



NEW HORIZON COLLEGE OF ENGINEERING

New Horizon Knowledge Park, Ring Road, Marathalli
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

The Trust is a Recipient of Prestigious Rajyotsava State Award 2012 Conferred by the Government of Karnataka
Awarded Outstanding Technical Education Institute in Karnataka-2016
Ring Road, Bellandur Post, Near Marathalli, Bangalore -560 103, INDIA



Academic Year 2021-2022
BE – Mechanical Engineering

Third to Eighth Semesters B.E

SCHEME

New Horizon College of Engineering

Department of Mechanical Engineering

Third Semester Scheme (Cycle-A)

Sl. No.	Course Code	Course Name	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	20MEE31A	Applied Mathematics-III	BS	2	1	0	0	3	4	50	50	100
2	20HSS322A	Life Skills for Engineers	HSS	3	0	0	0	3	3	50	50	100
3	20HSS323A	Environmental Science and Awareness	HSS	0	0	0	0	0	2	25	25	50
4	19MEE331	Computer Aided Machine Drawing	MEE	2	0	2	0	4	6	50	50	100
5	19MEE341	Casting, Forging and Joining Technology	MEE	3	0	0	0	3	3	50	50	100
6	19MEE351	Mechanics of Materials	MEE	2	1	0	0	3	4	50	50	100
7	19MEE361	Material Science & Metallurgy	MEE	3	0	0	0	3	3	50	50	100
8	19MEL341	Casting, Forging and Joining Technology Lab	MEE	0	0	2	0	2	4	25	25	50
9	19MEL351	Mechanics of Materials Lab	MEE	0	0	1	0	1	2	25	25	50
10	19MEL361	Material Science & Metallurgy Lab	MEE	0	0	1	0	1	2	25	25	50
11	20DMAT31A*	Basic Applied Mathematics-I	BS	0	0	0	0	0	2	25	25	50
12	19HSS171*	Essential English	HSS	0	0	0	0	0	2	25	25	50
Total								23	35	400	400	800

*Applicable only for lateral entry students

Third Semester Scheme (Cycle-B)

Sl. No.	Course Code	Course Name	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	20MEE31A	Applied Mathematics-III	BS	2	1	0	0	3	4	50	50	100
2	20HSS321A	Economics for Engineers	HSS	2	0	0	0	2	3	25	25	50
3	20HSS324/325	Aadalitha Kannada/ Vyavaharika Kannada	HSS	1	0	0	0	1	2	25	25	50
4	19MEE332	Basic Thermodynamics	MEE	2	1	0	0	3	4	50	50	100
5	19MEE342	Machines for Manufacturing Technology	MEE	3	0	0	0	3	3	50	50	100
6	19MEE352	Mechanical Measurements & Metrology	MEE	3	0	0	0	3	3	50	50	100
7	19MEE362	Fluid Mechanics	MEE	2	1	0	0	3	4	50	50	100
8	19MEL342	Machines for Manufacturing Technology Lab	MEE	0	0	1	0	1	2	25	25	50
9	19MEL352	Mechanical Measurements & Metrology Lab	MEE	0	0	1	0	1	2	25	25	50
10	19MEL362	Fluid Mechanics Lab	MEE	0	0	1	0	1	2	25	25	50
11	20DMAT31A*	Basic Applied Mathematics-I	BS	0	0	0	0	0	2	25	25	50
12	19HSS171*	Essential English	HSS	0	0	0	0	0	2	25	25	50
Total								21	29	375	375	750

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Fourth Semester Scheme (Cycle-A)

Sl. No.	Course Code	Course Name	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	20MEE41A	Applied Mathematics-IV	BS	2	1	0	0	3	4	50	50	100
2	20HSS422A	Life Skills for Engineers	HSS	3	0	0	0	3	3	50	50	100
3	20HSS423A	Environmental Science and Awareness	HSS	0	0	0	0	0	2	25	25	50
4	19MEE431	Computer Aided Machine Drawing	MEE	2	0	2	0	4	6	50	50	100
5	19MEE441	Casting, Forging and Joining Technology	MEE	3	0	0	0	3	3	50	50	100
6	19MEE451	Mechanics of Materials	MEE	2	1	0	0	3	4	50	50	100
7	19MEE461	Material Science & Metallurgy	MEE	3	0	0	0	3	3	50	50	100
8	19MEL441	Casting, Forging and Joining Technology Lab	MEE	0	0	2	0	2	4	25	25	50
9	19MEL451	Mechanics of Materials Lab	MEE	0	0	1	0	1	2	25	25	50
10	19MEL461	Material Science & Metallurgy Lab	MEE	0	0	1	0	1	2	25	25	50
11	19MEE47	Mini Project-I	MEE	0	0	2	0	2	-	25	25	50
12	20DMAT41A*	Basic Applied Mathematics-II	BS	0	0	0	0	0	2	25	25	50
13	19HSS272*	Constitution of India and Professional Ethics	HSS	0	0	0	0	0	2	25	25	50
Total								25	35	425	425	850

