Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Curriculum Structure

3rd Semester

Theory:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 301	Electric Circuit Theory	3	1	0	4	4
2	PC-EE 302	Analog Electronics	3	0	0	3	3
3	PC-EE 303	Electromagnetic field theory	3	0	0	3	3
4	ES-ME 301	Engineering Mechanics	3	0	0	3	3
5	BS-M 301	Mathematics-III	3	0	0	3	3
6	BS-302	Biology for Engineers	3	0	0	3	3
7	MC-EE 301	Indian Constitution	3	0	0	3	0
		TOTAL OF SEMESTER:				22	19

Practical / Sessional:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 391	Electric Circuit Theory Laboratory	0	0	2	2	1
2	PC-EE 392	Analog Electronics laboratory	0	0	2	2	1
3	PC-CS 393	Numerical Methods laboratory	0	0	2	2	1
		Total of Practical / Sessional				06	3
TOTAL OF SEMESTER:						28	22

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

4th Semester

Theory:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 401	Electric machine-I	3	1	0	4	4
2	PC-EE 402	Digital Electronic	3	0	0	3	3
3	PC-EE 403	Power Electronic	3	0	0	3	3
4	PC-EE 404	Electrical and Electronics Measurement	3	0	0	3	3
5	ES-ME 401	Thermal Power Engineering	3	0	0	3	3
6	HM-401	Values and Ethics in profession	3	0	0	3	3
7	MC- EE401	Environmental Science	3	0	0	3	0
		TOTAL OF SEMESTER:				22	19

Practical / Sessional:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 491	Electric Machine-I laboratory	0	0	2	2	1
2	PC-EE 492	Digital Electronics laboratory	0	0	2	2	1
3	PC-EE 493	Power Electronics laboratory	0	0	2	2	1
4	ES-ME 491	Thermal Power Engineering laboratory	0		2	2	1
		Total of Practical / Sessional				08	4
TOTAL OF SEMESTER:						30	23

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

5th Semester

Theory:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 501	Electric machine-II	3	0	0	3	3
2	PC-EE 502	Power System-I	3	0	0	3	3
3	PC-EE 503	Control system-I	3	0	0	3	3
4	PC-EE-504	Micro processor & micro controller	3	0	0	3	3
5	PE-EE 501		3	0	0	3	3
6	OE 501		3	0	0	3	3
		TOTAL OF SEMESTER:				18	18

Practical / Sessional:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 591	Electric Machine-II laboratory	0	0	2	2	1
2	PC-EE 592	Power system-I laboratory	0	0	2	2	1
3	PC-EE 593	Control system laboratory	0	0	2	2	1
4	PC-EE 594	Microprocessor& Microcontroller laboratory	0	0	2	2	1
		Total of Practical / Sessional				08	4
TOTAL OF SEMESTER:						26	22

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

6th Semester

Theory:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 601	Power System-II	3		0	3	3
2	PE-EE 601		3		0	3	3
3	PE-EE 602		3		0	3	3
4	OE-601		3		0	3	3
5	HM-601		3		0	3	3
		TOTAL OF SEMESTER:				15	15

Practical / Sessional:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 691	Power system-II laboratory	0	0	2	2	1
2	PC-EE 692	Electrical & Electronic design laboratory	1	0	4	5	3
		Total of Practical / Sessional				07	04
TOTAL OF SEMESTER:						22	19
PW-EE 681		Summer Internship	0	0	0	00	00

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

7th Semester

Theory:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 701	Electric Drive	3	0	0	3	3
2	PE-EE 701		3		0	3	3
3	OE-701		3		0	3	3
4	OE-702		3		0	3	3
5	HM-701		3		0	3	3
		TOTAL OF SEMESTER:				15	15

Practical / Sessional:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE 791	Electric Drive laboratory	0	0	2	2	1
2	PW-EE 781	Project stage-I	0	0	6	6	3
		Total of Practical / Sessional				08	04
TOTAL OF SEMESTER:						23	19

