



**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

**Curriculum  
for  
B.Tech Degree  
Semesters III to VIII  
2016**

**Mechanical Engineering**

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

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## BRANCH: *Mechanical Engineering*

### SEMESTER - 3

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra & Complex Analysis	3-1-0	4	A
ME201	Mechanics of Solids	3-1-0	4	B
ME203	Mechanics of Fluids	3-1-0	4	C
ME205	Thermodynamics	3-1-0	4	D
ME210	Metallurgy & Materials Engineering	3-0-0	3	E
HS200/ HS210	Business Economics/Life Skills	3-0-0/ 2-0-2	3	F
ME231	Computer Aided Machine Drawing Lab	0-0-3	1	S
CE230	Material Testing Lab	0-0-3	1	T

**Total Credits = 24**

**Hours: 28/29**

**Cumulative Credits= 71**

### SEMESTER - 4

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
ME202	Advanced Mechanics of Solids	3-1-0	4	B
ME204	Thermal Engineering	3-1-0	4	C
ME206	Fluid Machinery	2-1-0	3	D
ME220	Manufacturing Technology	3-0-0	3	E
HS210/ HS200	Life Skills/Business Economics	2-0-2/ 3-0-0	3	F
ME232	Thermal Engineering Lab	0-0-3	1	S
ME230	Fluid Mechanics & Machines Lab	0-0-3	1	T

**Total Credits = 23**

**Hours 28/27**

**Cumulative Credits= 94**

## BRANCH: *Mechanical Engineering*

SEMESTER - 5

Course Code	Course Name	L-T-P	Credits	Exam Slot
ME301	Mechanics of Machinery	3-1-0	4	A
ME303	Machine Tools and Digital Manufacturing	3-0-0	3	B
ME305	Computer Programming & Numerical Methods	2-0-1	3	C
EE311	Electrical Drives & Control for Automation	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	<b>Elective 1</b>	3-0-0	3	F
ME341	Design Project	0-1-2	2	S
EE335	Electrical and Electronics Lab	0-0-3	1	T
ME331	Manufacturing Technology Lab I	0-0-3	1	U

**Total Credits = 23**

**Hours: 28**

**Cumulative Credits= 117**

- Elective 1:-**
1. ME361 Advanced Fluid Mechanics
  2. ME363 Composite Materials and Mechanics
  3. ME365 Advanced Metal Casting
  4. ME367 Non-Destructive Testing
  5. ME369 Tribology
  6. ME371 Nuclear Engineering
  7. ME373 Human Relations Management

## BRANCH: *Mechanical Engineering*

SEMESTER - 6

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
ME302	Heat & Mass Transfer	3-1-0	4	A
ME304	Dynamics of Machinery	2-1-0	3	B
ME306	Advanced Manufacturing Technology	3-0-0	3	C
ME308	Computer Aided Design and Analysis	3-0-0	3	D
ME312	Metrology and Instrumentation	3-0-0	3	E
	<b>Elective 2</b>	3-0-0	3	F
ME332	Computer Aided Design and Analysis Lab	0-0-3	1	S
ME334	Manufacturing Technology Lab II	0-0-3	1	T
ME352	Comprehensive Exam	0-1-1	2	U

**Total Credits = 23**

**Hours: 27**

**Cumulative Credits= 140**

### **Elective 2:-**

1. ME362 Control System Engineering
2. ME364 Turbo Machinery
3. ME366 Advanced Metal Joining Technology
4. ME368 Marketing Management
5. ME372 Operations Research
6. ME374 Theory of Vibration
7. ME376 Maintenance Engineering

## BRANCH: *Mechanical Engineering*

SEMESTER - 7

Course Code	Course Name	L-T-P	Credits	Exam Slot
ME401	Design of Machine Elements I	3-1-0	4	A
ME403	Advanced Energy Engineering	3-0-0	3	B
ME405	Refrigeration and Air Conditioning	2-1-0	3	C
ME407	Mechatronics	3-0-0	3	D
ME409	Compressible Fluid Flow	2-1-0	3	E
	<b>Elective 3</b>	3-0-0	3	F
ME451	Seminar & Project Preliminary	0-1-4	2	S
ME431	Mechanical Engineering Lab	0-0-3	1	T

