



College Code - 4192

Maitrey Educational Society

# Nagarjuna

**Institute of Engineering, Technology & Management**  
(AICTE, DTE Approved & Affiliated to R.T.M. Nagpur University Nagpur)

Village Satnavri, Amravati Road, Nagpur 440023

Email: maitrey.ngp@gmail.com; Website: www.nietm.in; Phone No. 07118 322211, 12

## National Assessment and Accreditation Council

### AQAR 2020-21

#### NAAC Criteria-1: Academic flexibility

#### 1.2 Curricular Planning and Implementation

<b>1.2.1</b>	Number of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented
<b>1.2.1.1</b>	Number of Programmes in which CBCS/ Elective course system implemented



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## Criteria-1: Academic aspects

**Metric No. 1.2.1**

**and 1.2.2.1**

### Contents

**Index- Documents attached: 1.2.1.1 Number of Programs in which Choice Based Credit System (CBCS)/elective course system has been implemented ( As per examination Scheme of CBS pattern) Academic Session 2020-21**

Sr. no	Documents attached
1	CBS electives for mechanical, civil, electrical and computer science engineering
2	Examination scheme

1.2.1 Number of Programs in which Choice Based Credit System (CBCS)/elective course system

Programme Code	Programme name	Year of Introduction	Status of implementation of CBCS / elective course system (Yes/No)	Year of implementation of CBCS / elective course system	Year of revision (if any)
419219110	Civil Engineering	2009	Yes	2012-13	2020
419235610	Electrical Engineering	2009	Yes	2012-13	2020
419264210	Mechanical Engineering	2009	Yes	2012-13	2020
419224210	Computer Science Engg	2009	Yes	2012-13	2020

Year	2012-13( Elective course system)
Number	4

Year	2020-21( CBCS)
Number	4



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Academic Session 2020-21

## Department of Computer Science Engineering

Sr.no	7 <sup>th</sup> Sem Elective 1	7 <sup>th</sup> Sem Elective 2	8 <sup>th</sup> Sem Elective 3	8 <sup>th</sup> Sem Elective 4
1	TCP and IP	Computational Geometry	Pattern Recognition	Advance Wireless Sensor Network
2	Advanced Computer Architecture	Mobile Computing	Soft Computing Techniques	Digital Image Processing
3	Big Data Analysis & BI	Real Time Operating System	Optimization Techniques	Natural Language Pro
4	Parallel & Network Algorithm	Software Architecture	Clustering & Cloud Computing	Digital Forensic
5	-----	Software Architecture	-----	-----
6	-----	Mainframe Technologies	-----	-----



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1.2.1.1 Number of Programs in which Choice Based Credit System (CBCS)/elective course system has been implemented ( As per examination Scheme of CBS pattern) Academic Session 2020-21

Department of Mechanical Engineering

Sr.no	7th Semester Elective I	8th Semester Elective II	8th Semester Elective III
1	Subject	Subject	Subject
	Industrial Robotics	Finite Element Method	AMT
3	<b>Automobile Engineering</b>	Industrial Fluid Power	Renewable energy systems
4	Power Plant Engineering	MIS	Mechanical Vibrations
5	Synthesis of Mechanisms	<b>Refrigeration &amp; Air-Conditioning</b>	Advance I.C. Engine
6	Material Handling System	Stress Analysis	Tribology

Department of Electrical Engineering

Sr.no	7 <sup>th</sup> Semester Elective 1	8 <sup>th</sup> Semester Elective 2	8 <sup>th</sup> Semester Elective 3
1	IT and Its Applications in Power System Control	<b>Entrepreneurship Development</b>	Bio-medical Engineering
	Fuzzy Logic and Neural Networks	Digital Signal Processing	Advanced Microprocessor Peripherals
3	Flexible AC Transmission Systems	Power Quality	Power Semiconductor Based Electric Drives
4	Energy Management Audit	Electrical Distribution system	<b>EHV AC and HVDC Transmission</b>

Department of Civil Engineering

Sr.no	7 <sup>th</sup> Semester Elective I	8 <sup>th</sup> Semester Elective 2	8 <sup>th</sup> Semester Elective 3
1	Advanced construction materials	Pre-stress concrete	Advanced geotechnical engineering
	Building services	<b>Pavement analysis and design</b>	Advanced concrete technology
3	Sustainable resource management in civil engineering	Watershed management	Advanced reinforced cement concrete design
4	Advanced hydraulics	Environmental management system	Advanced steel design
5	<b>Air pollution and solid waste management</b>	Water transmission and distribution system	<b>Water and waste water treatment</b>
6	Advanced traffic engineering	Geotechnical investigation & ground improvement technique	Applied remote sensing and GIS
7	Earthquake resistant design of structure	Advance engineering geology	-----
8	Advanced construction materials	Water power engineering	-----
9	Building services	Forensic civil engineering	-----
10	Sustainable resource management in civil engineering	Disaster response and management techniques	-----

Department of Computer Science Engineering

Sr.no	7 <sup>th</sup> Sem Elective 1	7 <sup>th</sup> Sem Elective 2	8 <sup>th</sup> Sem Elective 3	8 <sup>th</sup> Sem Elective 4
1	<b>TCP and IP</b>	Computational Geometry	Pattern Recognition	<b>Advance Wireless Sensor Network</b>
2	Advanced Computer Architecture	Mobile Computing	Soft Computing Techniques	Digital Image Processing
3	Big Data Analysis & BI	Real Time Operating System	Optimization Techniques	Natural Language Pro
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5	-----	Software Architecture	-----	-----
6	-----	Mainframe Technologies	-----	-----



