

BHAKTA KAVI NARSINH MEHTA UNIVERSITY, JUNAGADH



**BHAKTA KAVI NARSINH MEHTA
UNIVERSITY, JUNAGADH**

Syllabus (UG) on the bases of Choice Based Credit System (CBCS)

For

Semester I

BOTANY

SEMESTER – I

Paper No. B – 101: Cryptogamic Botany

BHAKTA KAVI NARSINH MEHTA UNIVERSITY, JUNAGADH



FORWARD

Renewing and updating of the curriculum is an essential part of any vibrant university academic system. Revising the curriculum should be continues process to provide an updated education to the students at large. To meet the need and requirement of the society and in order to enhance the quality and standards of education, updating and restructuring of the curriculum must continue as a perpetual process. As a part of duty of study board, we the member of botany study board designed the new curriculum for First year (i.e. semester I & II) botany students. For designing of the curriculum we followed the UGC guideline for model curriculum. The exercise would not have been possible without the support of our respected faculties of botany. We hope that the results will fulfill expectations of the society.

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Conceptual Framework of the Syllabus of Botany-Semester 1 (UG)

Sr. No	Level UG or PG	Semester	Course Group Core Elective -1 Elective -2 etc	Course (Paper) Title	Paper No.	Credit	Internal Marks for Theory	Internal Marks for Practical	External Marks for Theory	External Marks for Practical	Total Marks	Course (Paper) Unique Code
1	UG	1	1	Cryptogamic Botany	B-101	06	30	15	70	15	150	

Total Scheme of evaluation

Semester	Theory			Practical		
	Internal	External	Total	Internal	External	Total
I	30	70	100	15	35	50

Minimum requirements of plant material and Instruments for Botany Practical based on Paper B-101 and Paper B-201

- Use of one micro scope for two students in practical batch
- Fresh plant material as well preserve material as per syllabus
- Different types of stain for slide preparation
- Charts for life cycles
- Original plant / Photographs / charts for Medicinal plants.
- Different types of stain for slide preparation
- Paper chromatography chamber and their equipment's & Chemicals
- Twig of plant and charts for Families

**SKELETON OF THEORY EXAMINATION
(EXTERNAL)**

QUESTION 1 – UNIT 1		
Q 1 A	Objective type questions	4 Marks
Q 1 B	Answer in brief (Any 1 out of 2)	3 Marks
Q 1 C	Write a note on (Any 1 out of 2)	7 Marks
QUESTION 2 – UNIT 2		
Q 2 A	Objective type questions	4 Marks
Q 2 B	Answer in brief (Any 1 out of 2)	3 Marks
Q 2 C	Write a note on (Any 1 out of 2)	7 Marks
QUESTION 3– UNIT 3		
Q 3 A	Objective type questions	4 Marks
Q 3 B	Answer in brief (Any 1 out of 2)	3 Marks
Q 3 C	Write a note on (Any 1 out of 2)	7 Marks
QUESTION 4 – UNIT 4		
Q 4 A	Objective type questions	4 Marks
Q 4 B	Answer in brief (Any 1 out of 2)	3 Marks
Q 4 C	Write a note on (Any 1 out of 2)	7 Marks
QUESTION 5 – UNIT 5		
Q 5 A	Objective type questions	4 Marks
Q 5 B	Answer in brief (Any 1 out of 2)	3 Marks
Q 5 C	Write a note on (Any 1 out of 2)	7 Marks
TOTAL MARKS : 70 TOTAL TIME : 2½ HOURS		

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Semester - I

Paper – B-101: Cryptogamic Botany

Unit-1: Introductory Botany and Algae

- 1.1 Scope and objectives of Botany
- 1.2 Branches of Botany
- 1.3 Classification: Whittaker (Five Kingdom)
- 1.4 General characters, Smith's classification and Algae in human welfare.
- 1.5 Life history of *Spirogyra* (Chlorophyceae), *Sargassum* (Phaeophyceae) (Excluding development)

List of Reference Books:

- 1) *Smith, G. M. (1955). Cryptogamic Botany Vol. I Algae and Fungi. Tata McGraw hill Publishing Company Ltd., New Delhi. 2nd edition.*
- 2) *Singh, V., Pande, P. C., Jain, D. K.. (2014). A Text Book of Botany. Rastogi Publications, Meerut, New Delhi. 5th revised edition.*
- 3) *Singh, V., Pande, P. C., and Jain. D. K. (2015). A Text book of botany. Rastogi publications, Meerut, New Delhi. 4th edition.*
- 4) *Vashishta, B.R. (1987). Botany for degree students - Algae. S. Chand and company (Pvt.) Ltd Ram Nagar-New Delhi. 7th edition.*
- 5) *Anne. Regaed. , Kumaresan, V., Arumugam, N. (2014) Algae. Saras publication, Kattar P.O. Nagercoil, Tamilnadu. 1st edition.*
- 6) [Gangulee](#), H. C., [Das](#), K. S., [Dutta](#), C. (2005). College Botany Volume – 1. New Central Book Agency, India 1st edition.

