GOKUL GLOBAL UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF BOTANY

Sr. No.	Course	Level	Semester	Course Type	Course Code	Course Name	Duration in Hrs.		Credit	Max. Marks	Total	
							Theory	Practical		CCE(Formative) (weekly test/ Assignment/ Attendance/ Practical/ Viva/ Group Discussion/ Quiz)	SEE (Summative)	
1	Certificate	UG	I	Discipline Specific Course (Major-1)	CPBOT101DSC	Introduction to Plant World	45	30	4	50	50	100
2				Discipline Specific Course (Major-2)	CPZOO101DSC	Non-Chordates I-Protista to Pseudocoelomates	45	30	4	50	50	100
3				Discipline Specific Course (Minor)	CPCHE101DSC/ CPMIC101DSC	General Chemistry-I/ Introduction to Microbial World	45	30	4	50	50	100
4				Multi-Disciplinary Course	CP101MDC	Basics of computer application	45	30	4	50	50	100
5				Ability Enhancement Course	CP101AEC	Communication Skills-1	30	---	2	25	25	50
6				Indian Knowledge System	CP101IKS	Indian Constitution	30	---	2	25	25	50
7				Skill Enhancement Course	CP101SE	Photography Basics	30	---	2	25	25	50
Total							270	120	22	275	275	550

GOKUL GLOBAL UNIVERSITY, SIDHPUR							
Programme Code		**CPBOT**		**Programme Name**	Certificate Programme of Botanical Science		
Course Code		CPBOT101DSC		**Semester**	I		
INTRODUCTION OF PLANT WORLD							
Course type:		Discipline Specific Course		**Total Credit:**	Theory	Practical	Total
					3	1	4
Teaching time (hours)		**Examination Marking Scheme**					
Theory (hrs.)	**Practical** (hrs.)	**Internal** (Marks)		**External** (Marks)	**Total** (Marks)		
		Theory	**Practical**	**Theory**	**Theory**	**Practical**	**Total**
3 X 15 = 45	15X2=30	25	25	50	75	25	100

Pre-requisite: The students must have core subjects like Biology in their Higher Secondary level.

Rationale: Studying reproductive processes in diverse plants, alongside taxonomy, physiology, genetics, and biotechnology, deepens understanding of Botany's complexity.

Course Objective:

It is fascinating to study the wide spectrum of reproductive processes in algae, fungi, lichens, bryophytes, gymnosperms, and flowering plants. A student of Botany has been learning these aspects together with taxonomy, anatomy, plant pathology, plant breeding, microbiology, plant physiology, plant biochemistry, ecology, cytology, genetics, cytogenetics, molecular biology and plant biotechnology.

Course Outcome:

CO 1	Discuss the basics of virus discovery, evolution, and classification
CO 2	Discuss the basics of fungi discovery, evolution, and classification
CO 3	Discuss the basics of Bacteria discovery, evolution, and classification
CO 4	Discuss the basics of Fungi discovery, evolution, and classification

Unit	Topic	Content	Hours	Weightage
1		**Diversity of plants and Microbes**	15	33%
	1.1	Introduction to plant diversity, concept of plant kingdom, different systems of classification		
	1.2	**Viruses:** Physiochemical and biological characteristics, General structure. **Bacteria**: Archaebacteria and Eubacteria General characteristics, structure and types.		
	1.3	**Fungi**: General characteristics, general structure and reproduction. Saccharomyces, Aspergillus, Agaricus Economic importance of Microbes in agriculture and industry		
2		**Cyanobacteria and Algae**	15	33%
	2.1	**Cyanobacteria**: Occurrence and range of thallus organization, Characteristic features, cell structure and heterocyst structure, Method of reproduction (general), Nostoc, Oscillatoria (life cycles)		
	2.2	**Algae**: Occurrence and range of thallus organization, Characteristic features, cell structure and types of reproduction		
	2.3	Economic importance of algae i.e. role of algae in environment, agriculture and industry. Ulothrix and Sargassum (Life cycles).		
3		**Archegoniate plants**	15	33%
	3.1	**Bryophytes**: Occurrence and range of thallus organization, Characteristic features. Riccia, Funaria. (Life cycles) Ecological and economical importance of bryophytes		
	3.2	**Pteridophytes**: Occurrence, Characteristic features. Psilotum, Selaginella, Equisetum, Nephrolepis. (Life cycles) Ecological and economical importance of Pteridophytes		
	3.3	**Gymnosperms**: Characteristic features, Cycas (life cycle). Ecological and economical importance of Gymnosperms		

Reference Books:

- Gangulee, S. C., Das, K.S, Dutta, C.D. and Kar, A.K. (1968) College Botany Vol. I and Vol. II
- Smith, G. M. - (1972) Cryptogamic Botany Vol. I and Vol. II . McGraw-Hill.
- Verma, J.P. - (1968) The Bacteria, Vikas Publications
- Clifton, A. (1950) Introduction to Bacteria, McGraw - Hill
- Parihar, N.S. -(1956) Bryophyta
- Parihar, N.S. -(1955) Pteridophyte
- Vashishta, B.R. -(1962) Botany for Degree Students: Vol. II Fungi

LIST OF PRACTICALS

1. Study of Simple and Compound microscope
2. EMs/Models of viruses (bacteriophage)
3. Types of Bacteria from temporary/permanent slides/photographs
4. Type study of cyanobacteria: Nostoc and Oscillatoria
5. Type study of algae: Ulothrix and Sargassum
6. Type study of fungi: Saccharomyces, Aspergillus and Agaricus
7. Type study of bryophytes: Riccia and Funaria
8. Type study of pteridophytes: Psilotum, Selaginella, Equisetum and Nephrolepis
9. Type study of gymnosperms: cycas

Reference Books:

- Gangulee, S. C., Das, K.S, Dutta, C.D. and Kar, A.K. (1968) College Botany Vol. I and Vol. II
- Kumar & Bendre, A TEXT BOOK OF PRACTICAL BOTANY VOL-1, Rastogi Publications

CO-PO & CO-PSO Mapping

Course outcome	Programme Outcome [3: High relevant, 2: Mild relevant, 1: less relevant]											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9		PSO1	PSO2
CO1	2	1	-	-	1	-	-	2	-		3	2
CO2	1	2	1	1	-	2	-	-	2		2	1
CO3	2	1	1	-	-	-	2	2	-		2	2
CO4	2	3	-	-	-	2	1	-	-		3	1