8th Semester

Theory:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PC-EE801	Utilization of Electric Power	3	0	0	3	3
2	PE- EE 801		3	0	0	3	3
3	OE-801		3	0	0	3	3
		TOTAL OF SEMESTER:				09	09

Practical / Sessional:

Sl. No.	CODE	Paper	Contact periods Per week			Total Contact Hrs	Credits
			L	T	P		
1	PW-EE 881	Project stage-II	0	0	16	16	8
		Total of Practical / Sessional				16	08
TOTAL OF SEMESTER:						25	17

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Semester-III

Name of the course		**ELECTRIC CIRCUIT THEORY**	
Course Code: PC-EE 301		**Semester: 3rd**	
Duration: 6 months		**Maximum Marks: 100**	
Teaching Scheme		**Examination Scheme**	
Theory: 3 hrs/week		Mid Semester Exam: 15 Marks	
Tutorial: 1 hr/week		Assignment & Quiz: 10 Marks	
Practical: 2 hrs/week		Attendance: 05 Marks	
Credit Points: 4+1		End Semester Exam: 70 Marks	
Objective:			
1.	To understand the structure and properties of different type of electric circuits and sources.		
2.	To learn different mathematical techniques to analyze electric networks.		
3.	To learn circuit analysis techniques such as nodal analysis, mesh analysis, theorems, source transformation and several methods to simplify electric networks..		
4.	To acquire problem solving skills of electric circuit through the application of techniques and principles of electrical circuit analysis to common circuit problems		
Pre-Requisite			
1.	Basic Electrical Engineering (ES-EE-101)		
2.	Mathematics (BS-M-102, Bs-M202)		
Unit	Content	Hrs	Marks
1	**Introduction:** Continuous & Discrete, Fixed & Time varying, Linear and Nonlinear, Lumped and Distributed, Passive and Active networks and systems. Independent & Dependent sources, Step, Ramp, Impulse, Sinusoidal, Square, Saw tooth signals	3	
2	**Graph theory and Networks equations:** Concept of Tree, Branch, Tree link, Incidence matrix, Tie-set matrix and loop currents, Cut set matrix and node pair potentials. Duality, Solution of Problems	4	
3	**Coupled circuits:** Magnetic coupling, Polarity of coils, Polarity of induced voltage, Concept of Self and Mutual inductance, Coefficient of coupling, Modeling of coupled circuits, Solution of problems.	3	
4	**Laplace transforms:** Impulse, Step & Sinusoidal response of RL, RC, and RLC circuits. Transient analysis of different electrical circuits with and without initial conditions. Concept of Convolution theorem and its application. Solution of Problems with DC & AC sources.	8	
5	**Fourier method of waveform analysis:** Fourier series and Fourier Transform (in continuous domain only). Application in circuit analysis, Solution of Problems	6	
6	**Network equations**: Formulation of network equations, Source transformation, Loop variable analysis, Node variable analysis. Network theorem: Superposition, Thevenin's, Norton's & Maximum power transfer theorem. Millman's theorem and its application in three phase unbalanced circuit analysis. Solution of Problems with DC & AC sources.	8	

7	**Two port networks analysis:** Open circuit Impedance & Short circuit Admittance parameter, Transmission parameters, Hybrid parameters and their inter relations. Driving point impedance & Admittance. Solution of Problems	4	
8	**Filter Circuits:** Analysis and synthesis of Low pass, High pass, Band pass, Band reject, All pass filters (first and second order only) using operational amplifier. Solution of Problems	4	

Text books:

1. Networks and Systems, D. Roy Chowdhury, New Age International Publishers
2. Network Analysis and Synthesis, C.L. Wadhwa, New Age International Publishers
3. Circuit and Networks: Analysis and synthesis, A. Sudhakar & S.S. Palli4th edition. Tata Mc Graw Hill Education Pvt. Ltd.
4. Circuit theory, Dr. Abhijit Chakrabarty, Dhanpat Rai & Co Pvt. Ltd.