Unit –2: Fungi

- 3.1 General characters, Alexopolus' classification and fungi in human welfare.
- 3.2 Life history of *Mucor* (Zygomycotina), *Agaricus* (Basidiomycotina) (Excluding development)

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- 1) *Smith, G. M. (1955). Cryptogamic Botany Vol. I Algae and Fungi. Tata McGraw hill Publishing Company Ltd., New Delhi. 2nd edition.*
- 2) *Singh, V., Pande, P. C., Jain, D. K... (2014). A Text Book of Botany. Rastogi Publications, Meerut, New Delhi. 5th revised edition.*
- 3) *Singh, V., Pande, P. C., and Jain. D. K. (2015). A Text book of botany. Rastogi publications, Meerut, New Delhi. 4th edition.*
- 4) *Vashishta, B.R., Sinha, A.K. (2002). Botany for degree students. Fungi- S.Chand.*
- 5) *Alexopoulos, C.J., Mims, C.W., Blackwell, M. (1996). Introductory Mycology, John Wiley and Sons (Asia), Singapore. 4th edition.*

Unit – 3: Bryophyte

- 4.1 General account and outline of classification of bryophytes by Rothmaller up to class
- 4.2 Life history of *Riccia* (Excluding development)

List of Reference Books:

- 1) *Smith, G. M. (1955). Cryptogamic Botany Vol. I Bryophytes and Pteridophytes. Tata McGraw hill Publishing Company Ltd., New Delhi. 2nd edition.*
- 2) *Singh, V., Pande, P. C., Jain, D. K... (2014). A Text Book of Botany. Rastogi Publication, Meerut, New Delhi. 5th revised edition.*
- 3) *Singh, V., Pande, P. C., and Jain. D. K. (2015). A Text book of botany. Rastogi publication, Meerut, New Delhi. 4th edition.*
- 4) *Parihar, N.S. (1991). An introduction to Embryophyta. Vol. I. Bryophyta. Central Book Depot, Allahabad.*

Unit – 4: Pteridophyte

- 5.1 Origin, Evolution and Phylogeny of Land plants (General Account) with Geological time scale.
- 5.2 General accounts and outline of classification of Pteridophytes by G.M. Smith up to class
- 5.3 Life history of *Nephrolepis* (Excluding development)

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List of Reference Books:

- 1) *Smith, G. M. (1955). Cryptogamic Botany Vol. I Bryophytes and Pteridophytes. Tata McGraw hill Publishing Company Ltd., New Delhi. 2nd edition.*
- 2) *Singh, V., Pande, P. C., Jain, D. K... (2014). A Text Book of Botany. Rastogi Publications, Meerut, New Delhi. 5th revised edition.*
- 3) *Singh, V., Pande, P. C., and Jain. D. K. (2015). A Text book of botany. Rastogi publications, Meerut, New Delhi. 4th edition.*
- 4) *Vashishta, P.C., Sinha, A.K., Kumar, A., (2010). Pteridophyta, S. Chand. Delhi, India.*
- 5) *Parihar, N.S. (1991). An introduction to Embryophyta. Vol. I. Pteridophyta. Central Book Depot, Allahabad.*

Unit – 5: Gymnosperm

- 6.1 General characters, outline of classification by G. M. Smith and characters of gymnosperms classes
- 6.2 Life history of *Cycus* (Excluding development)

List of Reference Books:

- 1) *Singh, V., Pande, P. C., Jain, D. K... (2014). A Text Book of Botany. Rastogi Publications, Meerut, New Delhi. 5th revised edition.*
- 2) *Singh, V., Pande, P. C., and Jain. D. K. (2015). A Text book of Botany. Rastogi publications, meerut, New Delhi. 4th edition.*

Practical based on Paper B-101

- 1) Study of morphology, anatomy and reproductive structures in *Spirogyra* algae
- 2) Study of morphology, anatomy and reproductive structures in *Sargassum* algae
- 3) Study of morphology, anatomy and reproductive structures in Fungi : *Mucor*
- 4) Study of morphology, anatomy and reproductive structures in Fungi : *Agaricus*
- 5) Study of morphology, anatomy and reproductive structures in *Riccia*
- 6) Study of morphology, anatomy and reproductive structures in *Nephrolepis*
- 7) Study of morphology, anatomy and reproductive structures in *Cycus*
- 8) To study the Medicinal plants: *Vitex negundo*; *Cassia fistula*; *Terminalia belerica*; *Emblica officinalis*; *Pongamia pinnata*
- 9) Field study

List of Reference Books:

- 1) *Bendre, A. M. and Ashok Kumar, (2009) A Text book of Practical Botany Vol. I & II. Rastogi Publications, Meerut. 9th edition.*