



# MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

B.TECH. FOUR YEAR DEGREE COURSE											
(CIVIL ENGINEERING)											
R 20 - COURSE STRUCTURE											
I YEAR B-TECH - I SEMESTER											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2010001	Engineering Mathematics - I	BSC	3	1	0	4	4	30	70	100
2	2010007	Engineering Physics	BSC	3	1	0	4	4	30	70	100
3	2010501	Programming for Problem Solving	ESC	3	1	0	4	4	30	70	100
4	2010072	Engineering Physics Lab	BSC	0	0	3	3	1.5	30	70	100
5	2010571	Programming for Problem Solving Lab	ESC	0	0	3	3	1.5	30	70	100
6	2010371	Engineering Drawing Practice	ESC	1	0	4	5	3	30	70	100
7		Induction Programme		<b>3 Weeks</b>					-	-	-
<b>TOTAL</b>				<b>10</b>	<b>3</b>	<b>10</b>	<b>23</b>	<b>18</b>	<b>180</b>	<b>420</b>	<b>600</b>



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<b>I YEAR B-TECH - II SEMESTER</b>											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2020002	Engineering Mathematics - II	BSC	3	1	0	4	4	30	70	100
2	2020008	Engineering Chemistry	BSC	3	1	0	4	4	30	70	100
3	2020111	Engineering Mechanics	PCC	3	1	0	4	4	30	70	100
4	2020009	Communicative English	HSMC	2	0	0	2	2	30	70	100
5	2020372	Engineering Workshop	ESC	1	0	3	4	2.5	30	70	100
6	2020073	Engineering Chemistry Lab	BSC	0	0	3	3	1.5	30	70	100
7	2020074	Communicative English Lab	HSMC	0	0	2	2	1	30	70	100
8	2026665	C++ Laboratory	MC	0	0	2	2	0	-	-	-
9	2020021	Environmental Science	MC	3	0	0	3	0	-	-	-
<b>TOTAL</b>				<b>15</b>	<b>3</b>	<b>10</b>	<b>28</b>	<b>19</b>	<b>210</b>	<b>490</b>	<b>700</b>



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B.TECH. FOUR YEAR DEGREE COURSE											
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R 20 - COURSE STRUCTURE											
II YEAR B-TECH - I SEMESTER											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2030112	Strength of Materials - I	PCC	3	0	0	3	3	30	70	100
2	2030113	Surveying and Geomatics	PCC	3	0	0	3	3	30	70	100
3	2030004	Probability and Statistics	BSC	3	1	0	4	4	30	70	100
4	2030202	Basic Electrical and Electronics Engineering	ESC	3	0	0	3	3	30	70	100
5	2030502	Data Structures	ESC	3	0	0	3	3	30	70	100
6	2030171	Surveying Laboratory	PCC	0	0	3	3	1.5	30	70	100
7	2030272	Basic Electrical and Electronics Engineering Laboratory	ESC	0	0	2	2	1	30	70	100
8	2030572	Data Structures Laboratory	ESC	0	0	2	2	1	30	70	100
9	2030022	Gender Sensitization	MC	2	0	0	2	0	-	-	-
<b>TOTAL</b>				<b>17</b>	<b>1</b>	<b>7</b>	<b>25</b>	<b>19.5</b>	<b>240</b>	<b>560</b>	<b>800</b>



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<b>II YEAR B-TECH - II SEMESTER</b>											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2040114	Strength of Materials - II	PCC	3	0	0	3	3	30	70	100
2	2040115	Building Materials, Construction and Planning	PCC	3	0	0	3	3	30	70	100
3	2040116	Fluid Mechanics	PCC	3	0	0	3	3	30	70	100
4	2040117	Structural Analysis - I	PCC	3	0	0	3	3	30	70	100
5	2040118	Engineering Geology	PCC	2	0	0	2	2	30	70	100
6	2040504	Python	ESC	2	0	0	2	2	30	70	100
7	2040172	Strength of Materials Laboratory	PCC	0	0	3	3	1.5	30	70	100
8	2040173	Computer Aided Civil Engineering Drawing Laboratory	PCC	0	0	2	2	1	30	70	100
9	2040573	Python Laboratory	ESC	0	0	2	2	1	30	70	100
<b>TOTAL</b>				<b>16</b>	<b>0</b>	<b>7</b>	<b>23</b>	<b>19.5</b>	<b>270</b>	<b>630</b>	<b>900</b>



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III YEAR B-TECH - I SEMESTER											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2050119	Hydraulics and Hydraulic Machinery	PCC	3	0	0	3	3	30	70	100
2	2050120	Structural Analysis - II	PCC	3	0	0	3	3	30	70	100
3	2050121	Structural Engineering - I (RCC)	PCC	3	1	0	4	4	30	70	100
4	–	Professional Elective - I	PEC	3	0	0	3	3	30	70	100
5	2050010	Business Economics and Financial Analysis	HSMC	2	0	0	2	2	30	70	100
6	2050174	Fluid Mechanics and Hydraulic Machinery Laboratory	PCC	0	0	3	3	1.5	30	70	100
7	2050175	Concrete Technology Laboratory	PCC	0	0	3	3	1.5	30	70	100
8	2050176	Engineering Geology Laboratory	PCC	0	0	2	2	1	30	70	100
9	2050191	Internship	PROJ	0	0	2	2	1	30	70	100
10	2050177	Artificial Intelligence / Construction Laboratory	MC	0	0	3	3	0	-	-	-
<b>TOTAL</b>				<b>14</b>	<b>1</b>	<b>13</b>	<b>28</b>	<b>20</b>	<b>270</b>	<b>630</b>	<b>900</b>



