Education to Eternity

VISION	MISSION
To be a recognized as an Excellent Innovative Engineering Department through Academic Programme which develops leaders in Education and Research in Computer Science."	1. To create self-learning environment by facilitating leadership qualities, team-spirit and ethical responsibilities. 2. To Strengthen department-industry collaboration and interaction with professional society through technical knowledge and internship program. 3. To promote research and development with current techniques through well qualified resources in the area of computer science and wireless engineering.

PSO Relevance to Development Need (B.Tech)

PSO	Statement	Relevance to Development Need
PSO1	The ability to understand, analyse and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity	Local/ Regional/ National/ Global
PSO2	The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.	Local/ Regional/ National/ Global
PSO3	The ability of employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, lifelong learning & a zest for higher studies and also acts as good citizen by inculcating in them moral values & ethics.	Local/ Regional/ National/ Global

Course Category	Sample Relevant Courses
Relevance to the Local Needs	(Field Training), Skill Development, Intellectual Property Rights, Computer Network, IEED.
Relevance to the Regional Needs	Digital Electronics and Microprocessor, Internet of Things., Computer Network
Relevance to the National Needs	Organization Behaviour, Universal Human Values, Consumer Affairs, Ethics in IT, CRT(Campus Recruitment Training), Skill Development, Intellectual Property Rights, Innovation and Entrepreneurship Development
Relevance to the Global Needs	Operating System, Computer Architecture Organization, Programming for Problem Solving, Digital Electronics and Microprocessor, Data structure & Algorithms, Java Programming, FLAT, Computer Network, Database Management Systems, Discrete Mathematics & Graph Structures, Deep Learning, Software Engineering, Internet of Things, TCP/IP, Design and Analysis of Algorithm, OSOS (Open Source Operating System), Augmented Reality (Elective 1), Block Chain (Elective 1), Artificial Intelligence & Robotics, Neural Networks and Machine Learning, Cloud Computing, Human Computing, Digital Forensic, Big Data Analytic Technique, Digital Image Processing, Data Science, Natural Language Processing, AI In Wireless

VISION	MISSION	
To be a recognized as an Excellent Innovative Engineering Department through Academic Programme which develops leaders in Education and Research in Computer Science."	1. To create self-learning environment by facilitating leadership qualities, team-spirit and ethical responsibilities. 2. To Strengthen department-industry collaboration and interaction with professional society through technical knowledge and internship program. 3. To promote research and development with current techniques through well qualified resources in the area of computer science and wireless engineering.	

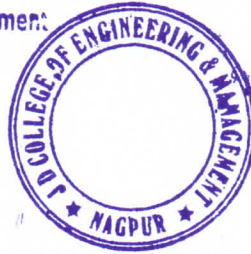|	Communication, Research Methodology, Full Stack Development, Advanced Database System, Innovation and Entrepreneurship Development

HOD, CSE, JDCOEM

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JDCOEM, Nagpur

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Department of CSE
*"A Place to Learn ; A Chance to Grow"*
Session 2020-21

VISION	MISSION
To be a recognized as an Excellent Innovative Engineering Department through Academic Programme which develops leaders in Education and Research in Computer Science."	1. To create self-learning environment by facilitating leadership qualities, team-spirit and ethical responsibilities. 2. To Strengthen department-industry collaboration and interaction with professional society through technical knowledge and internship program. 3. To promote research and development with current techniques through well qualified resources in the area of computer science and wireless engineering.

PSO Relevance to Development Need (M.Tech)

PSO	Statement	Relevance to Development Need (Select Suitable)
PSO1	Understand the basic engineering principles and achieve the hardware and software aspects of computer engineering.	Local/ Regional/ National/ Global
PSO2	Analyze the real world applications using algorithmic models and acquire the knowledge of computer architecture.	Local/ Regional/ National/ Global
PSO3	Ability to design and develop applications using various software tools.	Local/ Regional/ National/ Global

