

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM**  
**CHOICE BASED CREDIT SYSTEM (CBCS)**  
**SCHEME OF TEACHING AND EXAMINATION 2016-2017**

M. Tech. - ENVIRONMENTAL ENGINEERING

**I SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination			Credit	
			Theory	Practical/Field Work/ Assignment	Duration	I.A. Marks	Theory/Practical Marks		Total Marks
1	16CEE11	Advance computational methods and optimization	4	-	3	20	80	100	4
2	16CEE12	Applied environmental chemistry and micro-biology	4	-	3	20	80	100	4
3	16CEE13	Advanced Water treatment technology	4	-	3	20	80	100	4
4	16CEE14	Solid and Hazardous waste management	4	-	3	20	80	100	4
5	16CEE15X	Elective-1	3	-	3	20	80	100	3
6	16CEEL16	Computer Application lab		3	3	20	80	100	2
7	16CEE17	Seminar	-	3	-	100	-	100	1
<b>TOTAL</b>			<b>19</b>	<b>6</b>	<b>18</b>	<b>220</b>	<b>480</b>	<b>700</b>	<b>22</b>

Elective - 1	
16CEE151	Water resources engineering and applied hydraulics
16CEE152	Renewable and Alternative fuels
16CEE153	Occupational safety and health
16CEE154	Remote sensing and GIS in environmental engineering

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**II SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination			Credit	
			Theory	Practical/Field Work/Assignment	Duration	I.A. Marks	Theory/Practical Marks		Total Marks
1	16CEE21	Atmospheric environmental pollution and control	4	-	3	20	80	100	4
2	16XX22	Ecology and environmental Impact assessment	4	-	3	20	80	100	4
3	16CEE23	Advanced Wastewater treatment engineering	4	-	3	20	80	100	4
4	16CEE24	Environmental geo-technology	4	-	3	20	80	100	4
5	16CEE25X	Elective-2	3	-	3	20	80	100	3
6	16CEEL26	Laboratory and Field Test		3	3	20	80	100	2
7	16CEE27	Seminar	-	3	-	100	-	100	1
<b>TOTAL</b>			<b>19</b>	<b>6</b>	<b>18</b>	<b>220</b>	<b>480</b>	<b>700</b>	<b>22</b>

Elective - 2	
16CEE251	Air and water quality modeling
16CEE252	Environmental planning and management
16CEE253	Transport processes and modeling of aquatic systems
16CEE254	Global warming and climate change

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**III SEMESTER: Internship**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination			Credit
			Theory	Practical/Field Work/ Assignment	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	16CEE31	Seminar / Presentation on Internship (After 8 weeks from the date of commencement)	-	-	-	25	-	25	20
2	16CEE32	Report on Internship	-	-	-	25	-	25	
3	16CEE33	Evaluation and Viva-Voce of Internship	-	-	-	-	50	50	
4	16CEE34	Project Phase -1	-	-	-	50	-	50	1
<b>TOTAL</b>			-	-	-	<b>100</b>	<b>50</b>	<b>150</b>	<b>21</b>

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**IV SEMESTER**

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination			Credit	
			Theory	Practical/Field Work/ Assignment	Duration	I.A. Marks	Theory/ Practical Marks		Total Marks
1	16CEE41	Industrial waste water Treatment	4	-	3	20	80	100	4
2	16CEE42X	Elective-3	3	-	3	20	80	100	3
3	16CEE43	Project Phase -2	-	6	-	50	-	50	3
4	16CEE44	Evaluation of Project and Viva-Voce	-	-	-	-	100+100	200	10
<b>TOTAL</b>			-	-	6	90	360	450	20

Elective – 3	
16CEE421	Advanced atmospheric environmental engineering
16CEE422	Toxicology and environmental risk assessment
16CEE423	Non point source of pollution and management
16CEE424	Environmental legal aspects and policy guidelines

**Note:**

1. Project Phase-1: 6-week duration shall be carried out between 2<sup>nd</sup> and 3<sup>rd</sup> Semester vacation. Candidates in consultation with the guide shall carry out literature survey/ visit industries to finalize the topic of Project.
2. Project Phase-2: 16-week duration during 4<sup>th</sup> semester. Evaluation shall be done by the committee constituted comprising of HoD as Chairman, Guide and Senior faculty of the department.
3. Project Evaluation: Evaluation shall be taken up at the end of 4<sup>th</sup> semester. Project work evaluation and Viva-Voce examination shall conducted
4. Project evaluation:
  - a. Internal Examiner shall carry out the evaluation for 100 marks.
  - b. External Examiner shall carry out the evaluation for 100 marks.

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c .The average of marks allotted by the internal and external examiner shall be the final marks of the project evaluation.

d. Viva-Voce examination of Project work shall be conducted jointly by Internal and External examiner for 100 marks.

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