



JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR

Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in

Department of Civil Engineering
"Building Better Development"

Session 2019-20




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	Basic Human Rights, Building Construction,
Relevance to the Regional Needs	Field Training, Field Visit, Site Visit & Mini Project, Community Project
Relevance to the National Needs	Building Planning & Design, Estimating & Costing, Construction Economics and Finance, Construction Management & Law
Relevance to the Global Needs	Mathematics-III, Solid Mechanics, Soft Skill Development,


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Khandala, Katol Road
Nagpur-441501




HoD/B.O.S Chairman
H.O.D.
Department of Civil Engineering
1.D.C O.E.M., Nagpur

Semester- III

Sr. No.	Subject Code	Subject	Contact Hours			Credi
			L	T	P	
Theory						
01	BTBSC301	Mathematics – III	3	1	-	4
02	BTCVC302	Mechanics of Solids	3	1	✓	4
03	BTCVC303	Hydraulics I	2	1	✓	3
04	BTCVC304	Surveying I	2	1	✓	3
05	BTCVC305	Building Construction	2	-	✓	2
06	BTCVC306	Engineering Geology	2	-	✓	2
07	BTHM303	Soft Skills Development	2	-	-	AU
Practical / Drawing and/or Design						
08	BTCVL307	Hydraulics Laboratory I	-	-	2	1
09	BTCVL308	Surveying Laboratory I	-	-	2	1
10	BTCVL309	Building Construction - Drawings Laboratory	-	-	2	1
11	BTCVL310	Engineering Geology Lab	-	-	2	1
12	BTCVS311	Seminar on Topic of Field Visit to Foundation Work	-	-	1	AU
13	BTCVF312	Field Training / Internship/Industrial Training Evaluation (from semester II)	-	-	-	1
Sub-Total			16	4	09	
Total			29			23





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Semester- V

Sr. No	SubjectCode	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			21
Elective II						
	BTCVE506A BTCVE506B BTCVE506C BTCVE506D	Materials, Testing & Evaluation Computer Aided Drawing Development Engineering Business Communication & Presentation Skills	3	-		3




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Semester- IV

Sr. No.	Subject Code	Subject	Contact Hours			Credit
			L	T	P	
Theory						
01	BTCVC401	Hydraulics II	2	1	✓	3
02	BTCVC402	Surveying – II	2	1	✓	3
03	BTCVC403	Structural Mechanics-I	3	1	-	4
04	BTID405	Product Design Engineering	1	2	-	3
05	CV E1	Elective I	3	-	-	3
06	BTCVC406	Engineering Management	1	-	-	AU
07	BTHM3401	Basic Human Rights	2	-	-	AU
Practical / Drawing and/or Design						
08	BTCVL407	Hydraulics Laboratory II	-	-	2	1
09	BTCVL408	Surveying Laboratory II	-	-	4	2
10	BTCVL409	Mechanics of Solids Laboratory	-	-	2	1
11	BTCVM410	Mini Project	-	-	2	1
12	BTCVF411	Seminar on Topic of Field Visit to works involving Superstructure Construction	-	-	1	1
Sub-Total			14	5	11	
Total			31			22
Elective I						
	BTCVE404A BTCVE404B BTCVE404C	Numerical Methods in Engineering Planning for Sustainable Development Instrumentation & Sensor Technologies for Civil Engineering Applications	3	-	-	3





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Semester- VI

S: Students should register for the CVF 705 in Semester VI to undergo training during vacation after semester VI and appear at examination in Semester VII. Result shall appear in Grade-sheet of Semester VII

Sr. No.	Subject Code	Subject Title	Contact hours			Credit
			L	T	P	
Theory						
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 ^s	-	-	2	--
		Sub-Total	14	3	11	
		Total	28			19
Elective III						
	BTCVE605A BTCVE605B BTCVE605C BTCVE605D BTCVE605E BTCVE605F	Waste Water Treatment Operations Research Geographic Data Analysis and Applications Advanced Engineering Geology Advanced Soil Mechanics Design of Masonry and Timber Structures	3	-	-	3




