CHOICE BASED CREDIT SYSTEM
EVALUATION SCHEME
AND
COURSE OF STUDY

B. TECH.
IN
MECHANICAL ENGINEERING
BATCH (2018-2022)

FACULTY OF ENGINEERING & TECHNOLOGY
GURUKULA KANGRI (DEEMED TO BE)
UNIVERSITY HARIDWAR

Revised Syllabus (Effective from the session 2015-16)

Gurukula Kangri Vishwavidyalaya, Haridwar

Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. I Year

(Semester – I)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BAP-C101	DSC1	Engineering Physics	3	1	0	20	10	30	70	4	100
2	BEM-C101	DSC2	Engineering Mathematics–I	3	1	0	20	10	30	70	4	100
3	BEE-C101	DSC3	Basic Electrical Engineering	3	1	0	20	10	30	70	4	100
4	BET-C101	DSC4	Basic Electronics Engineering	3	1	0	20	10	30	70	4	100
5	BME-C102	DSC5	Basic Manufacturing Process	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
6	BEG-A151	AECC1 Lab	Technical Communication Lab	0	0	2	20	10	30	70	2	100
7	BAP-C151	DSC1 Lab	Engineering Physics Lab	0	0	2	20	10	30	70	2	100
8	BEE-C151	DSC3 Lab	Basic Electrical Engineering Lab	0	0	2	20	10	30	70	2	100
9	BET-C151	DSC4 Lab	Basic Electronics Engineering Lab	0	0	2	20	10	30	70	2	100
10	BME-C152	DSC5 Lab	Workshop Practice	0	0	2	20	10	30	70	2	100
			TOTAL	15	5	12	200	100	300	700	30	1000

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Grading & Grade Points: O(Outstanding)**= 10; A^{+}**(Excellent)**= 9; A**(Very Good)**= 8; B^{+}**(Good)**= 7; B**(Above Average)**= 6; C**(Average)**= 5; P**(Pass)**= 4; F**(Fail)**= 0; Ab**(Absent)**= 0**

BME C101 → Paper Code

→ 0, 5 & 6 stands for theory, Practical & Seminar /Project respectively

→ Semester

Revised Syllabus (Effective from the session 2015-16)

Gurukula Kangri Vishwavidyalaya, Haridwar

Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. I Year

(Semester – II)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BEN-A201	AECC2	Environmental Studies	3	1	0	20	10	30	70	4	100
2	BHU-S201	SEC1	Vedic Science & Engineering	3	1	0	20	10	30	70	4	100
3	BME-C201	DSC6	Fundamental of Mechanical Engineering	3	1	0	20	10	30	70	4	100
4	BCE-C201	DSC7	Problem Solving Through 'C'	3	1	0	20	10	30	70	4	100
5	BEM-C201	DSC8	Engineering Mathematics– II	3	1	0	20	10	30	70	4	100
6	BAC-C201	DSC9	Engineering Chemistry	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
7	BAC-C251	DSC9 Lab	Engineering Chemistry Lab	0	0	2	20	10	30	70	2	100
8	BME-C251	DSC6 Lab	Basic Mechanical Engineering Lab	0	0	2	20	10	30	70	2	100
9	BCE-C251	DSC7 Lab	Computer Programming Lab	0	0	2	20	10	30	70	2	100
10	BME-C253	DSC10 Lab	Engineering Graphics	0	0	2	20	10	30	70	2	100
11	BSP-S251	SEC2 Lab	Physical training and yoga	0	0	0	0	100	100			100
			TOTAL	18	6	8	200	200	400	700	32	1100

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Gurukula Kangri Vishwavidyalaya, Haridwar

Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. II Year

(Semester – III)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BEM-C301	DSC11	Engineering Mathematics – III	3	1	0	20	10	30	70	4	100
2	BME-C302	DSC12	Material Science	3	1	0	20	10	30	70	4	100
3	BME-C303	DSC13	Applied Thermodynamics	3	1	0	20	10	30	70	4	100
4	BME-C304	DSC14	Strength of Material	3	1	0	20	10	30	70	4	100
5	BME-C305	DSC15	Kinematics of Machines	3	1	0	20	10	30	70	4	100
6	BET-C301	DSC16	Electronic Devices and Circuits	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
7	BME-C351	DSC17 Lab	Machine Drawing	0	0	2	20	10	30	70	2	100
8	BME-C352	DSC12 Lab	Material Science and Testing Lab	0	0	2	20	10	30	70	2	100
9	BME-C353	DSC13 Lab	Applied Thermodynamics Lab	0	0	2	20	10	30	70	2	100
10	BET-C351	DSC16 Lab	Electronics Devices and Circuits Lab	0	0	2	20	10	30	70	2	100
			TOTAL	18	6	8	200	100	300	700	32	1000

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- → Semester

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Gurukula Kangri Vishwavidyalaya, Haridwar

Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. II Year

(Semester – IV)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BME-C401	DSC18	Fluid Mechanics	3	1	0	20	10	30	70	4	100
2	BME-C402	DSC19	Dynamics of Machines	3	1	0	20	10	30	70	4	100
3	BME-C403	DSC20	Manufacturing Science – I	3	1	0	20	10	30	70	4	100
4	BHU-C401	DSC21	Engineering Economics	3	1	0	20	10	30	70	4	100
5	BEM-C402	DSC22	Numerical Analysis	3	1	0	20	10	30	70	4	100
6	BEE-C404	DSC23	Electrical Machines	3	1	0	20	10	30	70	4	100
7	BKT-C403	AECC	Indian Knowledge Tradition	3	1	0	20	10	30	70	2	100
PRACTICAL / TRAINING / PROJECT												
8	BME-C451	DSC18 Lab	Fluid Mechanics Lab	0	0	2	20	10	30	70	2	100
9	BME-C 452	DSC19 Lab	Theory of Machines Lab	0	0	2	20	10	30	70	2	100
10	BME-C 453	DSC20 Lab	Manufacturing Science – I Lab	0	0	2	20	10	30	70	2	100
11	BEE-C 454	DSC23 Lab	Electrical Machines Lab	0	0	2	20	10	30	70	2	100
			TOTAL	18	6	8	200	100	300	700	34	1000

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Gurukula Kangri Vishwavidyalaya, Haridwar

Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. III Year

(Semester – V)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BEM-C501	DSC24	Optimization Techniques	3	1	0	20	10	30	70	4	100
2	BME-C501	DSC25	Fluid Machines	3	1	0	20	10	30	70	4	100
3	BME-C502	DSC26	Measurement, Metrology and Control	3	1	0	20	10	30	70	4	100
4	BME-C503	DSC27	Manufacturing Science-II	3	1	0	20	10	30	70	4	100
5	BHU-C502	DSC28	Principles and Practices of Management	3	1	0	20	10	30	70	4	100
6	BEE-C503	DSC29	Automatic Control System	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
7	BME-C551	DSC25 Lab	Fluid Machines Lab	0	0	2	20	10	30	70	2	100
8	BME-C552	DSC26 Lab	Measurement, Metrology and Control Lab	0	0	2	20	10	30	70	2	100
9	BME-C553	DSC27 Lab	Manufacturing Science-II Lab	0	0	2	20	10	30	70	2	100
10	BME-C554	DSC30 Lab	Seminar	0	0	2	20	10	30	70	2	100
			TOTAL	18	6	8	200	100	300	700	32	1000

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→ Semester

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Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. III Year

(Semester – VI)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BME-C601	DSC31	Machine Design – I	3	1	0	20	10	30	70	4	100
2	BME-C602	DSC32	Heat and Mass Transfer	3	1	0	20	10	30	70	4	100
3	BME-C603	DSC33	I.C. Engines	3	1	0	20	10	30	70	4	100
4	BME-C604	DSC34	Industrial Engineering	3	1	0	20	10	30	70	4	100
5	BME-C605	DSC35	Quality Control and Reliability Engineering	3	1	0	20	10	30	70	4	100
6	BME-C606	DSC36	Mechanical Vibrations	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
7	BME-C651	DSC31 Lab	Machine Design – I Lab	0	0	2	20	10	30	70	2	100
8	BME-C652	DSC32 Lab	Heat and Mass Transfer Lab	0	0	2	20	10	30	70	2	100
9	BME-C653	DSC33 Lab	I. C. Engines Lab	0	0	2	20	10	30	70	2	100
10	BEG-C651	DSC37 Lab	Technical Communication Lab	0	0	2	20	10	30	70	2	100
			TOTAL	18	6	8	200	100	300	700	32	1000

