

FACULTY OF ENGINEERING & TECHNOLOGY

U.V. PATEL COLLEGE OF ENGINEERING
BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME
 Total Course : 6
 Total Elective Course : 0
 Total Audit Course : 0

Semester : I
 Total Regular Course : 6
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS1101	MATHEMATICS - I	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2BS1103	PHYSICS	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
3	2HS1101	COMMUNICATION SKILLS	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
4	2ES1101	ENGINEERING GRAPHICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2ES1102	WORKSHOP PRACTICE	0.00	2.00	2.00	4.00	-	-	0/30	0/20	50
6	2ES1106	ELEMENTS OF CIVIL ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
			14.00	6.00	20.00	26.00					750

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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U.V. PATEL COLLEGE OF ENGINEERING

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME

Total Course : 7

Total Elective Course : 1

Total Audit Course : 0

Semester : II

Total Regular Course : 6

Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS1102	MATHEMATICS - II	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2ES1103	BASIC ELECTRICAL ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ES1104	PROGRAMMING FOR PROBLEM SOLVING	2.00	2.00	4.00	6.00	0/40	0/60	0/30	0/20	150
4	2ES1105	ELEMENTS OF MECHANICAL ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2ES1107	ENGINEERING MECHANICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6	2ES1108	COMPUTER AIDED DRAWING	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
7		ELECTIVE SUBJECT - 1 (UHV_Elective-I)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
			17.00	6.00	23.00	29.00					850

List of Elective Subjects

Group Name	Course Code	Name of Course
UHV_ELECTIVE-I	UHV1IPDC1	UNIVERSAL HUMAN VALUE (INTEGRATED PERSONALITY DEVELOPMENT COURSE-1)
	UHV3DYSBG1	UNIVERSAL HUMAN VALUE (DISCOVER YOURSELF THROUGH BHAGAVAD GITA-1)

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME
 Total Course : 9
 Total Elective Course : 1
 Total Audit Course : 1

Semester : III
 Total Regular Course : 7
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2CI3111	STRENGTH OF MATERIALS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2EE3106	ELECTRICAL TECHNOLOGY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ME3101	SOLID MODELLING	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
4	2ME3102	KINEMATICS OF MACHINES	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2ME3103	ENGINEERING THERMODYNAMICS	3.00	0.00	3.00	3.00	0/40	0/60	-	-	100
6	2ME3106	MATERIAL TECHNOLOGY	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
7	2ME3107	MANUFACTURING TECHNOLOGY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
8		ELECTIVE SUBJECT - 1 (UHV_Elective-II)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
9		AUDIT SUBJECT - 1	0.00	0.00	0.00	1.00	-	-	-	-	0
			19.00	6.00	25.00	32.00					1000

List of Elective Subjects

Group Name	Course Code	Name of Course
UHV_ELECTIVE-II	UHV2IPDC2	UNIVERSAL HUMAN VALUE (INTEGRATED PERSONALITY DEVELOPMENT COURSE-2)
	UHV4DYSBG2	UNIVERSAL HUMAN VALUE (DISCOVER YOURSELF THROUGH BHAGAVAD GITA-2)

List of Audit Subjects

Group Name	Course Code	Name of Course
AUDIT	2AC3101	AUDIT COURSE

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME
 Total Course : 8
 Total Elective Course : 1
 Total Audit Course : 0

Semester : IV
 Total Regular Course : 7
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS4102	MATHEMATICS FOR MECHANICAL & MECHATRONICS ENGINEERING	3.00	0.00	3.00	3.00	0/40	0/60	-	-	100
2	2ME4101	FUNDAMENTALS OF MACHINE DESIGN	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ME4102	DYNAMICS OF MACHINES	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2ME4106	FLUID MECHANICS AND HYDRAULICS MACHINES	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2ME4107	HEAT AND MASS TRANSFER	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6	2ME4108	INDUSTRIAL ELECTRONICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
7	2HS4101	INDUSTRIAL MANAGEMENT	2.00	0.00	2.00	2.00	0/40	0/60	-	-	100
8		ELECTIVE SUBJECT - 1 (ELECTIVE-I)	2.00	0.00	2.00	2.00	0/40	0/60	-	-	100
			22.00	5.00	27.00	32.00					1050

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-I	2MEMC41	INTRODUCTION OF ADDITIVE MANUFACTURING

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME
 Total Course : 7
 Total Elective Course : 2
 Total Audit Course : 0

