

2017-2018

Bachelor of Technology
Scheme of Studies/Examination

Syllabus

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B. TECH 1ST YEAR (SEMESTER-I) COMMON FOR ALL BRANCHES (2014-2015)

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)			Duration of Exam (Hrs)	
						Major Test	Minor Test	Practical(Major Test)		Total
1	AS-101	Applied Physics-I	4:0:0	4	4	75	25	0	100	3
2-A	AS-103	Applied Chemistry	4:0:0	4	4	75	25	0	100	3
2-B	ME-101	Manufacturing Technology and Processes	3:0:0	3	3	75	25	0	100	3
3	AS-105	Applied Mathematics-I	4:1:0	5	4.5	75	25	0	100	3
4-A	HS-101	Technical Communication	3:0:0	3	3	75	25	0	100	3
4-B	BT-101	Fundamental of Biotechnology	3:0:0	3	3	75	25	0	100	3
5-A	ME-105	Engg. Drawing and Graphics	0:0:3	3	1.5	75	25	0	100	3
5-B	ECE - 101/ME-103/CE-101	Basics of Electronics Engg./Basics of Mechanical Engg./Basics of Civil Engg.	3:0:0	3	3	75	25	0	100	3
6-A	EE-101	Electrical Technology Fundamentals	4:2:0	6	5	75	25	0	100	3
6-B	CSE-101	Introduction to Computer Programming	3:0:0	3	3	75	25	0	100	3
7	AS-107	Applied Physics Lab -1	0:0:2	2	1		20	30	50	3
8-A	AS-109	Applied Chemistry Lab	0:0:2	2	1		20	30	50	3
8-B	ME-107	Engg. Workshop	0:0:3	3	1.5		20	30	50	3
9-A	EE-103	Electrical Technology Lab	0:0:2	2	1		20	30	50	3
9-B	CSE-103	Computer Programming Lab	0:0:2	2	1		20	30	50	3
10-B	ECE-103/ ME-109/ CE-103	Basic Electronics Lab/ Basic Mechanical Lab/ Basic Civil Lab	0:0:2	2	1		20	30	50	3
Total						450	210/230	90/120	750A/800B	

2018

OR

Signature

Director (UJET)
Kurukshetra University
KURUKSHETRA-136119

Bachelor of Technology
Scheme of Studies/Examination

B. TECH 1ST YEAR (SEMESTER-II) COMMON FOR ALL BRANCHES (2014-2015)

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical (Major Test)	Total	
1	AS-102	Applied Physics-I	4:0:0	4	4	75	25	0	100	3
2-A	AS-103	Applied Chemistry	4:0:0	4	4	75	25	0	100	3
2-B	ME-101	Manufacturing Technology and Processes	3:0:0	3	3	75	25	0	100	3
3	AS-104	Applied Mathematics-II	4:1:0	5	4.5	75	25	0	100	3
4-A	HS-101	Technical Communication	3:0:0	3	3	75	25	0	100	3
4-B	BT-101	Fundamental of Biotechnology	3:0:0	3	3	75	25	0	100	3
5-A	ME-105	Engg. Drawing and Graphics	0:0:3	3	1.5	75	25	0	100	3
5-B	ECE - 101/ME-103/CE-101	Basics of Electronics Engg./Basics of Mechanical Engg./Basics of Civil Engg.	3:0:0	3	3	75	25	0	100	3
6-A	EE-101	Electrical Technology Fundamentals	4:2:0	6	5	75	25	0	100	3
6-B	CSE-101	Introduction to Computer Programming	3:0:0	3	3	75	25	0	100	3
7	AS-106	Applied Physics Lab -I	0:0:2	2	1		20	30	50	3
8-A	AS-109	Applied Chemistry Lab	0:0:2	2	1		20	30	50	3
8-B	ME-107	Engg. Workshop	0:0:3	3	1.5		20	30	50	3
9-A	EE-103	Electrical Technology Lab	0:0:2	2	1		20	30	50	3
9-B	CSE-103	Computer Programming Lab	0:0:2	2	1		20	30	50	3
10-B	ECE-103/ ME-109/ CE-103	Basic Electronics Lab/ Basic Mechanical Lab/ Basic Civil Lab	0:0:2	2	1		20	30	50	3
		Total	19:02:9\20:01:9	31,30	25\25.5	450	210\230	90\120	750A\800B	

Bachelor of Technology (Electronics & Communication Engineering)