Reference books

1. Network Analysis, M.E. Valkenburg, Pearson Education .
2. Fundamental of Electric circuit theory, D. Chattopadhay & P.C. Rakshit, S. Chand
3. Engineering Circuit Analysis, W.H. Hyat, J.E. Kemmerly & S.M. Durbin, The Mc Graw Hill
4. Company.

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course	**ANALOG ELECTRONICS**
Course Code: PC-EE 302	**Semester: 3rd**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs/week	Mid Semester Exam: 15 Marks
Tutorial: 0 hr/week	Assignment & Quiz: 10 Marks
Practical: 2 hrs/week	Attendance: 05 Marks
Credit Points: 3+1	End Semester Exam: 70 Marks

Objective:

1.	To understand the structure and properties of different components of Analog Electronics.
2.	To learn different techniques to analyze Analog electronics circuit.
3.	To learn application of different components of Analog electronics.
4.	To understand principle and operation of different Analog electronic circuits.
5.	To acquire problem solving skills of electronic circuit.

Pre-Requisite

1.	Physics (10+2)

Unit	Content	Hrs	Marks
1	**Filters & Regulators:** Capacitor filters, π-section filter, ripple factor, series and shunt voltage regulator, percentage regulation, Concept of SMPS.	4	
2	**Transistor biasing & stability:** Q point, Self Bias-CE, compensation techniques, h-model of Transistor, Expression of voltage gain, current gain, input & output impedance, Trans-resistance & Trans-conductance, Emitter follower circuits, High frequency model of Transistor.	6	
3	**Transistor amplifier:** RC coupled amplifier, Function of all components, Equivalent circuit, derivation of voltage gain, Current gain, Input impedance & output impedance, Frequency response characteristics, Lower & upper half frequencies, Bandwidth, Concept of Wide band amplifier.	6	
4	**Feed back amplifier & Oscillators:** Concept of Feed back, Negative & Positive feedback, Voltage/Current, Series/Shunt feedback, Berkhausen criterion, Colpit , Hartley's, Phase shift, Wien bridge, & Crystal oscillators.	5	
5	**Operational amplifier:** Ideal OPAMP, Differential amplifier, Constant current source (Current mirror etc), Level shifter, CMRR, Open & closed loop circuits, importance of feedback loop (positive & negative), inverting & non-inverting amplifiers, Voltage follower/Buffer circuits.	6	
6	Application of Operational amplifiers: Adder, Integrator &	5	

	Differentiator, Comparator, Schmitt Trigger, Instrumentation Amplifier, Log & Antilog amplifier, Trans-conductance multiplier, Precision rectifier, Voltage to current &Current to voltage converter.		
7	**Power amplifier:** Class A, B, AB, C, Conversion efficiency, Tuned amplifier.	4	
8	**Multivibrator:** Monostable, Bistable multivibrator, Monostable & Astable operation using 555 timer.	2	
9	**Special function circuits:** VCO & PLL	2	

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course	**ELECTRO MAGNETIC FIELD THEORY**
Course Code: PC-EE 303	**Semester: 3rd**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs/week	Mid Semester Exam: 15 Marks
Tutorial: 0 hr/week	Assignment & Quiz: 10 Marks
Practical: 0 hrs/week	Attendance: 05 Marks
Credit Points: 3	End Semester Exam: 70 Marks

Objective:	
1.	To learn the basic mathematical tools to deal with Electromagnetic field.
2.	To understand properties and application of Electric and magnetic field.
3.	To analyze electromagnetic wave propagation in transmission line.
4.	To acquire problem solving skills related to Electromagnetic field.