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<b>III YEAR B-TECH - II SEMESTER</b>											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2060122	Hydrology & Water Resources Engineering	PCC	3	0	0	3	3	30	70	100
2	2060123	Transportation Engineering	PCC	3	0	0	3	3	30	70	100
3	2060124	Structural Engineering - II (Steel)	PCC	3	0	0	3	3	30	70	100
4	2060125	Geotechnical Engineering	PCC	3	0	0	3	3	30	70	100
5	-	Professional Elective - II	PEC	3	0	0	3	3	30	70	100
6	-	Open Elective - I	OEC	3	0	0	3	3	30	70	100
7	2060178	Geotechnical Engineering Laboratory	PCC	0	0	3	3	1.5	30	70	100
8	2060179	Transportation Engineering Laboratory	PCC	0	0	3	3	1.5	30	70	100
9	2060075	Advanced English Communication Skills Lab	HSMC	0	0	2	2	1	30	70	100
10	2060180	Machine Learning / Construction Laboratory	MC	0	0	3	3	0	-	-	-
<b>TOTAL</b>				<b>18</b>	<b>0</b>	<b>11</b>	<b>29</b>	<b>22</b>	<b>270</b>	<b>630</b>	<b>900</b>



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<b>IV YEAR B-TECH - I SEMESTER</b>											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	2070126	Environmental Engineering	PCC	3	0	0	3	3	30	70	100
2	2070127	Estimation, Quantity Surveying and Valuation	PCC	3	0	0	3	3	30	70	100
3	2070011	Fundamentals of Management	HSMC	3	0	0	3	3	30	70	100
4	-	Professional Elective - III	PEC	3	0	0	3	3	30	70	100
5	-	Professional Elective - IV	PEC	3	0	0	3	3	30	70	100
6	-	Open Elective - II	OEC	3	0	0	3	3	30	70	100
7	2070181	Environmental Engineering Laboratory	PCC	0	0	2	2	1	30	70	100
8	2070182	Computer Aided Design Laboratory	PCC	0	0	2	2	1	30	70	100
9	2070192	Industry Oriented Mini Project	PROJ	0	0	4	4	2	100	0	100
<b>TOTAL</b>				<b>18</b>	<b>0</b>	<b>8</b>	<b>26</b>	<b>22</b>	<b>340</b>	<b>560</b>	<b>900</b>



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<b>IV YEAR B-TECH - II SEMESTER</b>											
S.No	Course Code	Course Title	Course Category	Hours per Week			Total Contact Hour	Credits	Scheme of Examination (Maximum Marks)		
				L	T	P			Internal (CIE)	External (SEE)	Total
1	-	Professional Elective - V	PEC	3	0	0	3	3	30	70	100
2	-	Professional Elective - VI	PEC	3	0	0	3	3	30	70	100
3	-	Open Elective - III	OEC	3	0	0	3	3	30	70	100
4	2080193	Technical Seminar	PROJ	0	0	2	2	1	30	70	100
5	2080194	Major Project	PROJ	0	0	20	20	10	30	70	100
<b>TOTAL</b>				<b>9</b>	<b>0</b>	<b>22</b>	<b>31</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>





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<b>(CIVIL ENGINEERING)</b>		
<b>R20 - LIST OF PROFESSIONAL ELECTIVES</b>		
S.No	Course Code	Professional Elective I - (III - I)
1	2050141	Concrete Technology
2	2050142	Structural Dynamics and Earthquake Engineering
3	2050143	Pre-Fabricated structures
4	2050144	Introduction to Offshore Structures
<b>Professional Elective II - (III - II)</b>		
1	2060145	Construction Project Management
2	2060146	Industrial Waste water Treatment
3	2060147	Waste Management
4	2060148	Environmental Impact Assessment
<b>Professional Elective III - (IV - I)</b>		
1	2070149	Bridge Engineering
2	2070150	Railway, Airport and Harbour Engineering
3	2070151	Traffic Engineering
4	2070152	Pavement Analysis and Design
<b>Professional Elective IV - (IV - I)</b>		
1	2070153	Design of Hydraulic Structures
2	2070154	Water Shed Management
3	2070155	Water Supply Network
4	2070156	Ground Water Hydrology
<b>Professional Elective V - (IV - II)</b>		
1	2080157	Introduction to Finite Element Methods
2	2080158	Advanced Structural Design
3	2080159	Repair and Rehabilitation of Structures
4	2080160	Prestressed concrete structures
<b>Professional Elective VI - (IV - II)</b>		
1	2080161	Foundation Engineering
2	2080162	Ground Improvement Techniques
3	2080163	Introduction to Composite Materials



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4	2080164	Remote Sensing and GIS
<b>List of Open Electives</b>		
<b>S.No</b>	<b>Course Code</b>	<b>Open Elective I, II, III</b>
1	2060101	Air and Noise Pollution Control
2	2070102	Remote Sensing and GIS
3	2080103	Disaster Management