

JALPAIGURI GOVERNMENT ENGINEERING COLLEGE

JALPAIGURI- 735102

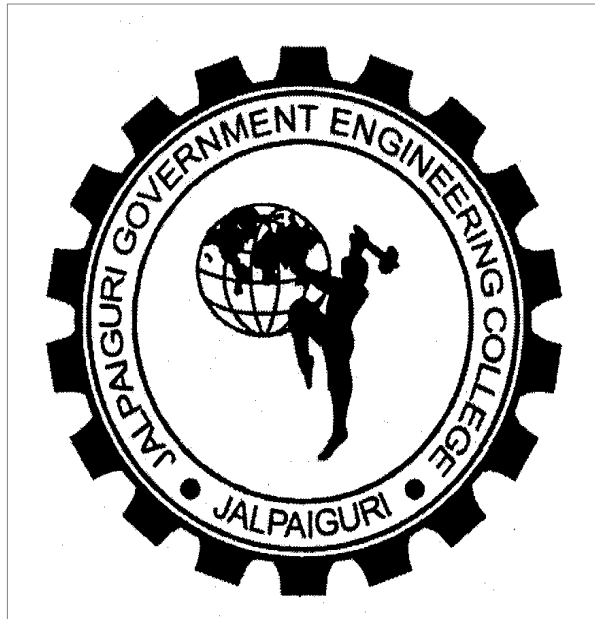
(An Autonomous Government College)

COURSE STRUCTURE

FOR

B.TECH. IN ELECTRICAL ENGINEERING

(Implemented from the Academic Year 2021-22 for the new batch only)



www.jgec.ac.in

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Structure of Syllabus of B.Tech. (Electrical Engineering)

CC	SC	Subject Name	Contact Hrs. /Week		CC	SC	Subject name	Contact Hrs. /Week		
			L –T-P-TO	Cr.				L –T-P-TO	Cr.	
First Semester					Second Semester					
BSC	BS-PH101	Physics	3-1-0-4	4	BSC	BS-CH201	Chemistry	3-1-0-4	4	
BSC	BS-M101B	Mathematics-1B	3-1-0-4	4	BSC	BS-M201B	Mathematics-IIB	3-1-0-4	4	
ESC	ES-CS101	Programming for Problem Solving	3-0-0-3	3	ESC	ES-EE201	Basic Electrical Engineering	3-1-0-4	4	
BSC	BS-PH191	Physics Laboratory	0-0-3-3	1.5	HUM	HM-HU201	English	2-0-0-2	2	
ESC	ES-CS191	Programming for Problem Solving Laboratory	0-0-4-4	2	BSC	BS-CH291	Chemistry Laboratory	0-0-3-3	1.5	
ESC	ES-ME191	Workshop/Manufacturing Practice	1-0-4-5	3	ESC	ES-EE291	Basic Electrical Engineering Laboratory	0-0-2-2	1	
Mandatory Induction Program- 3 weeks duration. It is to be done before initiation of classes (theoretical, laboratory & sessional) as per syllabus following guidelines of AICTE and MAKAUT					Fourth Semester					
			10-2-11-23	17.5					12-3-11-26	20.5
Third Semester					Fourth Semester					
BSC	BS-M(EE)301	Mathematics – III	3-1-0-4	4	HUM	HM-HU(EE)401	Value & Ethics in Profession	2-0-0-2	2	
BSC	BS-CH(EE)301	Biology	2-0-0-2	2	ESC	ES-ME(EE)401	Thermal Power Engineering	3-0-0-3	3	
ESC	ES-ME(EE)301	Engineering Mechanics	3-0-0-3	3	ESC	ES-PH(EE)401	Electromagnetic Fields	3-0-0-3	3	
PCC	PC-EE301	Analog Electronic Circuits	3-0-0-3	3	PCC	PC-EE401	Digital Electronic Circuits	3-0-0-3	3	
PCC	PC-EE302	Electrical Machines-I	3-0-0-3	3	PCC	PC-EE402	Electrical Machines-II	3-1-0-4	4	
PCC	PC-EE303	Electrical Circuit Analysis	3-0-0-3	3	PCC	PC-EE403	Power Electronics	3-0-0-3	3	
PCC	PC-EE391	Electrical Engineering-I Laboratory (Laboratories on Analog Electronics, Electrical Machines, Electrical Circuits)	0-0-6-6	3	PCC	PC-EE491	Electrical Engineering-II Laboratory(Laboratories on Digital Electronics, Electrical Machines, Power Electronics)	0-0-6-6	3	
MC	MC-HU(EE)301	Environmental Science	3-0-0-3	0	MC	MC-HU(EE)401	Essence of Traditional Knowledge	3-0-0-3	0	
			20-1-6-27	21					20-1-6-27	21
Fifth Semester					Sixth Semester					
HUM	HM-HU(EE)501	Principles of Management	2-0-0-2	2	PCC	PC-EE601	Electric Drives	3-0-0-3	3	
PCC	PC-EE501	Signal & Systems	3-1-0-4	4	PCC	PC-EE602	Power System-II	3-0-0-3	3	
PCC	PC-EE502	Power System-I	3-0-0-3	3	PCC	PC-EE603	Electrical & Electronic Measurements	3-0-0-3	3	
PCC	PC-EE503	Control System	3-0-0-3	3	PEC	PE-EE601	Professional Elective-II : a. Electrical Energy Conservation & Auditing b. Industrial Electric System c. HVDC Transmission System d. Renewable & No-conventional Energy	3-0-0-3	3	
PCC	PC-EE504	Microprocessors & Microcontrollers	3-0-0-3	3	PEC	PE-EE-602	Professional Elective-III : a. Control System Design b. Electrical Machine Design c. Digital Signal Processing d. Power Plant Engineering	3-0-0-3	3	
PEC	PE-EE501	Professional Elective-I: a. Power Quality & FACTS b. High Voltage Engineering c. Illumination Engineering. d. Advanced Power Electronics	3-0-0-3	3	OEC	OE-CS(EE)601	Open Elective-1 : a. Computer Architecture b. Data Structure & Algorithm c. Computer Organization d. Computer Networks e. AI & Soft Computing. f. Data Base Management System g. Software Engineering	3-0-0-3	3	
PCC	PC-EE591	Electrical Engineering-III Laboratory(Laboratories on Power System, Control System,	0-0-6-6	3	PCC	PC-EE691	Electrical Engineering-IV Laboratory (Laboratories on Electric Drives, Power System,	0-0-6-6	1	



