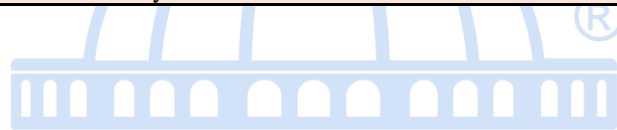


Division	Faculty of Engineering and Technology
School Name	School of Engineering and Technology
Department Name	Department of Civil Engineering
Programme Name	M.Tech. Tunnel Engineering

Sem	Course Type	Sum of Total Credits
I		
	<b>University Core</b>	
	Research Methodology	2
	Peace Studies - I	2
	Yoga for Excellence in Life-I	1
	<b>University Core Total</b>	<b>5</b>
	<b>Programme Core</b>	
	Advanced Geology and Rock Mechanics	4
	Investigation, Planning and Layout of Tunnels	4
	Conventional Tunnel Construction	4
	Analysis and Design of Tunnels	4
	Software Lab	2
	<b>Programme Core Total</b>	<b>18</b>
<b>I Total</b>		<b>23</b>
II		
	<b>University Core</b>	
	Peace Studies- II	2
	Yoga for Excellence in Life-II	1
	<b>University Core Total</b>	<b>3</b>
	<b>University Elective</b>	
	University Elective	4
	<b>University Elective Total</b>	<b>4</b>
	<b>Programme Core</b>	
	Mechanised Tunnelling	4
	<b>Programme Core Total</b>	<b>4</b>
	<b>Programme Elective</b>	
	Programme Elective-I	3
	Programme Elective-II	3
	<b>Programme Elective Total</b>	<b>6</b>
	<b>Research Core</b>	
	Seminar	2
	Technical Writing	2
	<b>Research Core Total</b>	<b>4</b>
<b>II Total</b>		<b>21</b>
III		
	<b>Programme Elective</b>	
	Programme Elective-III	3
	Programme Elective-IV	3
	<b>Programme Elective Total</b>	<b>6</b>
	<b>Programme Core</b>	
	Tunnel Portals & Shafts	4
	<b>Programme Core Total</b>	<b>4</b>
	<b>Research Project</b>	
	Research Project-I	10
	<b>Research Project Total</b>	<b>10</b>
<b>III Total</b>		<b>20</b>
IV		
	<b>Research Project</b>	
	Research Project-II	16

Semester	Course Name / Course Title	Programme Electives
II	Advanced Design of Tunnels	Programme Elective I
II	Ventilation in Tunnel and Underground Space	Programme Elective I
II	Project Finance and Accounting Systems	Programme Elective I
II	Instrumentation and Monitoring of Tunnels	Programme Elective II
II	Trenchless methods and Micro- Tunnelling	Programme Elective II
II	Estimation Costing and Tendering in Tunnelling	Programme Elective II
III	Tunnel Project Management	Programme Elective III
III	Geophysics for Tunnel Engineers	Programme Elective III
III	Design and Construction of Caverns	Programme Elective III
III	Geophysical Investigation for Tunnel Projects	Programme Elective III
III	Advances in Tunnel Engineering	Programme Elective IV
III	BIM for Tunnels and Underground Infrastructures	Programme Elective IV
III	Contracts, Legal aspects in tunnels and underground construction	Programme Elective IV
III	Tunnel Safety and hazard analysis	Programme Elective IV



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