

PRASAD V POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous)



ACADEMIC RULES & REGULATIONS (PVP19)

and

FOUR YEAR B.Tech Course Structure, First Year Syllabus

Applicable for the batch of students admitted from the Academic Year 2019-2020

Mechanical Engineering

PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous)

AICTE approved, NBA & NAAC Accredited, An ISO 9001:2015 certified Institution
Permanently Affiliated to Jawaharlal Nehru Technological University

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w.e.f. A.Y 2019 – 2020

B.Tech

COURSE STRUCTURE

Prasad V. Potluri Siddhartha Institute of Technology

**Course Structure for B. Tech under PVP19 regulations
(Effective from Academic Year 2019-20)**

DEPARTMENT OF MECHANICAL ENGINEERING

I B. TECH – I SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19HS1101	Communicative English I	2	0	0	2	30	70	100
19BS1101	Engineering Mathematics I (Calculus and Algebra)	3	0	0	3	30	70	100
19BS1102	Chemistry of Materials	3	0	0	3	30	70	100
19ES1102	Problem Solving and Programming	3	1	0	4	30	70	100
19HS1151	Communicative English I Lab	0	0	3	1.5	25	50	75
19BS1151	Chemistry of Materials Lab	0	0	3	1.5	25	50	75
19ES1152	Problem Solving and Programming Lab	0	0	3	1.5	25	50	75
19ES1153	Basic Workshop	0	0	3	1.5	25	50	75
19MC1151	NCC/NSS/YOGA/Activity Clubs	0	0	2	0	100		100
Total		11	1	14	18	320	480	800

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DEPARTMENT OF MECHANICAL ENGINEERING

I B.TECH - II SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19HS1201	Communicative English II	2	0	0	2	30	70	100
19BS1201	Engineering Mathematics II (ODE,PDE and Multivariable Calculus)	3	0	0	3	30	70	100
19BS1204	Applied Physics	3	0	0	3	30	70	100
19ES1201	Basic Electrical and Electronics Engineering	3	1	0	4	30	70	100
19ES1203	Engineering Graphics	1	0	3	2.5	30	70	100
19HS1251	Communicative English II Lab	0	0	3	1.5	25	50	75
19BS1252	Applied Physics Lab	0	0	3	1.5	25	50	75
19ES1251	Basic Electrical and Electronics Engineering Lab	0	0	3	1.5	25	50	75
19ME3251	Mechanical Engineering Workshop	0	0	3	1.5	25	50	75
19MC1251	NCC/NSS/YOGA/Activity Clubs	0	0	2	0	100		100
Total		12	1	17	20.5	350	550	900

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II B. TECH – I SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19BS1301	Engineering Mathematics III (PDE, Complex Variables and Transform Techniques)	3	0	0	3	30	70	100
19BS1303	Life Sciences for Engineers	2	0	0	2	30	70	100
19ES1302	Design Thinking & Product Innovation	2	0	0	2	30	70	100
19ME3301	Engineering Mechanics	2	1	0	3	30	70	100
19ME3302	Engineering Thermodynamics	2	1	0	3	30	70	100
19ME3303	Material Science and Engineering	3	0	0	3	30	70	100
19MC1301	Environmental Sciences	3	0	0	0	100		100
19BS1351	Life Sciences for Engineers Lab	0	0	2	1	25	50	75
19ES1352	Design Thinking & Product Innovation Lab	0	0	2	1	25	50	75
19ME3351	Computer Aided Machine Drawing	1	0	3	2.5	25	50	75
Total		18	2	7	20.5	355	570	925

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II B.TECH - II SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19BS1401	Engineering Mathematics-IV (Numerical Methods, Probability and Statistics)	3	0	0	3	30	70	100
19ES1401	AI Tools	2	0	0	2	30	70	100
19ME3401	Strength of Materials	3	1	0	4	30	70	100
19ME3402	Applied Thermodynamics	2	1	0	3	30	70	100
19ME3403	Fluid Mechanics	3	1	0	4	30	70	100
19ME3404	Manufacturing Processes	3	0	0	3	30	70	100
19MC1402	Constitution of India	3	0	0	0	100		100
19ES1451	AI Tools Lab	0	0	2	1	25	50	75
19ME3451	Applied Thermodynamics Lab	0	0	3	1.5	25	50	75
19ME3452	Fluid Mechanics Lab	0	0	3	1.5	25	50	75
Total		19	3	8	23	355	570	925

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III B. TECH – I SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19ES1501	Internet of Things	2	0	0	2	30	70	100
19ME3501	Metal Cutting and Machine Tools	3	0	0	3	30	70	100
19ME4501	Program Elective-I	3	0	0	3	30	70	100
19ME3502	Mechanics of Machinery	3	1	0	4	30	70	100
	Interdisciplinary Elective I	3	0	0	3	30	70	100
	Open Elective I	3	0	0	3	30	70	100
19ES1552	Internet of Things Lab	0	0	2	1	25	50	75
19ME3551	Material testing and characterization Lab	0	0	3	1.5	25	50	75
19ME3552	Manufacturing Technology Lab	0	0	3	1.5	25	50	75
	Total	17	1	8	22	255	570	825