*Applicable only for lateral entry students

Fourth Semester Scheme (Cycle-B)

Sl. No.	Course Code	Course Name	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	20MEE41A	Applied Mathematics-IV	BS	2	1	0	0	3	4	50	50	100
2	20HSS421A	Economics for Engineers	HSS	2	0	0	0	2	2	25	25	50
3	20HSS424/425	Aadalitha Kannada/ Vyavaharika Kannada	HSS	1	0	0	0	1	2	25	25	50
4	19MEE432	Basic Thermodynamics	MEE	2	1	0	0	3	4	50	50	100
5	19MEE442	Machines for Manufacturing Technology	MEE	3	0	0	0	3	3	50	50	100
6	19MEE452	Mechanical Measurements & Metrology	MEE	3	0	0	0	3	3	50	50	100
7	19MEE462	Fluid Mechanics	MEE	2	1	0	0	3	4	50	50	100
8	19MEL442	Machines for Manufacturing Technology Lab	MEE	0	0	1	0	1	2	25	25	50
9	19MEL452	Mechanical Measurements & Metrology Lab	MEE	0	0	1	0	1	2	25	25	50
10	19MEL462	Fluid Mechanics Lab	MEE	0	0	1	0	1	2	25	25	50
11	19MEE47	Mini Project-I	MEE	0	0	2	0	2	-	25	25	50
12	20DMAT41A*	Basic Applied Mathematics-II	BS	0	0	0	0	0	2	25	25	50
13	19HSS272*	Constitution of India and Professional Ethics	HSS	0	0	0	0	0	2	25	25	50
Total								23	28	400	400	800

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Fifth Semester Scheme

Sl. No.	Course Code	Course Name	Credit Distribution				Overall Credits	Contact Hours	Marks		
			L	T	P	S			CIE	SEE	Total
1	20MEE51	Machine Theory & Mechanism Design	2	1	0	0	3	4	50	50	100
2	20MEE52	Heat Power Cycles	2	1	0	0	3	4	50	50	100
3	20MEE53	Rotor Dynamics	2	1	0	0	3	4	50	50	100
4	20MEE54	Design of Machine Elements-I	3	1	0	0	4	5	50	50	100
5	20MEE55	Project Management & Entrepreneurship	2	0	0	0	2	2	25	25	50
6	20MEE56X	Professional Elective-I	3	0	0	0	3	3	50	50	100
7	20MEL51	Machine Theory & Mechanism Design Lab	0	0	1	0	1	2	25	25	50
8	20MEL52	Heat Power Cycles Lab	0	0	1	0	1	2	25	25	50
9	20MEL53	Rotor Dynamics Lab	0	0	1	0	1	2	25	25	50
10	20MEE57	Mini Project-II	0	0	2	0	2	4	25	25	50
Total							23	32	375	375	750

Professional Elective-I

Sl. No.	Course Code	Course Name
1	20MEE561	Mechatronics and Microprocessors
2	20MEE562	Composite Materials
3	20MEE563	Refrigeration and Air conditioning
4	20MEE564	Smart Materials
5	20MEE565	Theory of Elasticity
6	20MEE566	IIOT Embedded systems

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Sixth Semester Scheme											
Sl. No.	Course Code	Course Name	Credit Distribution				Overall Credits	Contact Hours	Marks		
			L	T	P	S			CIE	SEE	Total
1	20MEE61	Fundamentals of Heat Transfer	2	1	0	0	3	4	50	50	100
2	20MEE62	Finite Element Methods	2	1	0	0	3	4	50	50	100
3	20MEE63	Design of Machine Elements-II	3	1	0	0	4	5	50	50	100
4	20MEE64X	Professional Elective-II	3	0	0	0	3	3	50	50	100
5	20MEE65X	Professional Elective-III	3	0	0	0	3	3	50	50	100
6	20NHOP6XXX	Open Elective-I	3	0	0	0	3	3	50	50	100
7	20MEL61	Fundamentals of Heat Transfer Lab	0	0	1	0	1	2	25	25	50
8	20MEL62	Finite Element Methods Lab	0	0	1	0	1	2	25	25	50
9	20MEE67	Mini Project-III	0	0	2	0	2	4	25	25	50
Total							23	30	375	375	750