  
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## Academic Session 2020-21 Department of Mechanical Engineering

Sr.no	7th Semester Elective I	8th Semester Elective II	8th Semester Elective III
1	Subject	Subject	Subject
2	Industrial Robotics	Finite Element Method	<b>Advanced Manufacturing Techniques</b>
3	<b>Automobile Engineering</b>	Industrial Fluid Power	Renewable energy systems
4	Power Plant Engineering	MIS	Mechanical Vibrations
5	Synthesis of Mechanisms	<b>Refrigeration &amp; Air-Conditioning</b>	Advance I.C. Engine
6	Material Handling System	Stress Analysis	Tribology

## Department of Electrical Engineering

Sr.no	7 <sup>th</sup> Semester Elective 1	8 <sup>th</sup> Semester Elective 2	8 <sup>th</sup> Semester Elective 3
1	IT and Its Applications in Power System Control	<b>Entrepreneurship Development</b>	Bio-medical Engineering
	Fuzzy Logic and Neural Networks	Digital Signal Processing	Advanced Microprocessor Peripherals
3	Flexible AC Transmission Systems	Power Quality	Power Semiconductor Based Electric Drives
4	Energy Management Audit	Electrical Distribution system	<b>EHV AC and HVDC Transmission</b>

## Department of Civil Engineering

Sr.no	7 <sup>th</sup> Semester Elective 1	8 <sup>th</sup> Semester Elective 2	8 <sup>th</sup> Semester Elective 3
1	Advanced construction materials	Pre-stress concrete	Advanced geotechnical engineering
	Building services	<b>Pavement analysis and design</b>	Advanced concrete technology
3	Sustainable resource management in civil engineering	Watershed management	Advanced reinforced cement concrete design
4	Advanced hydraulics	Environmental management system	Advanced steel design
5	<b>Air pollution and solid waste management</b>	Water transmission and distribution system	<b>Water and waste water treatment</b>
6	Advanced traffic engineering	Geotechnical investigation & ground improvement technique	Applied remote sensing and GIS
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10	Sustainable resource management in civil engineering	Disaster response and management techniques	-----

  
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Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur  
Faculty of Engineering & Technology  
CIVIL ENGINEERING  
Scheme of Examination & Evaluation - CBS  
Semester: Seventh

Subject Code	Course	Teaching Scheme (Clock Hours/ Week )					Evaluation Scheme								Duration of University Theory Exam (Hrs)
		Theory hrs/week	Tutorial hrs/week	Practical hrs/week	Total hrs/week	Credits	Assessment of Marks for Theory				Assessment of Marks for Practical				
							College Assessment (CA)	University Exam	Total Marks	Min. Marks	Internal	External	Total Marks	Min. Marks	
BECVE701T	Advanced Concrete Structures	3	1		4	4	20	80	100	40					4
BECVE701P	Advanced Concrete Structures			2	2	1						25	25	50	25
BECVE702T	Estimating and Costing	3	1		4	4	20	80	100	40					4
BECVE702P	Estimating and Costing			2	2	1					50	50	100	50	
BECVE703T	Elective -I	3	1		4	4	20	80	100	40					3
BECVE704T	Construction Management and Law	4			4	4	20	80	100	40					3
BECVE705T	Transportation Engineering - II	3	1		4	4	20	80	100	40					3
BECVE706P	Industrial Case Study and Project Seminar			3	3	3					50	50	100	50	
<b>Total</b>		<b>16</b>	<b>4</b>	<b>7</b>	<b>27</b>	<b>25</b>	<b>100</b>	<b>400</b>	<b>500</b>		<b>125</b>	<b>125</b>	<b>250</b>		

**Note:** 1. External Practical Evaluation of "Estimating & Costing" shall be performance based (Manual or using suitable Software) on assigned problem by the External Examiner  
2. Evaluation of Summer Training – 2 (ST-2) shall be done as Industrial Case Study Component & minimum two seminar should be delivered as continuous college assessment for project seminar component.



  
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Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur  
Faculty of Engineering & Technology  
CIVIL ENGINEERING  
Scheme of Examination & Evaluation - CBS  
Semester: Eighth

Subject Code	Course	Teaching Scheme (Clock Hours/ Week )					Evaluation Scheme								Duration of University Theory Exam (Hrs)	
		Theory hrs/week	Tutorial hrs/week	Practical hrs/week	Total hrs/week	Credits	Assessment of Marks for Theory				Assessment of Marks for Practical					
							College Assessment (CA)	University Exam	Total Marks	Min. Marks	Internal	External	Total Marks	Min. Marks		
BECVE801T	Irrigation Engineering	3	2		5	5	20	80	100	40						3
BECVE802T	Elective - II	3	1		4	4	20	80	100	40						3
BECVE803T	Elective - III	4			4	4	20	80	100	40						3
BECVE803P	Elective - III			2	2	1					25	25	50	25		
BECVE804T	Construction Economics and Finance	3	1		4	4	20	80	100	40						3
BECVE805P	Project			6	6	6					75	75	150	75		
<b>Total</b>		<b>13</b>	<b>4</b>	<b>8</b>	<b>25</b>	<b>24</b>	<b>80</b>	<b>320</b>	<b>400</b>		<b>100</b>	<b>100</b>	<b>200</b>			

**Note:** Internal Evaluation of Project shall be based on the academic contribution of a student and delivery of minimum one seminar on the project work.

BECVE804T - Construction Economics and Finance subject shall be dealt by Board of Basic Science and Humanities.



  
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