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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	
Total		16	4	7	27	25	100	400	500		125	125	250		

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	
Total		13	4	8	25	24	80	320	400		100	100	200		

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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Absorption Scheme for Students of Semester Pattern to Credit Based Semester Pattern

VII Semester			
Code No.	Name of Subject in Semester Pattern	Code No.	Name of Equivalent Subject in Credit Based Semester Pattern
7CE01	Structural Analysis – III (T)	BECVE501T	Structural Analysis – II
7CE02	Advanced Concrete Structures (T)	BECVE701T	Advanced Concrete Structures
7CE02	Advanced Concrete Structures (P)	BECVE701P	Advanced Concrete Structures
7CE03	Irrigation Engineering (T)	BECVE801T	Irrigation Engineering
7CE03	Irrigation Engineering (P)	BECVE801T	Irrigation Engineering
7CE04	Maintenance and Rehabilitations of Civil Engineering Structures (T)	BECVE802T	Elective – II (Maintenance and Rehabilitations of Civil Engineering Structures)
7CE05	Elective – I (T)	BECVE703T	Elective – I
7CE06	Industrial Case Study (P)	BECVE706P	Industrial Case Study & Project Seminar
7CE07	Project and Seminar (P)	BECVE706P	Industrial Case Study & Project Seminar

VIII Semester			
Code No.	Name of Subject in Semester Pattern	Code No.	Name of Equivalent Subject in Credit Based Semester Pattern
8CE01	Estimating and Costing (T)	BECVE702T	Estimating and Costing
8CE01	Estimating and Costing (P)	BECVE702P	Estimating and Costing
8CE02	Transportation Engineering – II (T)	BECVE705T	Transportation Engineering – II
8CE03	Elective – II (T)	BECVE802T	Elective – II
8CE04	Elective – III (T)	BECVE803T	Elective – III
8CE04	Elective – III (P)	BECVE803P	Elective – III
8CE05	Project (P)	BECVE805P	Project

Note: Any student willing to opt for CBS Semester pattern shall be absorbed as per the RTMNU's relevant ordinance.




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Department of CSE

"A Place to Learn ; A Chance to Grow"
Session 2019-20



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	Soft Skills and Personality Development ,Basic Human Rights CRT(Campus Recruitment Training), Skill Development, Intellectual Property Rights, Computer Network, Field Training / Internship/Industrial Training
Relevance to the Regional Needs	Digital Electronics and Microprocessor, Internet of Things, Computer Network, Python Programming, HTML and JavaScript, Design & Analysis of Algorithms.
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	Programming for Problem Solving, Digital Electronics and Microprocessor, Data structure & Algorithms, Operating System, Computer Architecture Organization, Probability & Statistics, Language Processors, Operating System, Product Design Engineering, Probability & Statistics Java Programming, FLAT, Computer Network, Database Management Systems, Discrete Mathematics & Graph Structures, A)Object Oriented Programming in C++,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, Engineering Mathematics –III, Discrete Mathematics, B) Object Oriented Programming in Java, Deep Learning, Software Engineering, Data Science, Big Data Analytic Technique, Digital Image Processing, Natural Language.



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	Processing, AI in Wireless Communication, Research Methodology, Full Stack Development, Advanced Database System, Ethical Hacking, Innovation and Entrepreneurship Development, Natural Language Processing 1. Data Warehousing & Mining 2. Mobile Computing 2. Grid Computing 3. Soft Computing 3. Digital Image Processing 4. Topics in Distributed System 4. Embedded system.
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Department Of Electrical Engineering

"Igniting minds to illuminate the world"

AY-2019-20


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 multidisciplinary environments	Local,Regional.National,Global