Professional Elective-II		
Sl. No.	Course Code	Course Name
1	20MEE641	Fundamentals of Tribology
2	20MEE642	Computer Graphics
3	20MEE643	Fundamentals of Plastic Mold Design and Die Design
4	20MEE644	Emerging Automotive Technologies
5	20MEE645	Advanced Robotics

Professional Elective-III		
Sl. No.	Course Code	Course Name
1	20MEE651	Nanotechnology
2	20MEE652	Fracture Mechanics
3	20MEE653	Product Life Cycle Management
4	20MEE654	Supply Chain Management
5	20MEE655	Computational Fluid Dynamics

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Seventh Semester Scheme

Sl. No.	Course Code	Course Name	Credit Distribution				Overall Credits	Contact Hours	Marks		
			L	T	P	S			CIE	SEE	Total
1	20MEE71A	Mechanical Vibrations	2	1	0	0	3	4	50	50	100
2	20MEE72A	Control Engineering	2	1	0	0	3	4	50	50	100
3	20MEE73A	Automation Engineering	2	1	0	0	3	4	50	50	100
4	20MEE74XA	Professional Elective-IV	3	0	0	0	3	3	50	50	100
5	20MEE75XA	Professional Elective-V	3	0	0	0	3	3	50	50	100
6	20NHOP7XXX	Open Elective-II	3	0	0	0	3	3	50	50	100
7	20MEL71A	Mechanical Vibrations Lab	0	0	1	0	1	2	25	25	50
8	20MEL72A	Simulation Lab	0	0	1	0	1	2	25	25	50
9	20MEL73A	Automation Engineering Lab	0	0	1	0	1	2	25	25	50
10	20MEE76A	Mini Project-IV	0	0	2	0	2	4	25	25	50
Total							23	32	400	400	800

Professional Elective-IV

Sl. No.	Course Code	Course Name
1	20MEE741A	Operations Research
2	20MEE742A	Production and Operations Management
3	20MEE743A	Research Methodology
4	20MEE744A	Organizational Behavior & Professional Ethics
5	20MEE745A	Machine Learning & Artificial Intelligence

Professional Elective-V

Sl. No.	Course Code	Course Name
1	20MEE751A	Design For Manufacturing & Assembly
2	20MEE752A	Applied Numerical Techniques And Computing
3	20MEE753A	Hybrid & Electric Vehicles
4	20MEE754A	Hydraulics and Pneumatics
5	20MEE755A	Rapid Prototyping

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Eighth Semester Scheme

Sl. No.	Course Code	Course Name	Credit Distribution				Overall Credits	Contact Hours	Marks		
			L	T	P	S			CIE	SEE	Total
1	20MEE81XA	Professional Elective-VI	3	0	0	0	3	3	50	50	100
2	20MEE82XA	Professional Elective-VII	3	0	0	0	3	3	50	50	100
3	20MEE83A	Internship	0	0	4	0	4	3	50	50	100
4	20MEE84A	Project Work	0	0	10	0	10	20	200	200	400
Total							20	29	350	350	700

Professional Elective-VI

Sl. No.	Course Code	Course Name
1	20MEE811A	Non-Conventional Manufacturing Technologies
2	20MEE812A	Foundry Technology
3	20MEE813A	Agile Manufacturing
4	20MEE814A	Conventional and Non- Conventional Energy Resources
5	20MEE815A	Total Quality Management

Professional Elective-VII

Sl. No.	Course Code	Course Name
1	20MEE821A	Non Destructive Testing
2	20MEE822A	CNC Machining
3	20MEE823A	Industrial Robotics
4	20MEE824A	Product Design & Development
5	20MEE825A	Tribology

List of Open Electives (for 175 credits scheme)