Scheme of Studies/Examination

Semester III

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)			Duration of Exam (Hrs)	
						Major Test	Minor Test	Practical (Major Test)		
1	AS-201	Applied Mathematics-III	3:1:0	4	3.5	75	25	0	100	3
2	ECE-201	Signals & Systems	3:1:0	4	3.5	75	25	0	100	3
3	ECE-203	Electronic Devices	4:0:0	4	4	75	25	0	100	3
4	ECE-205	Network Analysis & Synthesis	4:0:0	4	4	75	25	0	100	3
5	ECE-207	Digital Electronics	3:1:0	4	3.5	75	25	0	100	3
6	ECE-209	Analog Communication	4:0:0	4	4	75	25	0	100	3
7	ECE-211	Signals & Systems Lab	0:0:3	3	1.5	0	40	60	100	3
8	ECE-213	Digital Electronics Lab	0:0:3	3	1.5	0	40	60	100	3
9	ECE-215	Analog Communication lab	0:0:3	3	1.5	0	40	60	100	3
		Total		33	27.0	450	270	180	800	
10	*MPC-201	Environmental Studies	3:0:0	3	0	75	25	0	100	3

* MPC-201 is a mandatory course which will be a non credit subject and student has to get pass marks in order to qualify for the Degree award.

Bachelor of Technology (Electronics & Communication Engineering)
Scheme of Studies/Examination
Semester IV

S.No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical (Major Test)	Total	
1	AS-206	Numerical Analysis	4:0:0	4	4	75	25	0	100	3
2	ECE-202	Data Structures & Algorithms	3:1:0	4	3.5	75	25	0	100	3
3	ECE-204	Electronic Measurement & Instruments	4:0:0	4	4	75	25	0	100	3
4	ECE-206	Electromagnetic Theory	3:1:0	4	3.5	75	25	0	100	3
5	ECE-208	Analog Electronics	3:1:0	4	3.5	75	25	0	100	3
6	ECE-210	Computer Architecture & Organization	3:0:0	3	3	75	25	0	100	3
7	ECE-212	Data Structures Lab	0:0:3	3	1.5	0	40	60	100	3
8	ECE-214	Electronic Measurement & Instruments Lab	0:0:3	3	1.5	0	40	60	100	3
9	ECE-216	Analog Electronics lab	0:0:3	3	1.5	0	40	60	100	3
		Total		32	26	450	270	180	900	
10	*MPC 202	Energy Studies	3:0:0	3	0	75	25		100	3

* MPC-202 is a mandatory course which will be a non credit subject and student has to get pass marks in order to qualify for the Degree award.

Bachelor of Technology (Electronics & Communication Engineering)
Scheme of Studies/Examination
Semester V

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)			Duration of Exam (Hrs)	
						Major Test	Minor Test	Practical (Major Test)		Total
1	ECE - 301	Microprocessors & Interfacing	3:1:0	4	3.5	75	25	0	100	3
2	HS-303	Business Intelligence & Entrepreneurship	4:0:0	4	4	75	25	0	100	3
3	ECE-303	Antenna & Wave Propagation	3:1:0	5	3.5	75	25	0	100	3
4	ECE-305	VLSI Technology	4:0:0	4	4	75	25	0	100	3
5	CSE-309	Essentials of Information Theory	4:0:0	4	4	75	25	0	100	3
6	ECE-307	Control Systems Engg	4:1:0	5	4.5	75	25	0	100	3
7	ECE-309	Microprocessors & Interfacing Lab	0:0:3	3	1.5	0	40	60	100	3
8	ECE-311	Design Automation Lab	0:0:3	3	1.5	0	40	60	100	3
9	ECE-313	Antenna & Wave Propagation Lab	0:0:3	3	1.5	0	40	60	100	3
10	ECE-315*	Personality & Soft Skills Development	2:0:0	2	2	0	100	0	100	3
		Total		35	30	450	370	180	1000	

* The student will be evaluated on the basis of technical seminar and technical writing/reading skills for 1 credit each

Bachelor of Technology (Electronics & Communication Engineering)
Scheme of Studies/Examination
Semester VI

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)			Duration of Exam (Hrs)	
						Major Test	Minor Test	Practical (Major Test)		Total
1	ECE-302	Digital Processing Signal	4:1:0	5	4.5	75	25	0	100	3
2	ECE-304	Digital Design Using Verilog	3:1:0	4	3.5	75	25	0	100	3
3	ECE-306	Digital Communication	4:1:0	5	4.5	75	25	0	100	3
3	HS-302	Fundamentals of Management	4:0:0	4	4	75	25	0	100	3
5	ECE-308	Computer Communication Network	4:0:0	4	4	75	25	0	100	3
6	ECE-310	Digital Processing lab Signal	0:0:3	3	1.5	0	40	60	100	3
7	ECE-312	Digital Design Using Verilog Lab	0:0:3	3	1.5	0	40	60	100	3
8	ECE-314	Digital Communication lab	0:0:3	3	1.5	0	40	60	100	3
9	ECE-316*	Personality & Soft Skills Development 2	2:0:0	2	2	0	100	0	100	3
		Total		33	27	375	345	180	900	