Course Category	Sample Relevant Courses
Relevance to the Local Needs	Computer Algorithm, Communication Skills, Object Oriented Systems.
Relevance to the Regional Needs	Communication Skills, Intrusion Detection System, High Performance Computing, Reinforcement Learning, Software Testing.
Relevance to the National Needs	Game Theory, Social Network Analysis, Communication Skills, Advanced Computer Networks, Software Architecture, Functional Programming, Pattern Recognition.
Relevance to the Global Needs	Computer Algorithm, Advanced Operating System, Advanced computer Network, Mobile Communication and Computing, Game Theory, Social Network Analysis, Intrusion Detection System, Artificial Intelligent and knowledge Reasoning, High Performance Computing, Communication Skills, Software Architecture, Algorithm for Big Data, Real Time System, Cryptography and Network Security, Machine Learning. Communication Skill, Software Lab I, Data Science, Project Management and Intellectual Property Rights, Virtual Reality, Introduction to Cognitive Sciences.
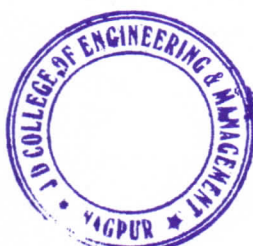
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HOD, CSE, JDCOEM
Chairman
BOS (CSE)
JDCOEM, Nagpur

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Department of Information Technology
"Progress Beyond Excellence"
2020-21

PSO Relevance to Development Need (B.Tech)

PSO	Statement	Relevance to Development Need
PSO1	The ability to understand, analyse and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity	Local/ Regional/ National/ Global
PSO2	The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.	Local/ Regional/ National/ Global
PSO3	The ability of employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, lifelong learning & a zest for higher studies and also acts as good citizen by inculcating in them moral values & ethics.	Local/ Regional/ National/ Global

Course Category	Sample Relevant Courses
Relevance to the Local Needs	(Field Training), Skill Development, Intellectual Property Rights, Computer Network, IEED.
Relevance to the Regional Needs	Digital Electronics and Microprocessor, Internet of Things., Computer Network
Relevance to the National Needs	Organization Behaviour, Universal Human Values, Consumer Affairs, Ethics in IT, CRT(Campus Recruitment Training), Skill Development, Intellectual Property Rights, Innovation and Entrepreneurship Development
Relevance to the Global Needs	Operating System, Computer Architecture Organization, Programming for Problem Solving, Digital Electronics and Microprocessor, Data structure & Algorithms, Java Programming, FLAT, Computer Network, Database Management Systems, Discrete Mathematics & Graph Structures, Deep Learning, Software Engineering, Internet of Things, TCP/IP, Design and Analysis of Algorithm, OSOS (Open Source Operating System), Augmented Reality (Elective 1), Block Chain (Elective 1), Artificial Intelligence & Robotics, Neural Networks and Machine Learning, Cloud Computing, Human Computing, Digital Forensic, Big Data Analytic Technique, Digital Image Processing, Data Science, Natural Language Processing, Artificial intelligence, In Wireless Networking, Research Methodology, Full Stack Development, Advanced Database System, Innovation and Entrepreneurship Development
	Communication, Research Methodology, Full Stack Development, Advanced Database System, Innovation and Entrepreneurship Development

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J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
An Autonomous Institute, with NAAC "A" Grade
Department Of Electrical Engineering
"Igniting minds to illuminate the world"
2020-21

| Vision	Mission
"To develop competent and committed Electrical Engineers to serve the society"	i. To impart quality education in the field of Electrical Engineering. 2. To be excellent learning center through research and industry interaction.

1.1.1

B. Tech. Electrical Engineering		
Program Specific Outcomes		
PSO	Statement	Relevance to Development Need (Select Suitable)
PSO1	Interpret, identify and analyze problems in electrical domain and demonstrate this knowledge to develop, control and assess electrical systems.	Local,Regional
PSO2	Solve ethically and professionally various Electrical Engineering problems in societal and environmental context and communicate effectively.	Local,Regional.National
PSO3	Apply modern software tools for design, simulation and analysis of electrical systems to engage in life-long learning and to successfully adapt in multi disciplinary environments	Local,Regional.National,Global

Course Category	Sample Relevant Courses
Relevance to the Local Needs	Engineering Economics, Electrical Machine I, ,Universal Human Values
Relevance to the Regional Needs	Engineering Economics, Electrical Machine I, Innovation and entrepreneurship Development, , Power Systems, Power StationPractice, Entrepreneurship essentials
Relevance to the National Needs	Engineering Economics, Electrical Machine I, Power station Practice, Innovation and entrepreneurship Development, Entrepreneurship essentials.

