

## COURSE STRUCTURE

### B.Tech. and B.Tech.-M.Tech. Dual Degree (Category-A & B) and Double Major (Environmental Science & Engineering)

		GROUP-II				SEMESTER												NINTH	TENTH
		FIRST (IC)		SECOND (IC)		THIRD		FOURTH		FIFTH		SIXTH		SEVENTH		EIGHTH			
<b>C O U R S E</b>		MCI101	3-1-0-11	MCI102	3-1-0-11	ESC201 (DC1)	3-0-0-9	CEE 202 (E/SO3)	3-0-0-9	ESC308 (DC8)	3-0-0-9	ESC311 (DC11)	3-0-0-9	DE1	3-0-0-9	DE3	3-0-0-9	<b>DUAL DEGREE</b>	<b>DUAL DEGREE</b>
		CYI101	3-0-0-9	PHI101	3-0-0-9	ESC202 (DC2)	3-0-0-9	ESC204 (DC4)	3-0-0-9	ESC309 (DC9)	3-0-0-9	ESC312 (DC12)	3-0-0-9	DE2	3-0-0-9	DE4	3-0-0-9		
		CYI102	0-0-2-2	PHI102	0-0-2-2	ESC203 (DC3)	3-0-0-9	ESC205 (DC5)	3-0-0-9	ESC310 (DC10)	3-0-0-9	HSS	3-0-0-9	OE3	3-0-0-9	OE6	3-0-0-9		
		EEl101 Modular	3-0-0-9 (9/2)	MCI103 Modular	2-2-0-5	(E/SO1) Optional	3-0-0-9	ESC206 (DC6)	3-0-0-9	MS	3-0-0-9	OE1	3-0-0-9	OE4	3-0-0-9	HSS/OE7	3-0-0-9		
		EEl102 Modular	0-0-3-3 (3/2)	CSI101 Modular	2-1-0-4	MCC505 (E/SO2)	3-0-0-9	ESC207 (DC7)	3-0-0-9	E/SO4 Optional	3-0-0-9	OE2	3-0-0-9	OE5	3-0-0-9	ESC413 (UGP2)	0-0-0-6		
		ECl101 Modular	3-0-0-9 (9/2)	CSI102 Modular	0-0-2-2	ESC251 (DP1)	0-0-2-2	ESC253 (DP3)	0-0-2-2	ESC355 (DP5)	0-0-2-2	ESC357 (DP7)	0-0-2-2	ESC412 (UGP1)	0-0-0-6	--	--		
		ECl102 Modular	0-0-3-3 (3/2)	CEI101	1-0-3-6	ESC252 (DP2)	0-0-2-2	ESC254 (DP4)	0-0-2-2	ESC356 (DP6)	0-0-2-2	ESC358 (DP8)	0-0-2-2	ESS001 (DC12)	0-0-0-0 S/X	--	--		
		ESI101	1-0-0-3	MEI101	3-1-0-11	--	--	--	--	--	--	--	--	--	--	--	--		
		GLI101	1-0-0-3	MSI101	2-0-0-2	--	--	--	--	--	--	--	--	--	--	--	--		
		MEI102	2-0-3-9	CCS102	S/X	--	--	--	--	--	--	--	--	--	--	--	--		
		HSI101	1-0-2-5	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		CCS101	S/X	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		54		55		49		49		51		51		51		42			

DUAL DEGREE (CATEGORY-A)								DUAL DEGREE (CATEGORY-B)																
FIFTH		SIXTH		SEVENTH		EIGHTH		NINTH		TENTH		FIFTH		SIXTH		SEVENTH		EIGHTH		NINTH		TENTH		
ESC503 DCPG	3-0-0-9	ESD505 DEPG	3-0-0-9	ESC504 DCPG	3-0-0-9	ESO505 OEPG	3-0-0-9	ESC597 36 Credits Thesis		ESO506 OEPG	3-0-0-9	ESC201 DCUG	3-0-0-9	ESC311 DCUG	3-0-0-9	ESC309 DCUG	3-0-0-9	DEPG/ OEPG	3-0-0-9	ESC597 36 Credits Thesis		DEPG/ OEPG	3-0-0-9	ESC598 18 Credits Thesis
		Any one from the basket given in the next page, if suggested by the department				Any one from the basket given in the next page, if suggested by the department				Or any course is suggested by the department				All four DCUG courses are prescribed from the Course Structure of the Undergraduate Program where the student will do the M.Tech. Program under Dual Degree (Category-B)				Or any course is suggested by the department				Or any course is suggested by the department		