* The student will be evaluated on the basis of technical seminar and technical group discussions for 1 credit each

Bachelor of Technology (Electronics & Communication Engineering)
Scheme of Studies/Examination

Semester VII

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)			Duration of Exam (Hrs)	
						Major Test	Minor Test	Practical (Major Test)		Total
1	ECE-401	Microcontroller & Embedded Systems Design	3:0:0	3	3	75	25	0	100	3
2	ECE-403	Digital Image Processing	4:0:0	4	4	75	25	0	100	3
4	ECE-405	Power Electronics	3:0:0	3	3	75	25	0	100	3
4		Core Elective - I**	3:0:0	3	3	75	25	0	100	3
5		Core Elective - II**	3:0:0	3	3	75	25	0	100	3
6		Microcontroller & Embedded Systems Design Lab	0:0:3	3	1.5	0	40	60	100	3
7	ECE-407	Digital Image Processing Lab	0:0:3	3	1.5	0	40	60	100	3
8	ECE-411***	Project-1	0:0:10	10	5	0	100	100	200	3
9	ECE-413*	Industrial Studies 1 Case	2:0:0	2	2	0	100	0	100	
		Total		34	26	375	405	220	1000	

* The performance of the student will be evaluated by the presentation delivered and the report submitted by the student related to Industrial/Research problems & its suggested solutions.

** The students should select two departmental electives subjects from the list of core elective subjects.

***The project should be initiated by the student in the 7th semester beginning and will be evaluated In the end of the semester on the basis of a presentation and Report.

Bachelor of Technology (Electronics & Communication Engineering)
Scheme of Studies/Examination
Semester VIII

S.No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)			Total	Duration of Exam (Hrs)
						Major Test	Minor Test	Practical (Major Test)		
1	ECE-402	Wireless & Mobile Communication	4:0:0	4	4	75	25	0	100	3
2	ECE-404	Microwave Engineering	3:0:0	3	3	75	25	0	100	3
3		Core Elective - III**	3:0:0	3	3	75	25	0	100	3
4		Core Elective - IV**	3:0:0	3	3	75	25	0	100	3
5	ECE-406***	Project-II	0:0:14	14	7	0	100	100	200	3
6	ECE-408	Wireless & Mobile communication lab	0:0:3	3	1.5	0	40	60	100	3
7	ECE-410	Microwave Engineering Lab	0:0:3	3	1.5	0	40	60	100	3
8	ECE-412*	Seminar & Report Writing	2:0:0	2	2	0	100	0	100	3
		Total		35	25				900	
9	ECE-440****	General Fitness & Professional Aptitude							100	3

* The performance of the student will be evaluated by the presentation delivered and the report submitted by the student related to Industrial/Research problems & its suggested solutions.

** The students should opt two departmental electives subjects from the list of core elective subjects.

***The project should be initiated by the student in continuation of the 7th semester and will be evaluated In the end of the semester on the basis of a presentation and Report.

**** A viva of the students will be taken by external examiner (Principa/Director/Professor/or any senior Person with Experience more than 10 years) at the end of the semester and grades will be given according to the grade chart.

S. No.		Core Electives-7th Sem.		S. No.		Core Electives-8th Sem.	
1	ECE-415	Advance Communication	Digital	1	ECE-414	DSP Processor	
2	ECE-417	Nano Electronics		2	ECE-416	Mobile Communication Networks	
3	ECE-419	Optical Communications		3	ECE-418	MEMS	
4	ECE-421	Adaptive Processing	Signal	4	ECE-420	Transducers & Its Applications	
5	ECE-423	Satellite Communication		5	ECE-422	Radar Engineering	
6	ECE-425	Digital VLSI Design		6	ECE-424	High Frequency Systems	Circuit and
7	ECE-427	Analog Design	CMOS IC	7	ECE-426	Biomedical Signal Processing	
8	ECE-429	Consumer Electronics		8	ECE-428	Multimedia Communications	
9	ECE-431	Robotics		9	ECE-430	Mixed VLSI Design	
10	ECE-433	Non-Conventional Energy Resources		10	ECE-432	Microstrip Antenna	
11	ECE-435	Microstrip line Analysis		11	ECE-434	Strategic Electronics	
12	ECE-437	Software Defined Radios		12	ECE-436	Cognitive Radios	

