



Estd. 1962
NAAC 'A' Grade

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दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग- २६०९०९४)

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SU/BOS/Science/8644

Date: 29/08/2019

To,

The Principal,
College of Non-Conventional Vocational Courses for Woman,
SIBER, Kolhapur.

Subject: Regarding syllabi and Structure of B.Sc. Part- I Environmental Science (Entire) CBCS (Sem.I & II) degree programme under the Faculty of Science and Technology

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, Structure, Subject list, Nature of question paper of **B.Sc. Part- I Environmental Science (Entire) under the Faculty of Science and Technology.**

This syllabi, Structure, Subject list, Nature of question paper shall be implemented from the academic year 2019-2020 (i.e. from June 2019) onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in (Online Syllabus)

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy Registrar

Copy to:

1	The Dean, Faculty of Science & Technology	7	Appointment Section
2	Director, Board of Examinations and Evaluation	8	P.G.Seminar Section
3	The Chairman, Respective Board of Studies	9	Computer Centre/IT Cell
4	B.Sc. Exam	10	Affiliation Section (P.G./U.G.)
5	Eligibility Section	11	Affiliation Section (T-II)
6	O.E. I Section	12	P.G.Admission Section

Structure of Program and List of Courses are as follows:

Structure of B. Sc. Environment Science (Entire) Programme Semester I & II Structure-I

SEMESTER – I (Duration – 6 Months)													
Sr. No.	Course (Subject) Title	TEACHING SCHEME						EXAMINATION SCHEME					
		THEORY			PRACTICAL			THEORY				PRACTICAL	
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Max	Total Marks	Min	Hours	Max
1	DSC-A1	2	5	4	2	4	3.2	2	50	100	35	PRACTICAL EXAMINATION IS ANNUAL	
2	DSC-A2	2						2	50				
3	DSC-A3	2	5	4	2	4	3.2	2	50	100	35		
4	DSC-A4	2						2	50				
5	DSC-A5	2	5	4	2	4	3.2	2	50	100	35		
6	DSC-A6	2						2	50				
7	DSC-A7	2	5	4	2	4	3.2	2	50	100	35		
8	DSC-A8	2						2	50				
9	AECC-A	2	4	3.2	-----	-----	-----	2	50	50	18		
Total		18	24	19.2	8	16	12.8	-	450				
SEMESTER – II (Duration – 6 Months)													
1	DSC-B1	2	5	4	2	4	3.2	2	50	100	35	As per BOS Guide-lines	
2	DSC-B2	2						2	50				
3	DSC-B3	2	5	4	2	4	3.2	2	50	100	35		
4	DSC-B4	2						2	50				
5	DSC-B5	2	5	4	2	4	3.2	2	50	100	35		
6	DSC-B6	2						2	50				
7	DSC-B7	2	5	4	2	4	3.2	2	50	100	35		
8	DSC-B8	2						2	50				
9	AECC-B	2	4	3.2	-----	-----	-----	2	50	50	18		
Total		18	24	19.2	8	16	12.8	-	450				
Grand Total		36	48	38.4	16	32	25.6	900		200			
<ul style="list-style-type: none"> • Student contact hours per week : 32 Hours (Min.) • Theory and Practical Lectures : 48 Minutes Each 						<ul style="list-style-type: none"> • Total Marks for B.Sc.-I (Including English) : 1100 • Total Credits for B.Sc.-I (Semester I & II) : 52 							
<ul style="list-style-type: none"> • DSC – Discipline Specific Core course: All papers are compulsory. • AECC – Ability Enhancement Compulsory Course (A & B)- English 													
<ul style="list-style-type: none"> • Practical Examination will be conducted annually for 50 Marks per course (subject). • There shall be separate passing for theory and practical courses. 													
(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC) For Sem I: CCC – I : Democracy, Elections and Good Governance													
(B) Non-Credit Self Study Course : Skill Development Courses (SDC) For Sem II: SDC – I : Any one from following (i) to (v) i) Business Communication & Presentation ii) Event management iii) Personality Development, iv) Yoga & Physical Management v) Resume, Report & proposal writing													

Structure of B. Sc. Environment Science (Entire) Programme Sem III & IV
Structure – II