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→ Semester

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Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. IV Year

(Semester – VII)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BME-C701	DSC38	Machine Design – II	3	1	0	20	10	30	70	4	100
2	BME-C702	DSC39	Refrigeration and Air Conditioning	3	1	0	20	10	30	70	4	100
3	BME-C703	DSC40	Energy Resources and Management	3	1	0	20	10	30	70	4	100
4	BME-C714	DSE1	Elective-I (Unconventional Engineering Processes)	3	1	0	20	10	30	70	4	100
5	BME-C716	DSE2	Elective-II (Computer Aided Design)	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
6	BME-C751	DSC38 Lab	Machine Design – II Lab	0	0	2	20	10	30	70	2	100
7	BME-C752	DSC39 Lab	Refrigeration and Air Conditioning Lab	0	0	2	20	10	30	70	2	100
8	BME-C760	DSC40 Lab	Minor Project	0	0	4		50	50	150	4	200
			TOTAL	15	5	8	140	120	260	640	28	900

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→ Semester

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Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. IV Year

(Semester – VIII)

S.NO.	COURSE CODE	COURSE OPTED	SUBJECT	Period per week			EVALUATION SCHEME				Credit	Subject TOTAL
							SESSIONAL EXAM.			EXAM. ESE		
				L	T	P	CT	TA	TOTAL			
THEORY SUBJECTS												
1	BME-C801	DSC41	Machine Tool Design	3	1	0	20	10	30	70	4	100
2	BME-E821	DSE3	Elective III (Total Quality Management)	3	1	0	20	10	30	70	4	100
3	BME-E826	DSE4	Elective IV (Advanced Welding Process)	3	1	0	20	10	30	70	4	100
4	BME-E827	DSE5	Elective V (Maintenance Engineering and Management)	3	1	0	20	10	30	70	4	100
PRACTICAL / TRAINING / PROJECT												
5	BME-C 860	DSC42 Lab	Major Project	0	0	8	0	100	100	300	8	400
			TOTAL	12	4	8	80	140	220	580	24	800

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→ Semester

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Faculty of Engineering & Technology

Mechanical Engineering

B. Tech. IV Year

LIST OF ELECTIVES

Elective -	**I & II (Seventh semester)**
BME-E 711	Advanced Materials Technology
BME-E 712	Advanced Synthesis of Mechanisms
BME-E 713	Thermal Turbo Machines
BME-E 714	Unconventional Manufacturing Processes
BME-E 715	Automobile Engineering
BME-E 716	Computer Aided Design (CAD)
BME-E 717	Computer Aided Manufacturing (CAM)
BME-E 718	Product Development and Design
BME-E 719	Robotics
BME-E 720	Operations Management: Models & Concepts

Elective -	**III , IV & V (Eighth semester)**
BME-E 821	Total Quality Management (TQM)
BME-E 822	Non Destructive Testing
BME-E 823	Concurrent Engineering
BME-E 824	Automatic Controls
BME-E 825	Optimization Techniques in Engineering
BME-E 826	Advanced Welding Processes
BME-E 827	Maintenance Engineering & Management
BME-E 828	Advanced Dynamics of Machinery
BME-E 829	Mechanical System Design
BME-E 830	Project Management
BME-E 831	Foundry Engineering
BME-E 832	Finite Element Methods
BME-E 833	Nanotechnology and Nanocomputing

NOTE: *Electives will be offered depending upon the availability of teaching staff and minimum thirty students should opt for a particular elective.*

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