Relevance to the Global Needs	Universal Human Values –II, Electrical Machine I, Control System I , Power Systems

HoD(EE)
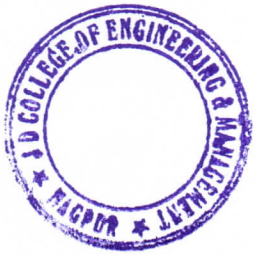
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Department of Mechanical Engineering
Session : 2020-21

| VISION	MISSION
"To be a center of excellence for learning and research in mechanical Engineering."	1. To provide high quality, innovative and research environment in Mechanical Engineering. 2. Accomplish expectation of industry and society by nurturing the student to be competent professional with overall personal development.

B. Tech. Mechanical Engineering

Program Specific Outcomes

PSO	Statement	Relevance to Development Need (Select Suitable)
PSO1	Graduates should excel in engineering positions in industry and other organizations that emphasize design and implementation of engineering systems and devices	Global
PSO2	Alumni should establish a successful career in an engineering-related field and adapt to changing technologies.	National / Global
PSO3	Graduates should be good citizens and cultured human beings, with full appreciation of the importance of professional, ethical and societal responsibilities.	Global

Course Category	Sample Relevant Courses
Relevance to the Local Needs	Communication Skills, Introduction to Computer programming, Industrial visit, Innovation and Entrepreneurship Development, Campus Recruitment Training, Research Methodology,
Relevance to the Regional Needs	Basic Electrical and Electronics Engineering, Product Design and Development, Consumer Affair, Skill Development, Intellectual property rights
Relevance to the National Needs	Basic Civil and Mechanical Engineering, Universal Human Value, Numerical Method, Basic Electronic Engineering,
Relevance to the Global Needs	Engineering Mathematics- I, Engineering Chemistry, Engineering Graphics, Engineering Mathematics- II, Engineering Physics, Energy and Environment Engineering, Applied Maths-III, Material Science, Engineering Thermodynamics, Theory Of Machines-I, Manufacturing Engineering-I, Manufacturing Engineering-II, Strength Of Materials, Fluid Mechanics & Fluid Machines, Heat Transfer, Theory Of Machines-II, Measurement and Quality Control, Operation Research, Applied Thermodynamics, Design of Machine Element,

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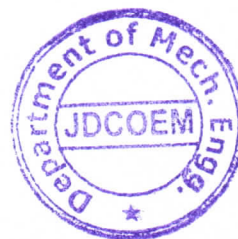
Head of Department

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Department of Civil Engineering
"Building Better Development"
Session 2020-21

1.1.1

B.Tech. Electrical Engineering		
Program Specific Outcomes		
PSO	**Statement**	**Relevance to Development Need**
PSO1	Represent and relate the basic engineering knowledge with proficiency in competent problem-solving ability through analysis, investigation and design of diverse area of civil engineering.	Local, Regional, National
PSO2	Inculcate the professionalism in communication with application of modern civil engineering tools along with ethical and societal responsibilities to have a successful career.	Local, Regional, National
PSO3	Assemble the concept of civil engineering for higher education, research or entrepreneurship and also evaluates the information for maintaining the specifications in quality work.	Local,Regional.National,Global

Course Category	**Sample Relevant Courses**
Relevance to the Local Needs	Innovation and Entrepreneurship Development, Life Science, Consumer Affairs
Relevance to the Regional Needs	Energy Science and Engineering, Mini Project & Seminar, Project-2, Internship, Hydrology & Water Resource Engineering
Relevance to the National Needs	Mechanics of Rigid bodies, Building Drawing and Drafting, Concrete Technology & Design of RCC Building Elements, Professional Practice, Law & Ethics, Engineering Economics, Estimating and Costing
Relevance to the Global Needs	Universal Human Values, Engineering Mathematics-III, Civil Engineering - Societal & Global Impact, Campus Recruitment Training (CRT), Skill Development, Research Methodology, Solid Mechanics

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HoD/B.O.S Chairman

H.O.D.
Department of Civil Engineering
J.D.C O.E.M., Nagpur

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VISION	MISSION
To be a well-known center for shaping professional leaders of Global Standards in Civil Engine	Provide quality education and excellent learning Environment for overall development of students. Making Sustainable efforts for integrating academics with Industry.

