

Krantiguru Shyamji Krishna Verma

Kachchh University

Mundra Road

BHUJ : 370 001



SYLLABUS (CBCS)

B. Sc. Semester II

BOTANY

CODE : CEBO201

With effect from June 2011

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KSKV Kachchh University, Bhuj - Kachchh

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

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

Name of the Paper: **Pteridophytes, Gymnosperm, Anatomy, Ecology, Physiology, Biochemistry and Applied botany**

Paper No. : **CEBO201**

Unit – 1 Pteridophytes and Gymnosperms [15 Marks]

- 1.1 Outline classification only up to classes of pteridopyta
- 1.2 Life history of selaginella (excluding anatomy)
- 1.3 Outline classification only up to classes of Gymnosperms
- 1.4 Life history of cycas (excluding anatomy)

Unit – 2 Anatomy & Ecology [15 Marks]

- 2.1 Primary growth and Secondary growth (Normal & Anomalous) Definition.
- 2.2 Normal secondary growth in sun flower stem & root.
- 2.3 Brief account of Ecosystem
- 2.4 Ecological adaptation of Hydrophytes, Xerophytes and Halophytes.
- 2.5 Structure and Ecological adaptations of Trapa petiole, Casuarina stem and Avicennia leaf.

Unit – 3 Physiology and Biochemistry [15 Marks]

- 3.1 Structure of Photo synthetic pigments
- 3.2 Photosynthesis
- 3.3 pH & Buffers
- 3.4 Laws of thermodynamics
- 3.5 Classification & Nomenclature of Enzymes.
- 3.6 Bonds
- 3.7 Water relations (Osmosis, Diffusion and Plasmolysis)

Reference Books

Semester-2

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

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

College Botany, by A.C. Datta

College Botany, by B.P. Pandey

Gymnosperm, by Vashishta

Plant Anatomy, by B.P.Pandey

Plant Anatomy, by K. Esau

Plant Anatomy, by K.P.Saxena

Plant Anatomy, by P.J. Chandulkar

A Text Book of Plant Anatomy, by P.C. Vashishta

Plant Physiology, by S.N. Pandey & B.K.Sinha

Plant Physiology-Fundamentals & Applications, Kumar & Purohit

A Text Book of Plant Physiology, by V. Verma

Biochemistry, by Powar C.B.

Fundamental of Biochemistry, by J.L.Jain

Fundamentals of Plant Physiology, by V.K.Jain

A Text Book of Plant Physiology, Biochemistry & Biotechnology, S.k.Verma & Mohit Verma

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

Basic Ecology, by Eugene P. Odum

Medicinal Herbs & Flowers, by S.K. Bhattacharjee

A Handbook of Medicinal Plants, Prajapati, Purohit Sharma & Kumar

Ethnobiology, by Rajiv K. Sinha & Sweta Sinha

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)	05
	b	Descriptive Questions with Internal Option	10
Que-2 Unit-2	a	Short questions (No internal Options)	05
	b	Descriptive Questions with Internal Option	10
Que-3 Unit-3	a	Short questions (No internal Options)	05
	b	Descriptive Questions with Internal Option	10
Que-4 Unit-4	a	Short questions (No internal Options)	05
	b	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 – II Syllabus for the Practical (CEBO201)

- 1 Study of Selaginella (Excluding anatomy)
- 2 Study of Cycas (Excluding anatomy)
- 3 Study of normal secondary growth :- Sunflower stem (single stain)
- 4 Study of normal secondary growth :- Sunflower root (single stain)
- 5 Study of Trapa petiole
- 6 Study of Casuarina stem
- 7 Study of Avicennia leaf
- 8 Study of through chart Photosynthetic pigment
- 9 Demonstration practical of photosynthesis
- 10 Demonstration practical of water relations
- 11 To measure pH of given soil samples
- 12 Study of Degradation of starch by Amylase
- 13 Study of Medicinal plants as per theory
- 14 Study of Food plants as per theory
- 15 Study of Natural Rubber as per theory
- 16 Journal / Submission

Internal Practical Paper Skeleton for the Semester-II (: CEBO201)

Date: _____

Total Marks: 20

Time:- 5 Hours

Q.1	Identify and Describe specimen A	2
Q.2	Identify, Describe, Prepare slide and show to the examiner B	3
Q.3	Identify and Describe C	3
Q.4	Demonstrate Experiment D	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-II (Botany-102)

Date: _____

Total Marks: 30

Time:- 5 Hours

Q.1	Identify and Describe specimen A	4
Q.2	Identify, Describe, Prepare slide and show to the examiner B	4
Q.3	Identify and Describe C	4
Q.4	Demonstrate Experiment D	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-II Practical (: CEBO201)

Q.1 Pteridophytes and Gymnosperm

Q.2 Secondary growth

Q.3 Ecology

Q.4 Physiology and Biochemistry

Q.4 Identify and Describe the specimens

Specimen-1 Pteridophytes and Gymnosperm

Specimen-2 Ecology, Physiology and Biochemistry

Specimen-3 Economic Botany & Applied Botany

Specimen-4 Economic Botany & Applied Botany

Q.5 Journal / Submission