**Bachelor of Technology (Mechanical Engineering) CREDIT BASED
KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Studies/Examination
Semester IV**

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical	Total	
1	HS-201	Fundamentals of Management	3:0:0	3	3.0	75	25	0	100	3
2	ME-202	Production Technology-I	4:0:0	4	4.0	75	25	0	100	3
3	ME-204	Steam Generation & Power	3:1:0	4	3.5	75	25	0	100	3
4	ME-206	Mechanics of solids-II	3:1:0	4	3.5	75	25	0	100	3
5	ME-208	Fluid Mechanics	4:1:0	5	4.5	75	25	0	100	3
6	ME-210	Dynamics of Machines	4:0:0	4	4.0	75	25	0	100	3
7	ME-212	Fluid Mechanics Lab	0:0:2	2	1.0	0	40	60	100	3
8	ME-214	Dynamics of machines lab	0:0:2	2	1.0	0	40	60	100	3
9	ME-216	Steam Generation & Power Lab	0:0:2	2	1.0	0	40	60	100	3
10	ME-218	Production Technology Lab	0:0:3	3	1.5	0	40	60	100	3
		Total		33	27.0	450	310	240	1000	
11	MPC-202	Energy Studies*	3:0:0	3	-	75	25		100	3

*Paper MPC-202 is a mandatory course which will be non-credit subject and student has to get pass marks in order to qualify the semester.

NOTE- 6 weeks hands on training to be done after IVth Semester Exams. Marks will be allotted after training report evaluation in 5th Semester.

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**Bachelor of Technology (Mechanical Engineering) CREDIT BASED
KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Studies/Examination
Semester III**

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical	Total	
1	AS-201	Applied Mathematics-III	3:1:0	4	3.5	7	25	0	100	3
2	ME-201	Basic Thermodynamics	3:1:0	4	3.5	7	25	0	100	3
3	ME-203	Mechanics of solids-I	3:1:0	4	3.5	7	25	0	100	3
4	ME-205	Machine Drawing	2:0:3	5	3.5	7	25	0	100	4
5	ME-207	Kinematic of Machines	3:1:0	4	3.5	7	25	0	100	3
6	ME-209	Material Science	4:0:0	4	4.0	7	25	0	100	3
7	ME-211	Kinematic of Machines Lab	0:0:2	2	1.0	0	40	60	100	3
8	ME-213	Material Science Lab	0:0:2	2	1.0	0	40	60	100	3
9	ME-215	Mechanics of Solids Lab	0:0:3	3	1.5	0	40	60	100	3
		Total		32	25	45	270	180	900	
10	MPC-201	Environmental Studies*	3:0:0	3	-	7	25	0	100	3

*Paper MPC-201 is a mandatory course which will be non-credit subject and student has to get pass marks in order to qualify the semester

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Bachelor of Technology (Mechanical Engineering) (Credit Based)
 KURUKSHETRA UNIVERSITY KURUKSHETRA
 Scheme of Studies/Examination
 Semester VI

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical	Total	
1	ME-302	Refrigeration and Air-Conditioning	3:1:0	4	3.5	75	25	0	100	3
2	ME-304	Mechanical Vibration & Tribology	3:1:0	4	3.5	75	25	0	100	3
4	CSE 304	Essentials of Information Technology	3:1:0	4	3.5	75	25	0	100	3
4	ME-306	Operations Research	3:1:0	4	3.5	75	25	0	100	3
5	ME-308	Computer Aided Design and Computer Aided Manufacturing	4:0:0	4	4.0	75	25	0	100	3
6	ME-310	Machine design-II	2:4:0	6	4.0	75	25	0	100	3
7	ME-312	Refrigeration and Air-Conditioning Lab	0:0:2	2	1.0	0	40	60	100	4
8	ME-314	Mechanical Vibration and Tribology Lab	0:0:2	2	1.0	0	40	60	100	3
9	ME-316	CAD/CAM Lab	0:0:2	2	1.0	0	40	60	100	3
10	CSE-314	Essentials of Information Technology Lab	0:0:2	2	1.0	0	40	60	100	3
Total				34	26	450	310	240	1000	

NOTE- 6 weeks hands on training to be done after 6th Semester Exams. Marks will be allotted after training report evaluation in 7th Semester.