Course Category	Sample Relevant Courses
Relevance to the Local Needs	Engineering Economics and industrial Management, Electrical Machine I, Basic human rights
Relevance to the Regional Needs	Engineering Economics and industrial Management, Electrical Machine I, Industrial visit and report writing, Electrical Power Systems-I, Power Station Practice.
Relevance to the National Needs	Engineering Economics and industrial Management, Electrical Machine I, Power station Practice, Industrial visit and report writing, Introduction to Non Conventional Energy Source.
Relevance to the Global Needs	Basic Human Rights, Electrical Machine I, Control System I, Electrical Power Systems-I




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Department of Information Technology
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Session 2019-20



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	Soft Skills and Personality Development ,Basic Human Rights CRT(Campus Recruitment Training), Skill Development, Intellectual Property Rights, Computer Network, Field Training / Internship/Industrial Training
Relevance to the Regional Needs	Digital Electronics and Microprocessor, Internet of Things, Computer Network, Python Programming, HTML and JavaScript, Design & Analysis of Algorithms.
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	Programming for Problem Solving, Digital Electronics and Microprocessor, Data structure & Algorithms, Operating System, Computer Architecture Organization, Probability & Statistics, Language Processors, Operating System,




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Department of Information Technology

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	<p>Product Design Engineering, Probability & Statistics Java Programming, , Computer Network, Database Management Systems, Discrete Mathematics & Graph Structures, A)Object Oriented Programming in C++,Internet of Things, TCP/IP, Design and Analysis of Algorithm, Block Chain , SMART SENSOR AND Robotics, Machine Learning, Cloud Computing, Human Computing, Digital Forensic, Engineering Mathematics –III, Discrete Mathematics, B) Object Oriented Programming in Java, Deep Learning, Software Engineering, Data Science, Big Data Analytic Technique, Digital Image Processing, Natural Language. Processing, Wireless Communication, Research Methodology, Full Stack Development, Advanced Database System, Innovation and Entrepreneurship Development, Natural Language Processing 1. Data Warehousing & Mining 2. Mobile Computing 3. Soft Computing 4. Digital Image Processing 5. Embedded system.</p>
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✓ HOD,IT DEPT.

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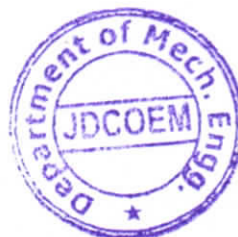


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KATOL ROAD, NAGPUR
DEPARTMENT OF MECHANICAL ENGINEERING
Session 2019-20

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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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	Analyse 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, JD COEM
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8	Engineering Chemistry	AI2T002	II	20%	Types of hardness; softening of water by lime-soda process, Zeolite process, De-mineralization process (principle, advantages and limitations). Numerical based on lime-soda and Zeolite process. General introduction to nanotechnology, timeline and milestone, overview of different nanomaterials available, potential use of nanomaterials in electronics, sensors, catalysis, environment and cosmetics. Introduction, classification of fuel, essential properties of fuel, characteristics of good fuel, solid fuel- Coal, Various types of Coal, Analysis of coal-Proximate and Ultimate analysis, Molecular orbitals of diatomic molecules and plots of the multicenter orbitals. Equations for atomic and molecular orbital. Energy level diagrams of diatomic. Pi-molecular orbitals of butadiene and benzene and aromaticity.
9	Engineering Chemistry	ET2T002	II	20%	Types of hardness; softening of water by lime-soda process, Zeolite process, De-mineralization process (principle, advantages and limitations). Numerical based on lime-soda and Zeolite process. General introduction to nanotechnology, timeline and milestone, overview of different nanomaterials available, potential use of nanomaterials in electronics, sensors, catalysis, environment and cosmetics. Introduction, classification of fuel, essential properties of fuel, characteristics of good fuel, solid fuel- Coal, Various types of Coal, Analysis of coal-Proximate and Ultimate analysis, Molecular orbitals of diatomic molecules and plots of the multicenter orbitals. Equations for atomic and molecular orbital. Energy level diagrams of diatomic. Pi-molecular orbitals of butadiene and benzene and aromaticity.



HoD/B.O.S Chairman
BSHD, JDCOEM

Chairman
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