Teaching Scheme

Branch: Civil Engineering   **Branch Code: CE**

III Semester

Sr. No.	Category of Subject	Course Code	Course Name	Teaching Scheme			Evaluation Scheme				Credit
				L	T	P	CA	MSE	ESE/Ext. Pra.	Total	
1	HSMC	CE3T001	Civil Engineering - Societal & Global Impact	2	0	0	20	20	60	100	2
2	BSC	CE3T002	Engineering Mathematics-III	2	1	0	20	20	60	100	4
3	ESC	CE3T003	Building Drawing and Drafting	2	1	0	20	20	60	100	3
4	ESC	CE3T004	Mechanics of Rigid bodies	2	1	0	20	20	60	100	4
5	ESC	CE3T005	Energy Science and Engineering	3	0	0	20	20	60	100	3
6	PCC	CE3T006	Basic Geology and Geotechnical Engineering	3	0	0	20	20	60	100	3
7	ESC	CE3L001	Building Drawing and Drafting Lab	0	0	4	60	0	40	100	2
8	ESC	CE3L002	Mechanics of Rigid Bodies Lab	0	0	2	60	0	40	100	1
9	PCC	CE3L003	Basic Geology and Geotechnical Engineering Lab	0	0	2	60	0	40	100	1
10	PROJECT	CE3F004	Internship/Field Visit	0	0	0	0	0	50	50	1
11	MC	CE3T007	Innovation and Entrepreneurship Development	2	0	0	10	15	25	50	AU
				16	3	8					

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IV Semester

Sr. No.	Category of Subject	Course Code	Course Name	Teaching Scheme			Evaluation Scheme				Credit
				L	T	P	CA	MSE	ESE/Ext. Pra.	Total	
1	BSC	CE4T001	Life Science	2	0	0	20	20	60	100	2
2	PCC	CE4T002	Hydrology & Water Resource Engineering	2	1	0	20	20	60	100	3
3	PCC	CE4T003	Concrete Technology & Design of RCC Building Elements	2	1	0	20	20	60	100	3
4	PCC	CE4T004	Solid Mechanics	2	1	0	20	20	60	100	3
5	PCC	CE4T005	Surveying and Geomatics	2	0	0	20	20	60	100	2
6	PCC	CE4T006	Materials, Testing & Evaluation	2	0	0	20	20	60	100	2
7	PCC	CE4L001	Concrete Technology & Design of RCC Building Elements Lab	0	0	2	60	0	40	100	2
8	PCC	CE4L002	Solid Mechanics Lab	0	0	2	60	0	40	100	1
9	PCC	CE4L003	Surveying and Geomatics Lab	0	0	4	60	0	40	100	2
10	PROJECT	CE4F004	Internship/Field Visit II	0	0	0	0	0	50	50	1
11	MC	CE4T007	Universal Human Values	3	0	0	10	15	25	50	AU
				15	3	8					21

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Semester- V

Sr. No	Subject Code	Subject	Contact Hours			Credit
			L	T	P	
		Theory				
01	BTCVC 501	Design of Steel Structures	2	2	-	4
02	BTCVC 502	Structural Mechanics-II	2	1	-	3
03	BTCVC 503	Soil Mechanics	3	1	✓	4
04	BTCVC 504	Environmental Engineering	2	-	✓	2
05	BTCVC 505	Transportation Engineering	2	-	✓	2
06	CV E2	**Elective II**	3	-	-	3
07	BTHM507	Essence of Indian Traditional Knowledge	1	-	-	AU
		Practical / Drawing and/or Design				
08	BTCVL508	Soil Mechanics Laboratory	-	-	2	1
09	BTCVL509	Environmental Engineering Laboratory	-	-	2	1
10	BTCVL510	Transportation Engineering Laboratory	-	-	2	1
11	BTCVS511	Seminar on Topic of Field Visit to works related to Building Services	-	-	1	AU
		Sub-Total	15	4	7	
		Total	26			1
	BTCVE506A BTCVE506B BTCVE506C BTCVE506D	**Elective II** Materials, Testing & Evaluation Computer Aided Drawing Development Engineering Business Communication & Presentation Skills	3	-		3

Semester- VI

Sr. No.	Subject Code	Subject Title	Contact hours			Credit
			L	T	P	
01	BTCVC601	Design of Concrete Structures I	3	1	-	3
02	BTCVC602	Foundation Engineering	2	1	-	3
03	BTCVC603	Concrete Technology	2	-	✓	2
04	BTCVC604	Project Management	2	1	-	2
05	CVE3	**Elective III**	3	-	-	3
06	BTCVC606	Building Planning and Design	2	-	✓	2
Practical / Drawing and/or Design						
07	BTCVL607	Concrete Technology Laboratory	-	-	2	1
08	BTCVL608	Building Planning, Design and Drawing Laboratory	-	-	4	2
09	BTCVM609	Community Project (Mini Project)	-	-	2	1
10	BTCVS610	Seminar on Topic of Field Visit Road Construction	-	-	1	AU
11	BTCVF611	Industrial Training$	-	-	2	--
		Sub-Total	i4	3	11	
		Total		28		19
Elective III						
	BTCVE605A	Waste Water Treatment				
	BTCVE605B	Operations Research				
	BTCVE605C	Geographic Data Analysis and Applications				
	BTCVE605D	Advanced Engineering Geology				
	BTCVE605E	Advanced Soil Mechanics				
	BTCVE605F	Design of Masonry and Timber Structures				

