

First Year ENGINEERING – CBCS PATTERN

SEMESTER - I																			
Sr. No	Course	TEACHING SCHEME									EXAMINATION SCHEME								
		THEORY			TUTORIAL			PRACTICAL			THEORY					PRACTICAL (Term wok)			
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	%Min	Hours	Max	%Min	
1	BSC-P	3	3	3	-	-	-	1	2	2		CIE	30	100	40%	As per BOS Guidelines	25	40%	
	BSC-C												ESE						70
2	BSC-M-I	3	3	3	1	1	1	-	-	-		CIE	30	100	40%			25	40%
												ESE	70						
3	ESC	3	3	3	-	-	-	1	2	2		CIE	30	100	40%			25	40%
												ESE	70						
4	ESC	3	3	3	-	-	-	1	2	2		CIE	30	100	40%			25	40%
												ESE	70						
5	ESC	3	3	3	-	-	-	1	2	2		CIE	30	100	40%			25	40%
												ESE	70						
6	HM-I	1	1	1	-	-	-	1	2	2		-	-	-	-		25	40%	
7	ESC-W-I	1	1	1	-	-	-	1	2	2		-	-	-	-		50	40%	
	TOTAL	17	17	17	1	1	1	6	12	12				500			200		
SEMESTER –II																			
1	BSC-P	3	3	3	-	-	-	1	2	2		CIE	30	100	40%	As per BOS Guidelines	25	40%	
	BSC-C												ESE						70
2	BSC-M-II	3	3	3	1	1	1	-	-	-		CIE	30	100	40%			25	40%
												ESE	70						
3	ESC	3	3	3	-	-	-	1	2	2		CIE	30	100	40%			25	40%
												ESE	70						
4	ESC	3	3	3	-	-	-	1	2	2		CIE	30	100	40%			25	40%
												ESE	70						
5	ESC	3	3	3	-	-	-	1	2	2		CIE	30	100	40%			25	40%
												ESE	70						
6	HM-II	1	1	1	-	-	-	1	2	2		-	-	-	-		25	40%	
7	ESC-W-II	1	1	1	-	-	-	1	2	2		-	-	-	-		50	40%	
	TOTAL	17	17	17	1	1	1	6	12	12				500			200		
	TOTAL	34	34	34	2	2	2	12	24	24				1000			400		

Note :	• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for B.E. Sem I & II : 1400
	• Theory and Practical Lectures : 60 Minutes Each	• Total Credits for B.E.-I (Semester I & II) : 48
	• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
	• There shall be separate passing for theory and practical (term work) courses.	
	A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC) For Sem I: CCC – I : Democracy, Elections and Good Governance (B) Non-Credit Self Study Course : Skill Development Courses (SDC) For Sem II: SDC – I : Any one from following (i) to (v) i) Business Communication & Presentation ii) Event management iii) Personality Development, iv) Yoga & Physical Management v) Resume, Report & proposal writing	

1. **BSC** : Basic Science Course are compulsory.
2. **HM** : Humanities and Management are compulsory.
3. **ESC** : Engineering Science Course : **ESC – P** courses (subjects) are mandatory for **Physics** group, while **ESC – C** courses (subjects) are mandatory for **Chemistry** group.
4. There will be two groups for Sem I & II Physics and Chemistry. The Candidate's those opting Physics group in Sem I shall appear for Chemistry group in Sem II and Vice-versa.
5. **ESC-W**: Engineering Science Course-Workshops are compulsory.

SECOND YEAR MECHANICAL ENGINEERING– CBCS PATTERN

SEMESTER - III																									
Sr. No	Course (Subject Title)	TEACHING SCHEME										EXAMINATION SCHEME													
		THEORY				TUTORIAL			PRACTICAL				THEORY				PRACTICAL			TERM WORK					
		Credits	No. of Lecture	Hours		Credits	No. of Lecture		Hours	Credits			No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max	Min
1	BSC-ME201	3	3	3		1	1	1		-	-	-			CIE	30	100	40	As per BOS Guidelines	-	-	2	25	10	
2	BSC-ME202	3	3	3		-	-	-		1	2#	2#			ESE	70								2	25
3	PCC-ME203	3	3	3		-	-	-		1	2	2			CIE	30	100	40				2	25	10	
4	PCC-ME204	3	3	3		-	-	-		1	2	2			ESE	70						25	10	2	25
5	PCC-ME205	3	3	3		-	-	-		1	2	2			CIE	30	100	40			25	10	2	25	10
6	PCC-ME206	-	-	-		-	-	-		1	2	2			ESE	70						25	10	2	25
7	PCC-ME207	-	-	-		-	-	-		1	2	2			CIE	30	100	40			25	10	2	25	10
8	PCC-ME208	-	-	-		-	-	-		1	2#	2#			ESE	70						25	10	2	25
9	MC-ME209	3	3	3		-	-	-		-	-	-			CIE	30	100	40			25	10	2	25	10
														ESE	70							25	10	2	25
	TOTAL	18	18	18		1	1	1		7	12	12					600			75		200			
SEMESTER –IV																									
1	PCC-ME210	3	3	3		-	-	-		1	2	2			CIE	30	100	40	As per BOS Guidelines	-	-	2	25	10	
2	PCC-ME211	3	3	3		-	-	-		1	2	2			ESE	70							-	-	2
3	PCC-ME212	3	3	3		-	-	-		1	2	2			CIE	30	100	40			25	10	2	25	10
4	PCC-ME213	3	3	3		-	-	-		1	2	2			ESE	70							-	-	2
5	PCC-ME214	4	4	4		-	-	-		-	-	-			CIE	30	100	40			-	-	-	-	-
6	PCC-ME215	-	-	-		-	-	-		1	2	2			ESE	70						25	10	2	25
7	PCC-	-	-	-		-	-	-		1	2	2			-	-	-	-			-	-	2	25	10

COURSE CODE AND DEFINITION

Semester III

Sr. No	Code No.	Subject	Credits
1.	BSC-ME201	Engineering Mathematics - III	4
2.	PCC-ME202	*Electrical Technology	4
3.	PCC-ME203	Applied Thermodynamics	4
4.	PCC-ME204	Metallurgy	4
5.	PCC-ME205	Fluid Mechanics	4
6.	PCC-ME206	Machine Drawing	1
7.	PCC-ME207	*Computer Programming Using C++	1
8.	PCC-ME208	Workshop Practice – III	1
9.	MC-ME209	Environmental studies	3
		Total	26

Semester IV

Sr. No	Code No.	Subject	Credits
1.	BSC-ME210	Applied Numerical Methods	4
2.	PCC-ME211	Analysis of Mechanical Elements	4
3.	PCC-ME212	Fluid and Turbo Machinery	4
4.	PCC-ME213	Theory of Machines – I @	4
5.	PCC-ME214	Machine Tools and Processes	4
6.	PCC-ME215	Testing and Measurement	1
7.	PCC-ME216	Computer Aided Drafting	1
8.	PCC-ME217	Computer Graphics	1
9.	PCC-ME218	Workshop Practice – IV	1
		Total	24

THIRD YEAR MECHANICAL ENGINEERING – CBCS PATTERN

SEMESTER – V																						
Sr. No	Course (Subject Title)	TEACHING SCHEME									EXAMINATION SCHEME											
		THEORY			TUTORIAL			PRACTICAL			THEORY					PRACTICAL			TERM WORK			
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max	Min	
1	PCC-ME	3	3	3				1	2	2	As per BOS Guidelines		CIE	30	100	40				2	25	10
2	PCC-ME	3	3	3				1	2	2			ESE	70						25	10	2
3	PCC-ME	3	3	3				1	2	2			CIE	30	100	40		25	10	2	25	10
4	PCC-ME	3	3	3									ESE	70						25	10	2
5	PCC-ME	3	3	3									CIE	30	100	40				2	25	10
6	PCC-ME	3	3	3									ESE	70								2
7	PCC-ME	3	3	3	1	1	1						CIE	30	100	40				2	25	10
8	PCC-ME	3	3	3				1	2	2			ESE	70								2
9	PCC-ME	3	3	3				1	2	2			CIE	30	100	40				2	25	10
10	PCC-ME	3	3	3									ESE	70								2
6	OEC-ME	1	2	2	1	1	1						CIE	30	100	40				--	--	--
													ESE	70								
7	PCC-ME	-	-	-				1	2	2										2	25	10
8	PCC-ME	-	-	-				1	2	2										2	25	10
9	PCC-ME	-	-	-				1	1	1										1	25	10
10	PCC-ME							1													25	10
	TOTAL	16	17	17	1	1	1	8	13	13				600			50		225			
SEMESTER –VI																						
1	PCC-ME	3	3	3	-	-	-	-	-	-	As per BOS Guidelines		CIE	30	100	40		-	-	-	-	-
2	PCC-ME	3	3	3	-	-	-	1	2	2			ESE	70						-	-	2
3	PCC-ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40		-	-	2	25	10
4	PCC-ME	3	3	3	-	-	-	1	2	2			ESE	70						-	-	
5	PCC-ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40		25	10	2	25	10
6	PCC-ME	3	3	3	-	-	-	1	2	2			ESE	70						25	10	2
7	PCC-ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40						
8	PCC-ME	3	3	3	-	-	-	1	2	2			ESE	70								
6	OEC-ME	1	2	2	-	-	-	-	-	-			CIE	30	100	40		-	--	--	--	--
					-	-	-						ESE	70						-	--	
7	PCC-ME	-	-	-	-	-	-	1	1	1			-	-	-	-		-	-	2	25	10
8	PCC-ME	-	-	-	-	-	-	2	2	2			-	-	-	-		-	-	2	25	10
9	PCC-ME	-	-	-	-	-	-	1	1	1			-	-	-	-		-	-	2	25	10

10	PCC-ME							1									2	25	10	
	TOTAL	16	17	17		1	1	1		8	12	12			600		50		225	
	TOTAL	32	34	34		2	2	2		16	25	25			1200		100		450	

CIE- Continuous Internal Evaluation

ESE – End Semester Examination

• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for T.E. Sem V& VI: 1750
• Theory/Tutorial Duration : 60 Minutes and Practical Duration : 120 Minutes	• Total Credits for T.E. Sem V & VI : 50
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	
• Sem V & Sem VI :- Open Elective Course has 2+1 credits for one course. Each department / branch has to run at least one Open Elective Course in Sem-V and Sem-VI from the list of Elective Course. It is compulsory.	

Note :

1. Professional Core Courses-Mechanical Engineering (PCC-ME) are compulsory.
2. Open Elective Courses- Mechanical Engineering (OEC-ME) are compulsory

OPEN ELECTIVE-I

Sr. No.	Name of the Subject	Name of the concern Branch
01	Energy and Environment	Civil Engineering
02	Enterprise Resource Planning	Mechanical Engineering
03	Electrical Installation and Safety	Electrical Engineering
04	Database Management Systems	Electronics Engineering
05	Network Technologies	Computer Science and Engineering
06	Logistics Management	Production Engineering
07	Renewable Energy Sources	Environmental Engineering
08	Entrepreneurship Development	Chemical Engineering
09	Smart Sensors	Instrumentation Engineering
10	Electric and Hybrid Vehicles	Automobile Engineering

11	System Programming	Information Technology
12	Digital Communication	Electronics and Telecommunication Engineering
13	Bioinformatics	Bio-Technology Engineering
14	Missiles and Rockets	Aeronautical Engineering

OPEN ELECTIVE-II

Sr. No.	Name of the Subject	Name of the concern Branch
01	Soil and Water Conservation Techniques	Civil Engineering
02	Engineering System Modelling and Simulation	Mechanical Engineering
03	Industrial Utilization of Electrical Energy	Electrical Engineering
04	Software Engineering	Electronics Engineering
05	Information Security	Computer Science and Engineering
06	Engineering Economics	Production Engineering
07	Green Building	Environmental Engineering
08	Waste Water Engineering	Chemical Engineering
09	Piping and Instrumentation Diagram	Instrumentation Engineering
10	Computational Fluid Dynamics	Automobile Engineering
11	Computer Graphics	Information Technology
12	Digital Signal Processing	Electronics and Telecommunication Engineering
13	Environmental Biotechnology	Bio-Technology Engineering
14	Industrial Aerodynamics	Aeronautical Engineering

FINAL YEAR MECHANICAL ENGINEERING – CBCS PATTERN

SEMESTER –VII																						
Sr. No	Course (Subject Title)	TEACHING SCHEME										EXAMINATION SCHEME										
		THEORY			TUTORIAL			PRACTICAL				THEORY					PRACTICAL			TERM WORK		
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours		Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max	Min
1	PCC ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40	As per BOS Guidelines	25	10	2	25	10
2	PCC ME	3	3	3	-	-	-	1	2	2			ESE	70						-	-	
3	PCC ME	3	3		-	-	-	1	2	2			CIE	30	100	40						
												ESE	70						25	10	2	25
4	PCE ME	3	3	3	-		-	1	2	2			CIE	30	100	40						
												ESE	70						25	10	2	25
5	PCE ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40						
												ESE	70						-	-	2	25
6	SI ME	-	-	-	-	-	-	1	-	-			-	-	-	-		-	-		25	10
7	PW ME	-	-	-	1	4	4		-	-			-	-	-	-		25	10		25	10
	TOTAL	18	18	18	1	4	4	6	14	14					500			75			175	
SEMESTER –VIII																						
1	PCC ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40	As per BOS Guidelines	25	10	2	25	10
2	PCC ME	3	3	3	-	-	-	1	2	2			ESE	70						25	10	2
3	PCC ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40						
												ESE	70						-	-	2	25
4	PCE ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40						
												ESE	70						-	-	2	25
5	PCE ME	3	3	3	-	-	-	1	2	2			CIE	30	100	40						
												ESE	70						-	-	2	25
6	PW ME	-	-	-	-	-	-	5	5	5			-	-	-	-		25	10	5	25	10
	TOTAL	15	15	15	-	-	-	10	15	15					500			75			175	
	TOTAL	33	33	33	1	4	4	16	29	29					1000			150			350	

CIE- Continuous Internal Evaluation

ESE – End Semester Examination

• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for B.E. Sem VII & VIII : 1500
• Theory/Tutorial Duration : 60 Minutes and Practical Duration : 120	• Total Credits for B.E. Sem VII & VIII : 50

Minutes	
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	
• <u>Sem VII & Sem VIII: SSC:</u> Constitution of India and Local Self Government (2 Credits)(Self Study)	

Note :

1. Professional Core Courses-Mechanical Engineering(PCC-ME) are compulsory.
2. Professional Core Electives -MechanicalEngineering (PCE-ME) are compulsory.
3. Summer Internship -Mechanical Engineering (SI-ME) is compulsory.
4. Project Work Mechanical Engineering (PW-ME) is compulsory.
5. Soft Skill Course (SSC) is over and above.

COURSE CODE AND DEFINITION

Semester V

Sr. No	Code No.	Subject	Credits
1.	PCC-ME 301	Control Engineering	
2.	PCC-ME 302	Theory of Machine – II	
3.	PCC-ME 303	Heat and Mass Transfer	
4.	PCC-ME 304	Machine Design – I	
5.	PCC-ME 305	Manufacturing Engineering @	
6.	OEC-ME 306	Open Elective-I	
7.	PCC-ME 307	CAD/CAM Laboratory	
8.	PCC-ME308	Professional Skill Development	
9.	PCC-ME309	Workshop Practice – V	
10.	PCC-ME310	Mini-Project- I	

Semester VI

Sr. No	Code No.	Subject	Credits
1.	PCC-ME 311	Industrial Management and Operation Research	
2.	PCC-ME 312	Industrial Fluid Power	
3.	PCC-ME 313	Metrology and Quality Control	
4.	PCC-ME 314	Machine Design – II	
5.	PCC-ME 315	Internal Combustion Engines	
6.	OEC-ME 316	Open Elective	
7.	PCC-ME 317	Computer Integrated ManufacturingLab	
8.	PCC-ME318	Seminar	

9.	PCC-ME319	Workshop Practice -VI	
10.	PCC-ME320	Mini-Project- II	

Semester VII

Sr. No	Code No.	Subject	Credits
1.	PCC ME 401	Refrigeration and Air Conditioning	
2.	PCC ME 402	Mechanical System Design	
3.	PCC ME 403	Finite Element Analysis	
4.	PCE ME 404	Elective I	
5.	PCE ME 405	Elective II	
6.	SI ME 406	Industrial Training @	
7.	PW ME 407	Project Phase -I	

Semester VIII

Sr. No	Code No.	Subject	Credits
1.	PCC ME 408	Mechatronics	
2.	PCC ME 409	Energy and Power Engineering	
3.	PCC ME 410	Noise and Vibration	
4.	PCE ME 411	Elective III	
5.	PCE ME 412	Elective IV	
6.	PW ME 413	Project Phase –II	