of Cytology, by Powar C.B.

Cytogenetics, by S. Sundara Rajan

Cytology, Genetics & Evolution, by Gupta P.K.

The Structure of the Question Paper for the University Exam

Total Marks : 60

Total No. of Questions : 04

Question No.	Sub-question	Question type	Marks
Que-1 Unit-1 & Unit-3	a	Short questions (No internal Options) 2-question from Unit-1 3-questions from Unit-3	05
	b	Descriptive Questions with Internal Option At least one question from Unit-1	10
Que-2 Unit-2	a	Short questions (No internal Options)	05
	b	Descriptive Questions Descriptive Questions with Internal Option	10
Que-3 Unit-3	a	Short questions (No internal Options)	05
	b	Descriptive Questions Descriptive Questions with Internal Option	10
Que-4 Unit-4	a	Short questions (No internal Options)	05
	b	Descriptive Questions Descriptive Questions with Internal Option	10

- The examination pattern of the university is 60% external and 40% internal.
- Types of questions for section A may be varied like: one line answers / two line answers / definitions / reasoning / drawing small figures / fill in the blanks / multiple choice question / match the pairs etc.
- Each theory paper will have 4 lectures in a week and a practical will have 6 lectures per batch in a week.
- For the Practical, the practical batch must not exceed 20 students.
- The Botanical Excursion is highly essential for studying vegetation in its natural state. There shall be at least one Botanical Excursion.
- This is compulsory to record laboratory work in the Journal. The Journal is to be certified by the in charge concerned and the Head of the Department. Certified journal have to produced while appearing at the time of Practical examination
- Excursion report and submission of specimens / Submission of Project work will be mandatory for all the students.
- Minimum length of the submission is printed five A4 size pages.

Semester – I Syllabus for the Practical (Botany-101)

1. Study of Permanent slide of Bacterium
2. Study of virus through chart
3. Study of Nostoc (Veg. Heterocyst and Akinetes) through class work material.
4. Study of Spirogyra through class work material.
5. Study of Mucor through class work material.
6. Study of Riccia through class work material.
7. Study of Cell cycle through Chart
8. Study of Plant cell through Chart
9. Study of Cell division (Permanent slides)
10. Study of Mitosis – onion root tip
11. Study of Nucleic acids through Chart
12. Study of Morphology as per theory.
13. Study of Taxonomy as per theory.
14. Visits to fieldwork (Report \ Specimen \ Collection submission)
15. Journal / Submission

Internal Practical Paper Skeleton for the Semester-I (CEBO101)

Date: _____

Total Marks: 20

Time:- 4 Hours

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|-----|--|---|
| Q.1 | Identify and Describe specimen A & B | 4 |
| Q.2 | A Identify and classify with reasons C | 2 |
| | B Identify and Describe D | 2 |
| Q.3 | Prepare & Show to the Examiner E : _____ stage of Mitosis | 2 |
| Q.4 | Identify and Describe the specimens | 6 |
| | Specimen-1 | |
| | Specimen-2 | |
| | Specimen-3 | |
| | Specimen-4 | |
| Q.5 | Viva voce | 2 |
| Q.6 | Journal / Submission | 2 |

External Practical Paper Skeleton for the Semester-I (Botany-101)

Date: _____

Total Marks: 30

Time:- 4 Hours

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|-----|--|---|
| Q.1 | Identify and Describe specimen A & B | 6 |
| Q.2 | A Identify and classify with reasons C | 3 |
| | B Identify and Describe D | 3 |
| Q.3 | Prepare & Show to the Examiner E : _____ stage of Mitosis | 4 |
| Q.4 | Identify and Describe the specimens | 8 |
| | Specimen-1 | |
| | Specimen-2 | |
| | Specimen-3 | |
| | Specimen-4 | |
| Q.5 | Viva voce | 3 |
| Q.6 | Journal / Submission | 3 |

Reference for the Semester-1 Practical (Botany-101)

Q.1 Algae, Fungi and Bryophyte

Q.2 A Family

B Morphology

Q.3 Mitosis

Q.4 Identify and Describe the specimens

Specimen-1 Virus, Bacteria, Algae, Fungi, Bryophyte

Specimen-2 Morphology

Specimen-3 Cell biology

Specimen-4 Genetics

Q.5 Journal / Submission