III B.TECH - II SEMESTER

Final Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19HS1601	Engineering Economics and Management	3	0	0	3	30	70	100
19ME3601	Heat and Mass Transfer:	3	1	0	4	30	70	100
19ME4601	Program Elective-II	3	0	0	3	30	70	100
19ME3602	Design of Machine Elements	3	1	0	4	30	70	100
19ME4602	Program Elective-III	3	0	0	3	30	70	100
19MC1601	Engineering Ethics	3	0	0	0	100		100
	Open Elective II	3	0	0	3	30	70	100
19ME3651	CAD/ CAM Lab	0	0	3	1.5	25	50	75
19ME3652	Heat and Mass Transfer Lab	0	0	3	1.5	25	50	75
	Total	21	2	6	23	330	520	850

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IV B. TECH – I SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19HS1702	Operations Research	3	0	0	3	30	70	100
19ME3701	Measurements and Metrology	3	0	0	3	30	70	100
19ME4701	Program Elective-IV	3	0	0	3	30	70	100
19ME4702	Program Elective-V	3	0	0	3	30	70	100
	Interdisciplinary Elective II	3	0	0	3	30	70	100
19ME3751	Measurements and Metrology Lab	0	0	2	1	25	50	75
19ME3761	Project Phase-I	0	0	4	2	100		100
19ME3771	Industrial Training/Internship/Research Projects in National Laboratories/Academic Institutions				2	75		75
Total		15	0	6	20	350	400	750

IV B.TECH - II SEMESTER

Course Code	Title	L	T	P	Credits	Internals	Externals	Total
19ME4801	Program Elective-VI	3	0	0	3	30	70	100
	Inter Disciplinary Elective III	3	0	0	3	30	70	100
19ME3861	Project Phase-II	0	0	14	7	100	100	200
Total		6	0	14	13	160	240	400

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Inter Disciplinary Electives

Offered By	Subject	Course Code	Title	L	T	P	Credits	Internals	Externals	Total
CSE	Inter Disciplinary Elective-I	19CS2501C	Data Base Management Systems	3	0	0	3	30	70	100
MBA	Inter Disciplinary Elective-I	19HS2501C	Quantitative Techniques for Management	3	0	0	3	30	70	100
IT	Inter Disciplinary Elective-I	19IT2501C	OOP with C++	3	0	0	3	30	70	100
ME	Inter Disciplinary Elective-I	19ME2501A	Computational methods	3	0	0	3	30	70	100
EEE	Inter Disciplinary Elective-II	19EE2701C	Renewable Energy Resources	3	0	0	3	30	70	100
IT	Inter Disciplinary Elective-II	19IT2701C	Web Technologies	3	0	0	3	30	70	100
ME	Inter Disciplinary Elective-II	19ME2701B	Optimization Techniques	3	0	0	3	30	70	100
ME	Inter Disciplinary Elective-II	19ME2701C	Project Management & Optimization	3	0	0	3	30	70	100
CSE	Inter Disciplinary Elective-III	19CS2801D	Introduction to Python Programming	3	0	0	3	30	70	100
ECE	Inter Disciplinary Elective-III	19EC2801B	Instrumentation and Sensor Technologies of Civil Engineering Applications	3	0	0	3	30	70	100
MBA	Inter Disciplinary Elective-III	19HS2801A	Logistics and Supply Chain Management	3	0	0	3	30	70	100
ME	Inter Disciplinary Elective-III	19ME2801B	Total Quality Management	3	0	0	3	30	70	100

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Open Electives

Subject	Course Code	Title	L	T	P	Credits	Internals	Externals	Total
Open Elective I	19ES5501A	Biotechnology and Society	3	0	0	3	30	70	100
Open Elective I	19ES5501B	Electrical Safety	3	0	0	3	30	70	100
Open Elective I	19ES5501C	Fundamentals of Cyber Law	3	0	0	3	30	70	100
Open Elective I	19ES5501D	Environment and Ecology	3	0	0	3	30	70	100
Open Elective I	19HS5501A	Contemporary Relevance of Indian Epics	3	0	0	3	30	70	100
Open Elective I	19HS5501B	Indian National Movement	3	0	0	3	30	70	100
Open Elective I	19HS5501C	Engineering for Community Service	3	0	0	3	30	70	100
Open Elective I	19HS5501D	Personality Development	3	0	0	3	30	70	100
Open Elective I	19HS5501E	Introduction to International Business	3	0	0	3	30	70	100
Open Elective I	19HS5501F	Gandhian Philosophy	3	0	0	3	30	70	100
Open Elective I	19HS5501G	Indian History	3	0	0	3	30	70	100
Open Elective II	19ES5601A	Environmental Management	3	0	0	3	30	70	100
Open Elective II	19ES5601B	Telecommunication for Society	3	0	0	3	30	70	100
Open Elective II	19HS5601A	German for Beginners	3	0	0	3	30	70	100
Open Elective II	19HS5601B	Chinese for Beginners	3	0	0	3	30	70	100
Open Elective II	19HS5601C	Analytical Essay Writing	3	0	0	3	30	70	100
Open Elective II	19HS5601D	Indian Economy	3	0	0	3	30	70	100
Open Elective II	19HS5601E	Public Administration	3	0	0	3	30	70	100
Open Elective II	19HS5601F	National Service Scheme	3	0	0	3	30	70	100
Open Elective II	19HS5601G	Professional Communication	3	0	0	3	30	70	100
Open Elective II	19HS5601H	Basics of Finance	3	0	0	3	30	70	100
Open Elective II	19HS5601I	Basics of Marketing	3	0	0	3	30	70	100