Pre-Requisite	
1.	Basic Electrical Engineering (ES-EE-101)
2.	Mathematics (BS-M-102, Bs-M202)
3.	Physics (BS-PH 101)

Unit	Content	Hrs	Marks
1	**Introduction:** Co-ordinate systems and transformation, Cartesian coordinates, Circular cylindrical coordinates, Spherical coordinates & their transformation. Differential length, area and volume in different coordinate systems. Solution of problems	4	
2	**Introduction to Vector calculus:** DEL operator, Gradient of a scalar, Divergence of a vector & Divergence theorem, Curl of a vector & Strokes theorem, Laplacian of a scalar, Classification of vector fields, Helmholtz's theorem. Solution of problems	4	
3	**Electrostatic field:** Coulomb's law, field intensity, Gauss's law, Electric potential and Potential gradient, Relation between E and V, an Electric dipole and flux lines. Energy density in electrostatic field. Boundary conditions: Dielectric-dielectric, Conductor – dielectric, Conductor-free space. Poisson's and Laplace's equation, General procedure for solving Poisson's and Laplace's equation. Solution of problems	8	
4	**Magneto static fields:** Biot- savart law, Ampere's circuit law, Magnetic flux density, Magnetic static and Vector potential, Forces due to magnetic field, Magnetic torque and moments, Magnetisation in material, Magnetic boundary condition, Inductor and Inductances, Magnetic energy, Force on magnetic material. Solution of problems	8	
5	**Electromagnetic fields:** Faraday's law, Transformer and motional emf, Displacement current, Maxwell's equations, Time varying Potential, Time harmonic fields. Solution of problems	6	
6	**Electromagnetic wave propagation:** Wave equation, Wave propagation in lossy dielectric, Plane waves in loss less dielectric, Plane wave in free space, Plane wave in good conductor, Skin effect,	6	

	Skin depth, Power & Poynting vector, Reflection of a plane wave at normal incidence, reflection of a plane wave at oblique incidence, Polarisation. Solution of problems		
7	**Transmission line:** Concept of lump & distributed parameters, Line parameters, Transmission line equation & solutions, Physical significance of solutions, Propagation constants, Characteristic impedance, Wavelength, Velocity of propagation. Solution of problems	4	

Text books:

1. Elements of Electromagnetic, Mathew N.O. Sadiku, 4th edition, Oxford university press.
2. Engineering Electromagnetic, W.H. Hyat & J.A. Buck, 7th Edition, TMH
3. Theory and problems of Electromagnetic, Edminister, 2nd Edition, TMH
4. Electromagnetic field theory fundamentals, Guru & Hizroglu, 2nd edition, Cambridge University

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course		**ENGINEERING MECHANICS**	
Course Code: ES-ME 301		**Semester: 3rd**	
Duration: 6 months		**Maximum Marks: 100**	
Teaching Scheme		**Examination Scheme**	
Theory: 3 hrs/week		Mid Semester Exam: 15 Marks	
Tutorial: 0 hr/week		Assignment & Quiz: 10 Marks	
Practical: 0 hrs/week		Attendance: 05 Marks	
Credit Points: 3		End Semester Exam: 70 Marks	
Objective:			
1.	To understand basic mathematical tools to deal with the physical bodies.		
2.	To learn different mathematical techniques to analyze physical bodies.		
2.	To learn analysis techniques of rigid bodies.		
2.	To acquire problem solving skills of general motion.		
Pre-Requisite			
1.	Physics (BS-PH-101)		
2.	Mathematics (BS-M-102, Bs-M202)		
Unit	Content	Hrs	Marks
1	**Introduction to vectors and tensors and co-ordinate systems** Introduction to vectors and tensors and coordinate systems; Vector and tensor algebra; Indical notation; Symmetric and anti-symmetric tensors; Eigenvalues and Principal axes.	5	
2	**Three-dimensional Rotation** Three-dimensional rotation: Euler's theorem, Axis-angle formulation and Euler angles; Coordinate transformation of vectors and tensors.	4	
3	**Kinematics of Rigid Body** Kinematics of rigid bodies: Dentition and motion of a rigid body; Rigid bodies as coordinate systems; Angular velocity of a rigid body, and its rate of change; Distinction between two- and three dimensional rotational motion; Integration of angular velocity to find orientation; Motion relative to a rotating rigid body: Five term acceleration formula.	6	
4	**Kinetics of Rigid Bodies** Kinetics of rigid bodies: Angular momentum about a point; Inertia tensor: Dentition and computation, Principal moments and axes of inertia, Parallel and perpendicular axes theorems; Mass moment of inertia of symmetrical bodies, cylinder, sphere, cone etc., Area moment of inertia and Polar moment of inertia, Forces and moments; Newton-Euler's laws of rigid	5	