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Bachelor of Technology (Mechanical Engineering) (Credit Based)
 J. J. URUKSHETRA UNIVERSITY KURUKSHETRA
 Scheme of Studies/Examination
 Semester V

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical	Total	
1	ME-301	I.C. Engines & Gas Turbines	3:1:0	4	3.5	75	25	0	100	3
2	ME-303	Fluid Machines	3:1:0	4	3.5	75	25	0	100	3
4	HS-303	Business Intelligence & Entrepreneurship	4:0:0	4	4.0	75	25	0	100	3
4	ME-305	Heat Transfer	3:1:0	4	3.5	75	25	0	100	3
5	ME-307	Machine Design - I	2:4:0	6	4.0	75	25	0	100	3
6	ME-309	Production Technology-II	3:1:0	4	3.5	75	25	0	100	3
7	ME-311	I.C. Engines Lab	0:0:2	2	1.0	0	40	60	100	3
8	ME-313	Fluid Machines Lab	0:0:2	2	1.0	0	40	60	100	3
9	ME-315	Heat Transfer Lab	0:0:2	2	1.0	0	40	60	100	3
10	ME-317	Industrial Training (Viva-Voce)					40	60	100	
Total				32	25.0	450	310	240	1000	

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Bachelor of Technology (Mechanical Engineering) (Credit Based)
KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Studies/Examination

Semester VII

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical	Total	
1	ME-401	Measurement and Control	4:0:0	4	4.0	75	25	0	100	3
2	ME-403	Mechatronics	4:0:0	4	4.0	75	25	0	100	3
3	ME-405	Industrial Engineering	4:0:0	4	4.0	75	25	0	100	3
4	CE-I	Elective - I*	4:0:0	4	4.0	75	25	0	100	3
5	CE-II	Elective - II*	3:0:0	3	3.0	75	25	0	100	3
6	ME-407	Measurement & Control Lab	0:0:2	2	1.0	0	40	60	100	3
7	ME-409	Mechatronics Lab	0:0:2	2	1.0	0	40	60	100	3
8	ME-411	Project-1**	0:0:8	8	4.0	0	100	100	200	
9	ME-413	Industrial Training (Viva-voce)					40	60	100	
10	ME-415	Seminar-I	0:0:2	2	1.0		50	50	100	
		Total		33	26.0	375	395	330	1100	

*The students will chose any two departmental electives courses out of the given elective list in VII Sem.

**Project-1 is to be submitted in the 7th semester itself. Project-I should not be related to Project-II unless it involves large amount of work, time and effort.

Course No.	Elective - I (CE-I)	Course No.	Elective - II (CE-II)
ME-417	Non-Conventional Machining	ME-429	Finite Element Methods in Engineering
ME-419	Soft Computing Techniques	ME-431	Advanced Manufacturing Technology
ME-421	Non-Destructive Evaluation & Testing	ME-433	Robotics: Mechanics and Control
ME-423	Design and Optimization	ME-435	Simulation of Mechanical Systems
ME-425	Computational Fluid Dynamics	ME-437	Control Engineering
ME-427	Fundamentals of Gas Dynamics	ME-439	Environmental Pollution and Abatement

Bachelor of Technology (Mechanical Engineering) (Credit Based)
KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Studies/Examination
Semester VIII

2

S. No.	Course No.	Subject	L:T:P	Hours/Week	Credits	Examination Schedule (Marks)				Duration of Exam. (Hrs.)
						Major Test	Minor Test	Practical	Total	
1	ME-402	Automobile Engineering	4:0:0	4	4.0	75	25	0	100	3
2	CE-III	Elective* - III	4:0:0	4	4.0	75	25	0	100	3
3	CE-IV	Elective* - IV	4:0:0	4	4.0	75	25	0	100	3
4	ME-404	Power Plant Engineering	4:0:0	4	4.0	75	25	0	100	3
5	ME-406	Quality Assurance & Reliability	4:0:0	4	4.0	75	25	0	100	3
6	ME-408	Automobile Engineering Lab	0:0:2	2	1.0	0	40	60	100	3
7	ME-410	Project-II	0:0:10	10	5.0		100	100	200	
8	ME-412	Seminar-II	0:0:2	2	1.0	0	100	0	100	
		Total		34	27.0	375	365	160	900	

*The students will chose any two Departmental Elective courses out of the given elective list in VIII Sem. Project-I should not be related to Project-II unless it involves large amount of work, time and effort.

Course No.	Elective - III (CE-III)	Course No.	Elective - IV (CE-IV)
ME-414	Smart Materials, Structures & Devices	ME-426	Manufacturing Management
ME-416	Lubrication Technology	ME-428	Design of Pressure Vessels and Piping
ME-418	Energy Management	ME-430	Concurrent Engineering
ME-420	Waste Heat Recovery System	ME-432	Industrial Combustion
ME-422	Foundry Engineering	ME-434	Metal Forming and Finishing
ME-424	Ergonomics in Design	ME-436	Air Craft and Rocket Propulsion