VIDYASAGAR UNIVERSITY

Midnapore, West Bengal

PROPOSED CURRICULUM & SYLLABUS (DRAFT) OF

BACHELOR OF SCIENCE WITH BOTANY

(MULTIDISCIPLINARY STUDIES)

3-YEAR UNDERGRADUATE PROGRAMME

(w.e.f. Academic Year 2023-2024)

Based on

Curriculum & Credit Framework for Undergraduate Programmes

(CCFUP), 2023 & NEP, 2020

VIDYASAGAR UNIVERSITY
BACHELOR OF SCIENCE IN LIFE SCIENCES with BOTANY
(*under CCFUP, 2023*)

Level	YR.	SEM	Course Type	Course Code	Course Title	Credit	L-T-P	Marks		
								CA	ESE	TOTAL
B.Sc. in Life Sc. with Botany	1st	I	**SEMESTER-I**							
			Major (Disc.-A1)	BOTPMJ101	**T: Plant Groups and Texa; P: Practical** ***(To be studied by the students taken Botany as Discipline-A)***	4	3-0-1	15	60	75
			SEC	SEC01	***To be chosen from SEC-01 of Discipline A/B/C of their Hons. prog.***	3	0-0-3	10	40	50
			AEC	AEC01	Communicative English-1 (***common for all programmes***)	2	2-0-0	10	40	50
			MDC	MDC01	Multidisciplinary Course-1 (***to be chosen from the list***)	3	3-0-0	10	40	50
			VAC	VAC01	VAC-01: ENVS (***common for all programmes***)	4	2-0-2	50	50	100
			Minor (Disc.-C1)	BOT MI 01/C1	**T: Plant Science-I; P: Practical** ***(To be studied by the students taken Botany as Discipline-C)***	4	3-0-1	15	60	75
					Semester-I Total	20				400
		II	**SEMESTER-II**							
			Major (Disc.-B1)		***To be decided*** ***(Same as like A1 for students taken Botany as Discipline-B)***	4	3-0-1	15	60	75
			SEC	SEC02	***To be chosen from SEC-02 of Discipline A/B/C of their Hons. prog.***	3	0-0-3	10	40	50
			AEC	AEC02	MIL-1 (***common for all programmes***)	2	2-0-0	10	40	50
			MDC	MDC02	Multi Disciplinary Course-02 (***to be chosen from the list***)	3	3-0-0	10	40	50
			VAC	VAC02	VAC-02 (***to be chosen from the list***)	4	4-0-0	10	40	50
			Minor (Disc.-C2)	BOT MI 02/C2	**T: Plant Science-II; P: Practical** ***(To be studied by the students taken Botany as Discipline-C)***	4	3-0-1	15	60	75
			Summer Intern.	CS	Community Service	4	0-0-4	-	-	50
					Semester-II Total	24				400
					TOTAL of YEAR-1	44	-	-	-	800

P MJ= Major Programme (Multidisciplinary), MI = Minor, A/B = Choice of Major Discipline; C= Choice of Minor Discipline; SEC = Skill Enhancement Course, AEC = Ability Enhancement Course, MDC = Multidisciplinary Course, VAC = Value Added Course; CA= Continuous Assessment, ESE= End Semester Examination, T = Theory, P= Practical, L-T-P = Lecture-Tutorial-Practical, MIL = Modern Indian Language, ENVS = Environmental Studies

MAJOR (MJ)

MJ A1/B1: Plant Groups and Texa **Credits 04 (FM: 75)**

MJ A1/B1T: Plant Groups and Texa **Credits 03 [45L]**

Course contents:

UNIT	Topic	No. of Lectures
1	**Introduction to microbial world-** Whittaker's five-kingdom system **Virus:** General characteristics, classification (Baltimore), Economic importance. **Bacteria:** General characteristics, Bergey's Classification, Economic importance. **Algae:** General characteristics; habitat, classification (Van Den Hoek, 1995), lifecycle patterns of *Volvox* and *Batrachospermum*, Economic importance. **Fungi:** General characteristics,Classification (Ainsworth, up to Order), life cycle patterns of *Rhizopus* and *Agaricus*, economic importance. Brief account of lichen and mycorrhiza.	15
2	**Bryophytes:** General characteristics, classification (Proskauer, 1957), morphology, anatomy and reproduction of *Riccia*, *Anthoceros* and *Funaria*, economic importance of bryophytes. **Pteridophytes:** General characteristics, Classification (Sporne, 1975), morphology, anatomy and reproduction of *Lycopodium*, *Adiantum* and *Marsilea*. Economic importance	15
3	**Gymnosperms:** General characteristics, Classification (Sporne, 1965), morphology, anatomy and reproduction of *Cycas* and *Pinus.* Economic importance. **Paleobotany:** Geological time scale and important events, Types of plant fossils.	15

MJ A1/B1P: Practical **Credits 01**

Course Outline:

1. Electron micrographs/Models of viruses – T-Phage and Sars-CoV2.
2. Study of Curd organisms through Gram staining.
3. Study of vegetative and reproductive structure of *Volvox*, and *Batrachospermum.*
4. Study of morphology and reproductive structure of *Rhizopus* and *Agaricus.*
5. Study of morphology of thallus and reproductive structure of *Riccia, Anthoceros* and *Funaria.*
6. Study of morphology vegetative and reproductive structure of *Lycopodium*, *Adiantum* and *Marsilea.*
7. Study of morphology and vegetative structure of *Cycas* and *Pinus.*
8. Study of fossil types (impressions, compressions, petrifaction).

MINOR (MI)

MI-1/C1: Same as Minor-1 (BOTMI01) of Botany (Hons) programme — **Credits 04**, **Full Marks: 75**

MI-2/C2: Same as Minor-2 (BOTMI02) of Botany (Hons) programme — **Credits 04**, **Full Marks: 75**

SKILL ENHANCEMENT COURSE (SEC)

TO BE CHOSEN FROM THE BUCKET OF SECs OF SELECTED DISCIPLINE A/B/C
(As per A/B/C Hons. Prog. Syllabus)