S E M E S T E R – III (Duration – 6 Months)															
Sr. No.	Course (Subject) Title	TEACHING SCHEME						EXAMINATION SCHEME							
		THEORY			PRACTICAL			THEORY				PRACTICAL			
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Max	Total Marks	Min	Hours	Max	Min	
1	DSC-C1	2	3	2.4	4	8	6.4	2	50	100	35	PRACTICAL EXAMINATION IS ANNUAL			
2	DSC-C2	2	3	2.4				2	50						
3	DSC-C3	2	3	2.4	4	8	6.4	2	50	100	35				
4	DSC-C4	2	3	2.4				2	50						
5	DSC-C5	2	3	2.4	4	8	6.4	2	50	100	35				
6	DSC-C6	2	3	2.4				2	50						
7	AECC-C	4	4	3.2	---	---	---			---	---				
	TOTAL	16	22	17.6	12	24	19.2			300	---				
S E M E S T E R – IV (Duration – 6 Months)															
1	DSC-D1	2	3	2.4	4	8	6.4	2	50	100	35		As per BOS Guide-lines	100	35
2	DSC-D2	2	3	2.4				2	50						
3	DSC-D3	2	3	2.4	4	8	6.4	2	50	100	35			100	35
4	DSC-D4	2	3	2.4				2	50						
5	DSC-D5	2	3	2.4	4	8	6.4	2	50	100	35	100		35	
6	DSC-D6	2	3	2.4				2	50						
7	AECC- C AECC- D	---	---	---	---	---	---	3	70 30	100	25 10	---	---	---	
	TOTAL	12	18	14.4	12	24	19.2			400	---				
		28	40	32	24	48	38.4			700	--	---	300		
<ul style="list-style-type: none"> • Student contact hours per week : 32 Hours (Min.) • Theory and Practical Lectures : 48 Minutes Each • DSC : - Discipline Specific Core Course : All papers are compulsory. • AECC- Ability Enhancement Compulsory Course (C) : Environmental Studies: EVS (Theory – 70 & Project – 30 Marks) • Practical Examination will be conducted annually for 100 Marks per course (subject). • <i>There shall be separate passing for theory and practical courses also for Environmental Studies.</i> 					<ul style="list-style-type: none"> • Total Marks for B.Sc.-II (Including EVS) : 1000 • Total Credits for B.Sc.-II (Semester III & IV) : 52 										

Structure of B. Sc. Environment science (Entire) Programme Sem V & VI
Structure – III

S E M E S T E R – V (Duration – 6 Months)																
Sr. No.	Subject Title	TEACHING SCHEME						EXAMINATION SCHEME								
		THEORY			PRACTICAL			THEORY				PRACTICAL			PRACTICAL EXAMINATION IS ANNUAL	
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Theory	Internal	Min Marks	Hours	Max Marks	Min Marks		
1	DSE-E1	2	3	2.4	2	5	4	2	40	10	14+4=18		50	18		
2	DSE-E2	2	3	2.4	2	5	4	2	40	10	14+4=18					
3	DSE-E3	2	3	2.4	2	5	4	2	40	10	14+4=18					
4	DSE-E4	2	3	2.4	2	5	4	2	40	10	14+4=18					
5	AECC-E	2	4	3.2	---	---	---	2	40	10	14+4=18					
TOTAL		10	16	12.8	8	20	16		200	50	---					
S E M E S T E R – VI (Duration – 6 Months)																
1	DSE-F1	2	3	2.4	2	5	4	2	40	10	14+4=18	As per BOS Guidelines	50	18		
2	DSE-F2	2	3	2.4	2	5	4	2	40	10	14+4=18					
3	DSE-F3	2	3	2.4	2	5	4	2	40	10	14+4=18					
4	DSE-F4	2	3	2.4	2	5	4	2	40	10	14+4=18					
5	AECC-F	2	4	3.2	---	---	---	2	40	10	14+4=18					
TOTAL		10	16	12.8	8	20	16		200	50	---					
GRAND TOTAL		20	32	25.6	16	40	32		400	100	--	---	200			
<ul style="list-style-type: none"> • Student contact hours per week : 32 Hours (Min) • Theory and Practical Lectures : 48 Min. Each • DSE- Discipline Specific Elective : All papers are compulsory. • AECC- Ability Enhancement Compulsory Course (E & F) : English • Practical Examination will be conducted annually for 200 Marks. • <i>There shall be separate passing for theory, internal and practical.</i> 																
<p>(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC) For Sem V: CCC – II : Constitution of India and Local Self Government</p>																
<p>(B) Non-Credit Self Study Course : Skill Development Courses (SDC) For Sem VI: SDC – II: Any one from following (vi) to (x) vi) Interview & Personal Presentation Skill, vii) Entrepreneurship Development Skill, viii) Travel & Tourism, ix) E-Banking & Financial Services, x) RTI & Human Right Education (HRE), IPR & Patents</p>																