Sl. No.	Course Code	Course Name
1	20NHOP601/701	Big Data Analytics using HP Vertica-1
2	20NHOP602/702	VM Ware Virtualization Essentials-1
3	20NHOP604/704	Big Data Analytics using HP Vertica-2
4	20NHOP605/705	VM Ware Virtualization Essentials-2
5	20NHOP607/707	SAP
6	20NHOP608/708	Schneider - Industrial Automation
7	20NHOP609/709	CISCO- Routing and Switching - 1
8	20NHOP610/710	Data Analytics
9	20NHOP611/711	Machine Learning
10	20NHOP612/712	CISCO- Routing and Switching - 2
11	20NHOP613/713	IIOT- Embedded System
12	20NHOP614/714	Block Chain
13	20NHOP615/715	Product Life Cycle Management
14	20NHOP617A/717A	Network Security and Cryptography
15	20NHOP618A/718A	Physical Design
16	20NHOP619A/719A	AI Data Analysis with Python

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Seventh Semester Scheme (200 credits parallel batch)

Sl. No.	Course Code	Course Name	Credit Distribution				Overall Credits	Contact Hours	Marks		
			L	T	P	S			CIE	SEE	Total
1	MEE71	Mechanical Vibrations + Lab	3	2	0	0	5	4T + 3L	75	75	150
2	MEE72	Control Engineering + Lab	3	2	0	0	5	4T + 3L	75	75	150
3	MEE73X	Professional Elective-III	3	0	0	0	3	4T	50	50	100
4	MEE74X	Professional Elective-IV	3	0	0	0	3	4T	50	50	100
5	MEE75X	Professional Elective-V	3	0	0	0	3	4T	50	50	100
6	NHOP7XX	Open Elective-II	3	0	0	1	4	4T	50	50	100
Total							23	24T + 6L	350	350	700

Professional Elective-III

Sl. No.	Course Code	Course Name
1	MEE731	Operations Research
2	MEE732	Production and Operations Management
3	MEE733	Research Methodology
4	MEE734	Organizational Behavior & Professional Ethics
5	MEE735	Machine Learning & Artificial Intelligence

Professional Elective-IV

Sl. No.	Course Code	Course Name
1	MEE741	Fundamentals of Tribology
2	MEE742	Computer Graphics
3	MEE743	Fundamentals of Plastic Mold Design and Die Design
4	MEE744	Emerging Automotive Technologies
5	MEE745	Advanced Robotics

Professional Elective-V

Sl. No.	Course Code	Course Name
1	MEE751	Design For Manufacturing & Assembly
2	MEE752	Applied Numerical Techniques and Computing
3	MEE753	Total Quality Management
4	MEE754	Hydraulics and Pneumatics
5	MEE755	Rapid Prototyping

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Eighth Semester Scheme (200 credits parallel batch)

Sl. No.	Course Code	Course Name	Credit Distribution				Overall Credits	Contact Hours	Marks		
			L	T	P	S			CIE	SEE	Total
1	MEE84	Fracture Mechanics	3	0	0	1	4	4T	50	50	100
2	MEE81X	Professional Elective-VI	3	0	0	0	3	4T	50	50	100
3	MEE821	Internship	0	0	3	0	3	-	50	50	100
4	MEE83	Project Work	0	0	12	0	12	5L	200	200	400
Total							22	8T+5L	350	350	700

Professional Elective-VI

Sl. No.	Course Code	Course Name
1	MEE815	Non-Conventional Manufacturing Technologies
2	MEE816	Foundry Technology
3	MEE817	Agile Manufacturing
4	MEE818	Conventional and Non- Conventional Energy Resources
5	MEE819	Industrial Robotics
6	MEE820	Sustainable Energy Sources

List of Open Electives (for 200 credits scheme)

Sl. No.	Course Code	Course Name
1	NHOP601/701	Big Data Analytics using HP Vertica-1
2	NHOP602/702	VM Ware Virtualization Essentials-1
3	NHOP604/704	Big Data Analytics using HP Vertica-2
4	NHOP605/705	VM Ware Virtualization Essentials-2
5	NHOP607/707	SAP
6	NHOP608/708	Schneider - Industrial Automation
7	NHOP609/709	CISCO- Routing and Switching - 1
8	NHOP610/710	Data Analytics
9	NHOP611/711	Machine Learning
10	NHOP612/712	CISCO- Routing and Switching - 2
11	NHOP613/713	IIOT- Embedded System
12	NHOP614/714	Block Chain
13	NHOP615/715	Product Life Cycle Management