Microprocessor)					Measurement & Instrumentation)				
MC	MC-HU(EE) 501	Constitution of India	3-0-0-3	0					
			20-1-6 -27	21				18-0-6 -24	21
CC	SC	Subject Name	Contact Hrs. /Week L-T-P- TO	Cr.	SC	Subject name	Contact Hrs. /Week	CC	SC
Seventh Semester					Eight Semester				
HUM	HM-HU(EE) 701	Financial Management and Accounts	3-0-0-3	3	PEC	PE-EE801	Professional Elective-VI: a. Power System Dynamics & Control b. Process Control c. Power Generation & Economics . d. Utilization of Electric Power	3-0-0-3	3
PEC	PE-EE701	Professional Elective-IV: a. Wind & Solar Energy System b. Line-Commutated and Active PWM Rectifiers c. Electric & Hybrid Vehicles d. Electrical Engineering Materials e. FACTS & HVDC	3-0-0-3	3	OEC	OE-EC (EE)801	Open Elective-IV : a. VLSI & Microelectronics b. Biomedical Electronics c. Embedded System d. Wavelet Transform e. Satellite Communication and Remote Sensing	3-0-0-3	3
PEC	PE-EE702	Professional Elective-V: a. Power System Protection b. Digital Control System c. Advanced Electrical Drives d. Sensors & Transducers e. Power Plant Instrumentation & Control	3-0-0-3	3	OEC	OE-CS (EE)802	Open Elective-V: a. Internet to Things b. Big Data Analysis c. Data Warehousing & Data Mining d. Digital Image Processing e. Computer Graphics & Visualization f. Object Oriented Programming	3-0-0-3	3
OEC	OE-EC (EE)701	Open Elective-II a. Computational Electromagnetics b. Electronic Devices c. Electromagnetic Waves d. Analog & Digital Communication e. Digital System Design	3-0-0-3	3	Proj	PR-EE881	Project-II	0-0-12-12	6
OEC	OE-ME (EE)702	Open Elective-III: a. Automobile Engineering b. Strength of Materials c. Automation in Manufacturing d. Mechatronic Systems e. Manufacturing Processes f. Total Quality Management g. Fluid Mechanics & Fluid Machines. h. Thermal & Fluid Engineering i. Manufacturing Technology	3-0-0-3	3	Proj	PR-EE882	Viva-Voce	-----	2
PCC	PC-EE781	Electrical and Electronic Design Sessional.	0-0-4-4	2	Proj	PR-EE-883	Internship Evaluation	0-0-0-0	0
Proj	PR-EE782	Project-I	0-0-8-8	4					
			15-0-12 -27	21				9-0-12 -21	17

Total Credits: 160

Mandatory Induction Program: 3 weeks duration: Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations

