

NEW CODES

DEPARTMENT OF MECHANICAL ENGINEERING, HBTU KANPUR-208002 SEMESTER WISE COURSE STRUCTURE & EVALUATION SCHEME B.TECH (MECHANICAL ENGINEERING)

(EFFECTIVE FROM THE SESSION 2019-20 FOR NEW ENTRANTS)

SEMESTER I

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Mark
					MSE	TA	Lab	Total		
1.	BSC	BPH151	Physics	4(3-0-2)	15	20	15	50	50	100
2.	BSC	BMA151	Maths -I	4(3-1-0)	30	20	-	50	50	100
3.	ESC	EEE151	Electrical Engg.	4(3-0-2)	15	20	15	50	50	100
4.	ESC	EME 151	Engg. Mechanics	3(3-0-0)	30	20	-	50	50	100
5.	HSMC	HHS153	Professional Communication	3(2-0-2)	15	20	15	50	50	100
6.	HSMC	HHS151	English Language & Composition	2(2-0-0)	30	20	-	50	50	100
Total Credits				20						

SEMESTER II

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Mark
					MSE	TA	Lab	Total		
1.	BSC	BCY152	Engineering. Chemistry	4(3-0-2)	15	20	15	50	50	100
2.	BSC	BMA152	Maths-II	4(3-1-0)	30	20	-	50	50	100
3.	ESC	EET152	Electronics & Instrumentation Engg.	3(3-0-0)	30	20	-	50	50	100
4.	ESC	ECE152	Engineering. Graphics	3(0-0-6)	30	20	-	50	50	100
5.	ESC	ECS152	Computer Concept & Programming	4(3-0-2)	15	20	15	50	50	100
6.	ESC	EWS152	Workshop Practice	2(0-0-4)	-	20	30	50	50	100
7.	MC (Non- credit)	ECE154	Environment and Ecology	0(2-0-0)	30	20	-	50	50	100
Total Credits				20						

BSC- Basic Science Course; ESC-Engineering Science Course; PCC-Programme Core course; PEC-Programme Elective Course; OEC-Open Elective Course; MC-Mandatory Course; HSMC-Humanities, Social Science & Management Course.

	ESC	EME 152	Engg. Mechanics	3(3-0-0)	30	20	-	50	50	100
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SEMESTER III

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Mark
					MSE	TA	Lab	Total		
1.	BSC	BMA251	Maths-III	4(3-1-0)	30		-	50	50	100
2.	ESC	EME 251	Strength of Material	5(3-1-2)	15	20	15	50	50	100
3.	PCC	EME 253	Material Science	4(3-0-2)	15	20	15	50	50	100
4.	PCC	EME 255	Engineering Thermodynamics	4(3-1-0)	30	20	-	50	50	100
5.	PCC	EME 257	Machine Drawing	2(0-0-4)	-	20	30	50	50	100
6.	HSMC	HHS251	Engg. Economics & Management	3(3-0-0)	30	20	-	50	50	100
7.	MC (Non- credit)	HHS255	Indian Constitution	0(2-0-0)	30	20	-	50	50	100
Total Credits				22						

SEMESTER IV

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total
					MSE	TA	Lab	Total		
1.	BSC	BMA256	CONM	4(3-1-0)	30	20	-	50	50	100
2.	ESC	ECE252	Engineering Fluid Mechanics	5(3-1-2)	15	20	15	50	50	100
3.	PCC	EME 256	Applied Thermodynamics	3(3-0-0)	30	20	-	50	50	100
4.	PCC	EME 254	Manufacturing Science-I	4(3-0-2)	15	20	15	50	50	100
5.	PCC	EME 258	Kinematics of Machine	3(3-0-0)	30	20	-	50	50	100
6.	HSMC	HHS254	Organizational Behavior	3(3-0-0)	30	20	-	50	50	100
7.	MC (Non-credit)	ECS260	Cyber Security	0(2-0-0)	30	20	-	50	50	100
Total Credits				22						

NEW CODES

SEMESTER V

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Marks
					MS E	TA	Lab	Total		
1.	PCC	EME 351	Manufacturing Science-II	4(3-0-2)	15	20	15	50	50	100
2.	PCC	EME 353	Heat & Mass Transfer	4(3-0-2)	15	20	15	50	50	100
3.	PCC	EME 355	Dynamics of Machine	4(3-0-2)	15	20	15	50	50	100
4.	PCC	EME 357	Machine Design-I	4(3-0-2)	15	20	15	50	50	100
5.	PCC	EME 359	IC Engines	3(3-0-0)	30	20	-	50	50	100
6.	OEC (Maths)	BMA351	Operation Research	3(3-0-0)	30	20	-	50	50	100
Total Credits				22						

SEMESTER VI

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Marks
					MSE	TA	Lab	Total		
1.	PCC	EME 352	Fluid Machinery	4(3-0-2)	15	20	15	50	50	100
2.	PCC	EME 354	Machine Design II	4(3-0-2)	15	20	15	50	50	100
3.	PCC	EME 356	Computer Aided Design	3(3-0-0)	30	20	-	50	50	100
4.	PCC	EME 358	Measurements	3(2-0-2)	15	20	15	50	50	100
5.	PCC	EME 360	Energy Conversion	3(2-0-2)	15	20	15	50	50	100
6.	PCC	EME 362	Power Plant Engineering	2(2-0-0)	30	20	-	50	50	100
7.	OEC (Humanities)	HHS352	Entrepreneurship Development	3(3-0-0)	30	20	-	50	50	100
Total Credits				22						

NEW CODES**SEMESTER VII**

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Mark
					MSE	TA	Lab	Total		
1.	PCC	EME 451	Refrigeration & Air Conditioning	4(3-0-2)	15	20	15	50	50	100
2.	PCC	EME 453	Computer Aided Manufacturing	3(3-0-0)	15	20	15	50	50	100
3.	PEC	PEC-I	List is attached	3(3-0-0)	30	20	-	50	50	100
4.	PEC	PEC-II	List is attached	3(3-0-0)	30	20	-	50	50	100
5.	OEC	OEC-I	List is attached	3(3-0-0)	30	20	-	50	50	100
6.	Industrial Training	EME-461	Industrial Training	1(0-0-2)	-	50	-	50	50	100
7.	Seminar	EME-471	Seminar	1(0-0-2)	-	50	-	50	50	100
8.	Project	EME-497	Project	4(0-0-8)	-	50	-	50	50	100
Total Credits				22						

SEMESTER VIII

Sr. No.	Course Type	Subject Code	Course Title	Credits (L-T-P)	Sessional Marks				ESM	Total Mark
					MSE	TA	Lab	Total		
1.	PEC	PEC-III	List is attached	4(3-1-0)	30	20	-	50	50	100
2.	PEC	PEC-IV	List is attached	4(3-1-0)	30	20	-	50	50	100
3.	OEC	OEC-II	List is attached	4(3-1-0)	30	20	-	50	50	100
4.	Project	EME-498	Project	10(0-0-20)	-	50	-	50	50	100
Total Credits				22						

Total Programme Credits : 172

NEW CODES

Department of Mechanical Engineering

Elective courses to be offered in VII & VIII Semester

Programme Elective-I **3(3-0-0)**

1.	EME-455	Mechanical Vibrations	3(3-0-0)
2.	EME-457	Industrial Engineering	3(3-0-0)
3.	EME-459	Additive manufacturing	3(3-0-0)
4.	EME-463	Robotics	3(3-0-0)

Programme Elective-II **3(3-0-0)**

1.	EME-465	Welding Processes	3(3-0-0)
2.	EME-467	Mechatronics	3(3-0-0)
3.	EME-469	Non-conventional Energy Resources & Utilization	3(3-0-0)
4.	EME-473	Engineering Materials	3(3-0-0)

Programme Elective-III **4(3-1-0)**

1.	EME-452	Unconventional Manufacturing Processes	4(3-1-0)
2.	EME-454	Finite Element Method	4(3-1-0)
3.	EME-456	Thermal Turbo Machines	4(3-1-0)
4.	EME-458	Advanced Strength of Material	4(3-1-0)
5.	EME-460	Production Planning & Control	4(3-1-0)

Programme Elective-IV **4(3-1-0)**

1.	EME-462	Automobile Engineering	4(3-0-2)
2.	EME-464	Optimization Methods in Engineering	4(3-1-0)
3.	EME-466	Experimental Stress Analysis	4(3-1-0)
4.	EME-468	Product Design & Development	4(3-1-0)
5.	EME-470	Non-Destructive Testing	4(3-1-0)

Open Elective-I **3(3-0-0)**

1.	OME-481	Solar Energy	3(3-0-0)
2.	OME-483	Industrial Engineering and Automation	3(3-0-0)
3.	OME-485	Artificial Intelligence in Manufacturing	3(3-0-0)

Open Elective-II **4(3-1-0)**

1.	OME-482	Alternative Energy Sources	4(3-1-0)
2.	OME-484	Composite Materials	4(3-1-0)
3.	OME-486	Optimization Methods in Engineering	4(3-1-0)