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B. Tech. Civil Engineering

Course Structure for Semester VII (Fourth Year) w.e.f. 2020-2021

Course Code	Type of Course	Course Title	Weekly Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	CA	MSE	ESE	Total	
BTCVC701	Core	Design of Concrete Structures - II	2	1	--	20	20	60	100	3
BTCVC702	Core	Infrastructure Engineering	3	--	--	20	20	60	100	3
BTCVC703	Core	Water Resources Engineering	3	1	--	20	20	60	100	4
BTCVC704	Core	Professional Practices	2	1	--	20	20	60	100	3
BTCVE705A	Elective IV	Construction Techniques	3	--	--	20	20	60	100	3
BTCVE705B		Engineering Economics								
BTCVE705C		Finite Element Method								
BTCVE705D		Limit State Design of Steel Structures								
BTCVE705E		Plastic Analysis and Design								
BTCVE705F		Water Power Engineering								
BTCVOE706A	Open Elective V	Advanced Structural Mechanics	3	--	--	--	--	--	--	Audit (AU/ NP)
BTCVOE706B		Air Pollution Control								
BTCVOE706C		Bridge Engineering								
BTCVOE706D		Introduction to Earthquake Engineering								
BTCVOE706E		Town and Urban Planning								
BTCVOE706F		Tunneling and Underground Excavations								
BTCVL707	Laboratory	Design & Drawing of RC & Steel Structures	--	--	2	30	--	20	50	1
BTCVL708	Laboratory	Professional Practices	--	--	2	30	--	20	50	1
BTCVT709	Training	Field Training /Internship/Industrial	--	--	--	--	--	50	50	1
BTCVS710	BTS	Seminar	--	--	2	--	--	50	50	1
BTCVP711	BTP	Project Stage-I**	--	--	6	--	50	50	100	3
		Total	16	3	12	160	150	490	800	23

**In case of students opting for Internship and Industry Project in the eighth semester, the Project must be industry-based.

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B. Tech. Civil Engineering

Course Structure for Semester VIII [Fourth Year] w.e.f. 2020-2021

Course Code	Type of Course	Course Title	Weekly Teaching Scheme			Evaluation Scheme$^\$$				Credits
			L	T	P	CA	MSE	ESE	Total	
BTCVSS801A	(Self-Study Course)#	Characterization of Construction Materials	03**	--	--	20	20	60	100	3
BTCVSS801B		Geosynthetics and Reinforced Soil Structures								
BTCVSS801C		Higher Surveying								
BTCVSS801D		Maintenance and Repair of Concrete Structures								
BTCESS801E		Structural Dynamics								
BTCESS802A	(Self-Study Course)#	Energy Efficiency Acoustics and Daylighting in Building	03**	--	--	20	20	60	100	3
BTCESS802B		Environmental Remediation of Contaminated Sites								
BTCESS802C		Remote Sensing Essentials								
BTCESS802D		Mechanical Characterization of Bituminous Materials								
BTCESS802E		Soil Structure Interaction								
BTCEP803	Project Stage-II	In-house Project or Internship and Project in Industry*	--	--	30	50	--	100	150	15
Total			04	--	30	90	40	220	350	21

The subjects are to be studied on self-study mode using SWAYAM/NPTEL/any other online source approved by the University.

** If required Coordinator may be appointed for each Self study course and an administrative load of 03 hours per week may be considered for monitoring and assisting the students, and to conduct examination (if required), evaluation and preparation of result.

$^\$$ If the examination schedule for the online Self study course chosen by student do not match with the University's Academic Schedule, the University/Institute have to conduct exam for such courses.

* Six months of Internship and Project in the Industry. One Faculty guide from the Institute and one Mentor from the Industry should be identified to monitor the progress of work. During the Project/Internship period of work, a review of work should be taken twice followed by a final presentation at the end of Project period.

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