CBCS B. Sc.: Environment Science (Entire): List of courses:**i) B. Sc Environment Science: Part 1 (Sem I & II)**

Course code	Name of Course	Course code	Name of Course
Sem I		Sem II	
DSC-A1	Ecology & Ecosystem	DSC-B1	Fundamental of Environmental Pollution -2 (air & noise)
DSC-A2	Natural Resources	DSC-B2	Biological Diversity and Conservation
DSC-A3	Fundamentals of Geosciences	DSC-B3	Climate Change and Sustainable Development
DSC-A4	Fundamentals of Environmental pollution-1[Water]	DSC-B4	Forest Management
DSC-A5	Fundamentals of environmental Science	DSC-B5	Solid and Hazardous Waste management
DSC-A6	Soil Science	DSC-B6	Occupational Health & Safety
DSC-A7	Fundamentals of Environmental Chemisrty	DSC-B7	Remote sensing & GIS
DSC-A8	Fundamentals of Environmental Biology	DSC-B8	Computer Applications
AECC – A	English – I	AECC – B	English – II

Practical

DSC-P1	Lab Course I (Based on DSC-A1, DSC-A2, DSC-A3, DSC-A4)	DSC-P3	Lab Course III (Based on DSC-B1, DSC-B2, DSC-B3, DSC-B4)
DSC-P2	Lab Course II (Based on DSC-A5, DSC-A6, DSC-A7, DSC-A8)	DSC-P4	Lab Course IV (Based on DSC-B5, DSC-B6, DSC-B7, DSC-B8)

DSC EVS: - Discipline Specific Core Course B.Sc. (Environment Science)

AECC: - Ability Enhancement Compulsory Course: Compulsory English

ii) **B.Sc. Environment Science:Part 2 (Sem III & IV)**

Course code	Name of Course	Course code	Name of Course
Sem III		Sem IV	
DSC-C1	Disaster Management-1 (Natural)	DSC-D1	Environmental Microbiology
DSC-C2	Biostatistics	DSC-D2	Environmental Management System & Audit
DSC-C3	Environmental Ethics and Environmental Issues	DSC-D3	Environmental Engineering - 2[waste water]
DSC-C4	Environmental Engineering - 1[water]	DSC-D4	Environmental Education & policy
DSC-C5	Environmental impact Assessment	DSC-D5	Environmental Economics
DSC-C6	Environmental Biotechnology	DSC-D6	Disaster Management–II(Man made)
AECC – C	Environmental Studies (Theory)	AECC – D	Environmental Studies (Project)

AECC-C: - Ability Enhancement Compulsory Course: Environmental Studies

Practical

DSC-P5	Lab Course V (Based on DSC-C1, DSC-C2, DSC-C3)	DSC-P7	Lab Course VII (Based on DSC-D1, DSC-D2, DSC-D3)
DSC -P6	Lab Course VI (Based on DSC-C4, DSC-C5, DSC-C6)	DSC-P8	Lab Course VIII (Based on DSC-D4, DSC-D5, DSC-D6)

iii) **B. Sc. Environment Science:Part 3 (Sem V & VI)**

Course code	Name of Course	Course code	Name of Course
Sem V		Sem VI	
DSE-E1	Land and water management	DSE-F1	Environmental Toxicology
DSE-E2	Environmental Legislation	DSE-F2	Ecorestoration
DSE-E3	Carbon Sequestration & Ecological Footprints	DSE-F3	Sustainable Agricultural Practices
DSE-E4	Wildlife Management	DSE-F4	Ecotourism
AECC – E	English – III	AECC – F	English – IV

Practical

DSC-P9	Lab Course IX (Based on DSC-E1, DSC-E2)	DSC-P11	Lab Course XI (Based on DSC-F1, DSC- F2)
DSC -P10	Lab Course X (Based on DSC-E3, DSC-E4)	DSC-P12	Lab Course XII (Based on DSC-F3, DSC- F4)