**Total Credits = 22**

**Hours: 27**

**Cumulative Credits= 162**

### Elective 3:-

1. ME461 Aerospace Engineering
2. ME463 Automobile Engineering
3. ME465 Industrial Hydraulics
4. IE306 Supply Chain and Logistics Management
5. ME467 Cryogenic Engineering
6. ME469 Finite Element Analysis
7. ME471 Optimization Techniques

## BRANCH: *Mechanical Engineering*

SEMESTER - 8

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
ME402	Design of Machine Elements II	3-0-0	3	A
ME404	Industrial Engineering	3-0-0	3	B
	<b>Elective 4</b>	3-0-0	3	C
	<b>Elective 5 (Non Departmental)</b>	3-0-0	3	D
ME492	Project		6	S

**Total Credits = 18**

**Hours: 30**

**Cumulative Credits= 180**

### **Elective 4:-**

1. ME462 Propulsion Engineering
2. ME464 Robotics and Automation
3. ME466 Computational Fluid Dynamics
4. ME468 Nanotechnology
5. ME472 Failure Analysis and Design
6. ME474 Micro and Nano Manufacturing
7. ME476 Material Handling & Facilities Planning

## **ELECTIVE 5 (NON DEPARTMENTAL ELECTIVE COURSES)**

*(Note:- If a student has studied or chosen the elective course given within the brackets then the corresponding ND elective cannot be chosen)*

1. AO482 FLIGHT AGAINST GRAVITY
2. AE482 INDUSTRIAL INSTRUMENTATION
3. AE484 INSTRUMENTATION SYSTEM DESIGN
4. AU484 MICROPROCESSOR AND EMBEDDED SYSTEMS
5. AU486 NOISE, VIBRATION AND HARSHNESS
6. BM482 BIOMEDICAL INSTRUMENTATION
7. BM484 MEDICAL IMAGING & IMAGE PROCESSING TECHNIQUES
8. BT461 DESIGN OF BIOLOGICAL WASTEWATER SYSTEMS
9. BT362 SUSTAINABLE ENERGY PROCESSES
10. CH482 PROCESS UTILITIES AND PIPE LINE DESIGN
11. CH484 FUEL CELL TECHNOLOGY
12. CE482 ENVIRONMENTAL IMPACT ASSESSMENT
13. CE484 APPLIED EARTH SYSTEMS
14. CE486 GEO INFORMATICS FOR INFRASTRUCTURE MANAGEMENT
15. CE488 DISASTER MANAGEMENT
16. CE494 ENVIRONMENT HEALTH AND SAFETY
17. CS482 DATA STRUCTURES
18. CS484 COMPUTER GRAPHICS
19. CS486 OBJECT ORIENTED PROGRAMMING
20. CS488 C # AND .NET PROGRAMMING
21. EE484 CONTROL SYSTEMS (ME 362/ CONTROL SYSTEM ENGINEERING)
22. EE486 SOFT COMPUTING

23. EE488 INDUSTRIAL AUTOMATION (ME464/ ROBOTICS AND AUTOMATION)
24. EE494 INSTRUMENTATION SYSTEMS
25. EC482 BIOMEDICAL ENGINEERING
26. FT482 FOOD PROCESS ENGINEERING
27. FT484 FOOD STORAGE ENGINEERING
28. FT486 FOOD ADDITIVES AND FLAVOURING
29. IE482 FINANCIAL MANAGEMENT
30. IE484 INTRODUCTION TO BUSINESS ANALYTICS
31. IE486 DESIGN AND ANALYSIS OF EXPERIMENTS
32. IE488 TOTAL QUALITY MANAGEMENT
33. IC482 BIOMEDICAL SIGNAL PROCESSING
34. IT482 INFORMATION STORAGE MANAGEMENT
35. MA482 APPLIED LINEAR ALGEBRA
36. MA484 OPERATIONS RESEARCH (ME 372/ OPERATIONS RESEARCH)
37. MA486 ADVANCED NUMERICAL COMPUTATIONS
38. MA488 CRYPTOGRAPHY
39. MP482 PRODUCT DEVELOPMENT AND DESIGN
40. MP469 INDUSTRIAL PSYCHOLOGY & ORGANIZATIONAL BEHAVIOUR
41. MP484 PROJECT MANAGEMENT
42. MT482 INDUSTRIAL SAFETY
43. FS482 RESPONSIBLE ENGINEERING
44. SB482 DREDGERS AND HARBOUR CRAFTS
45. HS482 PROFESSIONAL ETHICS