	body motion.		
5	**Free Body Diagram (1 hour)** Free body diagrams; Examples on modelling of typical supports and joints and discussion on the kinematic and kinetic constraints that they impose.	1	
6	**General Motion** Examples and problems. General planar motions. General 3-D motions. Free precession, Gyroscopes, Rolling coin.	9	
7	**Bending Moment** Transverse loading on beams, shear force and bending moment in beams, analysis of cantilevers, simply supported beams and overhanging beams, relationships between loading, shear force and bending moment, shear force and bending moment diagrams.	5	
8	**Torsional Motion** Torsion of circular shafts, derivation of torsion equation, stress and deformation in circular and hollow shafts.	2	
9	**Friction** Concept of Friction; Laws of Coulomb friction; Angle of Repose; Coefficient of friction.	3	

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course	**MATHEMATICS-III**
Course Code: MC-EE 301	**Semester: 3rd**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs/week	Mid Semester Exam: 15 Marks
Tutorial: 0 hr/week	Assignment & Quiz: 10 Marks
Practical: 0 hrs/week	Attendance: 05 Marks
Credit Points: 3	End Semester Exam: 70 Marks

Objective:	
1.	To provide understanding of Probability required for an Electrical Engineer to apply in the profession. .
2.	To understand different numerical methods required to solve numerically different systems
3.	To have basic understanding of Z transform to be applied to solve problem of different discrete systems
Pre-Requisite	
1.	Mathematics (10+2)

Unit	Content	Hrs	Marks
1	**Probability:** Basic Probability Theory**:** Classical definition and its limitations. Axiomatic definition. Some elementary deduction: i) P(O)=0, ii) 0≤P(A)≤1, iii) P(A')=1-P(A) etc. where the symbols have their usual meanings. Frequency interpretation of probability.	1	
	Addition rule for 2 events (proof) & its extension to more than 2 events (statement only). Related problems. Conditional probability & Independent events. Extension to more than 2 events (pair wise & mutual independence). Multiplication Rule. Examples. Baye's theorem (statement only) and related problems.	3	
	Random Variable & Probability Distributions. Expectation: Definition of random variable. Continuous and discrete random variables. Probability density function & probability mass function for single variable only. Distribution function and its properties (without proof). Examples. Definitions of Expectation & Variance, properties & examples.		
	Some important discrete distributions: Binomial & Poisson distributions and related problems. Some important continuous	2	

	distributions: Uniform, Exponential, Normal distributions and related problems. Determination of Mean & Variance for Binomial, Poisson & Uniform distributions only.	2	
2	**Numerical Methods:** Approximation in numerical computation: Truncation and rounding errors, Fixed and floating-point arithmetic, Propagation of errors. Interpolation: Newton forward/backward interpolation, Lagrange's and Newton's divided difference Interpolation. Numerical integration: Trapezoidal rule, Simpson's 1/3 rule, Expression for corresponding error terms. Numerical solution of a system of linear equations: Gauss elimination method, Matrix inversion, LU Factorization method, Gauss-Seidel iterative method. Numerical solution of Algebraic equation: Bisection method, Regula-Falsi method, Newton-Raphson method. Numerical solution of ordinary differential equation: Euler's method, Runge-Kutta methods, Predictor-Corrector methods and Finite Difference method.	4 5 3 6 4 6	
3	**Z transform:** Sequence, Representation of sequence, Basic operations on sequences, Z-transforms, Properties of Z-transforms, Change of scale, Shifting property, Inverse Z-transform, Solution of difference equation , Region of convergence.	4	