Semester : V
 Total Regular Course : 5
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2ME5106	VIBRATION AND BALANCING OF MACHINE	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2ME5107	CONTROL SYSTEM ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ME5108	METAL FORMING AND FABRICATION TECHNOLOGY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2ME5105	MECHANICAL MEASUREMENT AND METROLOGY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5		ELECTIVE SUBJECT - 1 (ELECTIVE-I)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (OPEN ELECTIVE-I)	2.00	0.00	2.00	2.00	0/40	0/60	-	-	100
7	2HS5201	APTITUDE & SKILL BUILDING-I	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			17.00	6.00	23.00	29.00					900

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-I	2ME51PE3	TRIBOLOGY AND SURFACE ENGINEERING
	2ME51PE4	ADDITIVE MANUFACTURING-I
	2ME51PE5	POWER PLANT ENGINEERING
	2ME51PE6	INTRODUCTION TO ARTIFICIAL INTELLIGENCE
OPEN ELECTIVE-I	2ME51OE2	ENTREPRENEURSHIP DEVELOPMENT
	2ME51OE3	OPERATION RESEARCH
	2ME51OE4	SMART MANUFACTURING

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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U.V. PATEL COLLEGE OF ENGINEERING
BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME
 Total Course : 8
 Total Elective Course : 3
 Total Audit Course : 0

Semester : VI
 Total Regular Course : 5
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2ME6107	ALTERNATE ENERGY SOURCE	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2ME6105	DESIGN OF MACHINE ELEMENTS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2MC4105	COMPUTATIONAL TOOLS	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
4		ELECTIVE SUBJECT - 1 (ELECTIVE-II)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5		ELECTIVE SUBJECT - 1 (ELECTIVE-III)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (OPEN ELECTIVE-II)	3.00	0.00	3.00	3.00	0/40	0/60	-	-	100
7	2ME6106	SEMINAR	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
8	2HS6201	APTITUDE & SKILL BUILDING-II	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			15.00	7.00	22.00	29.00					850

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-II	2ME61PE3	ADVANCE MACHINE DESIGN
	2ME61PE4	ADDITIVE MANUFACTURING-II
	2ME61PE5	REFRIGERATION ENGINEERING
ELECTIVE-III	2ME61PE6	BASICS OF MACHINE LEARNING
	2ME62PE1	COMPUTER AIDED DESIGN
	2ME62PE2	ADVANCED FOUNDRY TECHNOLOGY
	2ME62PE3	IC ENGINE
OPEN ELECTIVE-II	2ME62PE4	HYDRAULIC AND PNEUMATIC SYSTEMS
	2ME61OE1	OPTIMIZATION TECHNIQUES
	2ME61OE2	ALTERNATE FUELS AND EMISSIONS
	2ME61OE3	QUANTITY AND RELIABILITY LENGINEERING

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

FACULTY OF ENGINEERING & TECHNOLOGY

U.V. PATEL COLLEGE OF ENGINEERING

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME

Semester : VII

Total Course : 7

Total Regular Course : 6

Total Elective Course : 1

Total Open Course : 0

Total Audit Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2ME7101	TURBOMACHINERY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2ME7102	DESIGN OF MECHANICAL SYSTEM	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ME7103	PRODUCTION TECHNOLOGY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2ME7104	COMPUTER AIDED DESIGN	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5		ELECTIVE SUBJECT - 1 (ELECTIVE-I)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6	2ME7106	MINOR PROJECT	0.00	2.00	2.00	4.00	-	-	0/50	0/50	100
7	2ME7107	PRACTICAL TRAINING	0.00	2.00	2.00	0.00	-	-	0/30	0/20	50
			15.00	9.00	24.00	29.00					900

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-I	2ME71PE1	FOUNDRY TECHNOLOGY
	2ME71PE2	INTERNAL COMBUSTION ENGINE
	2ME71PE3	REFRIGERATION ENGINEERING
	2ME71PE4	HYDRAULIC AND PNEUMATIC SYSTEMS

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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U.V. PATEL COLLEGE OF ENGINEERING
BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (B.TECH-ME)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-ME
 Total Course : 5
 Total Elective Course : 1
 Total Audit Course : 0

Semester : VIII
 Total Regular Course : 4
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2ME8101	ALTERNATE ENERGY SOURCES	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2ME8102	PRODUCTION & OPERATIONS MANAGEMENT	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ME8103	COMPUTER AIDED MANUFACTURING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2ME8104	MAJOR PROJECT	0.00	4.00	4.00	8.00	-	-	0/100	0/100	200
5		ELECTIVE SUBJECT - 1 (ELECTIVE-IV)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
			12.00	8.00	20.00	28.00					800

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-IV	2ME81PE1	WELDING TECHNOLOGY
	2ME81PE2	AUTOMOBILE ENGINEERING
	2ME81PE3	AIR CONDITIONING ENGINEERING
	2ME81PE4	INDUSTRIAL AUTOMATION

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0