DOUBLE MAJOR (SECOND MAJOR IN OTHER DEPARTMENT)															Department Practical, if any				
<b>MONSOON SEMESTER</b>		ESE201* ESO	3-0-0-9	ESC201 DC	3-0-0-9	ESC202 DC	3-0-0-9	ESC309 DC	3-0-0-9	ESC310 DC	3-0-0-9	ESD403 DE1	3-0-0-9	ESD404 DE2	3-0-0-9				
<b>WINTER SEMESTER</b>		ESE202* (ESO)	3-0-0-9	ESC205 DC	3-0-0-9	ESC204 DC	3-0-0-9	ESC306 DC	3-0-0-9	ESC311 DC	3-0-0-9	ESD405 DE3	3-0-0-9	ESD406 DE4	3-0-0-9				

**NOTE: (1)** \*Two ESOs guided/optional prescribed in the course structure of Double Major program and the same is taken by the students for completion of the course work of the Double Major in the slot of their optional ESO, both the ESOs will fulfil the ESO credit requirement of the Double Major program as well as B.Tech. degree. **(2)** In lieu of Four DCUG (DCPG if the second department does not have any UG program) courses of the Dual Degree (Category-B & C) and Double Major Program will be considered as OE-1, OE-2, OE-3 & OE-4 of the B.Tech. program of Parent Department and the credits of these courses will be counted for fulfilment of the OE credit requirements.

**LIST OF COURSES FOR COMPLETION OF MINOR**

MONSOON SEMESTER		WINTER SEMESTER	
ESC201	Drinking Water Supply and Treatment	ESC206	Environmental Policy and Legislation
ESC202	Air Pollution		

TITLE OF THE MINOR: Minor in Environmental Management

**DETAILS OF THE MINIMUM CREDIT REQUIREMENTS FOR COMPLETION OF B.TECH. PROGRAM AND LIST OF ESO, DE AND OE COURSES**

**Minimum Credit requirements for Graduation:**

- Institute Core (IC) : 109 Credits
- Department Compulsory : 108
- Department Elective : 36
- Department Practical : 16
- Engineering/Science Option : 36
- Open Elective : 63
- HSS+MS : 18 (9+9)
- UGP-1 & UGP-2 : 12 (6+6)

LIST OF E/SO	
Guided	Offered
MCC505	ESE201
CEE202	ESE202

LIST OF DEPARTMENTAL ELECTIVES (DE)	
ESD401	ESD405
ESD402	ESD406
ESD403	ESD407
ESD404	ESD408

LIST OF OPEN ELECTIVES (OE)	
ESO301	ESO404
ESO502	ESO405
ESO303	ESO406
	ESO407

**Total : 398**

**Minimum Credit requirements for completion of Additional Academic Program**

Dual Degree (Category-A)		Dual Degree (Category-B)		Double Major	
<ul style="list-style-type: none"> <li>• Departmental Core (DCPG) 18 Credits</li> <li>• DEPG/OEPH 36 Credits</li> <li>• Thesis 54 Credits</li> </ul> <p><b>Total: 108 Credits</b></p>		<ul style="list-style-type: none"> <li>• Departmental Core (4 DCUG) of Second Department (Extra credits to be counted in B.Tech part as OE credits) 36 Credits</li> <li>• 2 DCPG &amp; 4 DEPG/OEPG or 1 DCPG &amp; 5 DEPG/OEPG 54 Credits</li> <li>• Thesis 54 Credits</li> </ul> <p><b>Total: 108 Credits</b></p>		<ul style="list-style-type: none"> <li>• Two ESO courses 18 Credits</li> <li>• Departmental Core (8 DCUG) of Second Department 72 Credits</li> <li>• 4 DE of Second Department 54 Credits</li> </ul> <p><b>Total: 108 Credits</b></p>	