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course		**BIOLOGY FOR ENGINEERS**	
Course Code: BS- 301		**Semester: 3rd**	
Duration: 6 months		**Maximum Marks: 100**	
Teaching Scheme		**Examination Scheme**	
Theory: 3 hrs/week		Mid Semester Exam: 15 Marks	
Tutorial: 0 hr/week		Assignment & Quiz: 10 Marks	
Practical: 0 hrs/week		Attendance: 05 Marks	
Credit Points: 3		End Semester Exam: 70 Marks	
Objective:			
1.	To introduce modern biology with an emphasis on evolution of biology as a multi-disciplinary field.		
2.	To make students aware of application of engineering principles in biology and engineering robust solution inspired by biological examples.		
Pre-Requisite			
1.	NIL		
Unit	Content	Hrs	Marks
1	Darwinian evolution, molecular perspective and classification, Phylogenetic trees, study of inter- and intra -species relationships.	3	
2	Cellular structure and function, cellular assembly and central dogma of molecular Biology.	6	
3	Organismal physiology-Energy and energetic constraints.	3	
4	3 D structure and function of large biological molecules.	3	
5	Techniques in bio physics and bio chemistry	3	
6	Immunology- Self vs Non-self, pathogens, human immune system, antigen-antibody reactions.	6	
7	Infectious disease Biology and vaccines.	4	
8	Cancer biology, gene regulation, aging, apoptosis and stem cell.	6	
9	Environmental bio-safety, bioresources, biodiversity.	2	
10	Drug design	2	
11	Engineering design inspired by examples in biology	2	

Text books:

1. Essential of Genetics, Miko, I & LeJeune, L, Cambridge, MA, NPG Education, 2009.

2. Essential of Cell Biology, O'Connor, C.M % Adam, J,U, Cambridge, MA, NPG Education, 2010.

3. Molecular Biology of the Gene, Warson JD, Baker, TA, Bell SP, Gann A, Levin M, Losick R, Pearson Education, 2004.

Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course	**INDIAN CONSTOTUTION**
Course Code: MC-EE 301	**Semester: 3rd**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs/week	Mid Semester Exam: 15 Marks
Tutorial: 0 hr/week	Assignment & Quiz: 10 Marks
Practical: 0 hrs/week	Attendance: 05 Marks
Credit Points: 0	End Semester Exam: 70 Marks

Objective:	
1.	To have basic idea about Indian Constitution.
2.	To understand the structure and functioning of union, state and local self-government.
3.	To understand the structure, jurisdiction and function of Indian judiciary.
Pre-Requisite	
1.	NIL

Unit	Content	Hrs	Marks
1	**Indian Constitution:** Sources and constitutional history, Features: Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy	5	
2	**Union government and its administration:** Structure of the Indian Union: Federalism, Centre- State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha. **State government and its administration:** Governor: Role and Position, CM and Council of ministers, State Secretariat: Organisation, Structure and Functions	10	
3	**Supreme court:** Organization of supreme court, procedure of the court, independence of the court, jurisdiction and power of supreme court. **High court:** Organization of high court, procedure of the court, independence of the court, jurisdiction and power of supreme court. **Subordinate courts:** constitutional provision, structure and jurisdiction. National legal services authority, Lok adalats, family courts, gram nyayalays. Public interest litigation (PIL): meaning of PIL, features of PIL, scope of PIL, principle of PIL, guidelines for admitting PIL	10	

4	**Local Administration:** District's Administration head: Role and Importance, Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation, Pachayati raj: Introduction, PRI: Zila Pachayat, Elected officials and their roles, CEO Zila Pachayat: Position and role, Block level: Organizational Hierarchy (Different departments), Village level: Role of Elected and Appointed officials, Importance of grass root democracy.	10	

Text books:

1. Indian polity, M, Laxmikanth, MC Graw Hill education, 5th Edition.