Department of Mechanical Engineering

B. Tech. 1st Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC1	NMCI101	Engineering Mathematics - I	3-0-0	Theory	3
2	IDC2	NPHI101	Engineering Physics	3-0-0	Theory	3
3	IDC3	NPHI102	Engineering Physics Lab	0-0-2	Practical	1
4	DSC1	NMEC101	Engineering Mechanics	3-0-0	Theory	3
5	DSC2	NMEC102	Engineering Mechanic Lab	0-0-2	Practical	1
6	ESC1	NEEE101	Electrical Devices and Circuits	3-0-0	Theory	3
7	AEC1	NHSA101	Communication Skills	1-0-0	Theory	1
8	AEC2	NHSA102	Communication Skills Lab	0-0-2	Practical	1
9	SEC1	NCES101	Engineering Graphics	1-0-3	Theory	2.5
10	VAC1	NESV101	Environmental Science	3-0-0	Theory	3
						21.5

B. Tech. 2nd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC4	NMCI102	Engineering Mathematics - II	3-0-0	Theory	3
2	DSC3	NMEC103	Thermodynamics	3-0-0	Theory	3
3	DSC4	NMEC104	Thermodynamics Lab	0-0-2	Practical	1
4	ESC2	NECE102	Digital Electronics	3-0-0	Theory	3
5	AEC3	NHSA103	Understanding Human Behaviour	2-1-0	Theory	3
6	SEC2	NMES101	Manufacturing Process	2-0-3	Theory	3.5
7	VAC2	NCSV101	Computer Programming	3-0-0	Theory	3
8	VAC3	NCSV102	Computer Programming Lab	0-0-2	Practical	1
						20.5

B. Tech. 3rd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC3	NMEC201	Solid Mechanics	3-1-0	Theory	4
2	DC4	NMEC202	Fluid Mechanics	3-1-0	Theory	4
3	DC5	NMEC203	Kinematics of Machines	3-1-0	Theory	4
4	DP3	NMEC204	Fluid Mechanics and Fluid Machines Laboratory	0-0-2	Practical	1
5	DP4	NMEC205	Applied Mechanics Laboratory	0-0-2	Practical	1
6	ESC3	NMEE201	Engineering Materials	3-0-0	Theory	3
7	AEC4	NMEA201	Introduction to MATLAB and SIMULINK	3-0-0	Theory	3
						20

B. Tech. 4th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC6	NMEC206	Production Technology	3-1-0	Theory	4
2	DC7	NMEC207	Dynamics of Machinery	3-1-0	Theory	4
3	DC8	NMEC208	Heat and Mass Transfer	3-1-0	Theory	4
4	DP5	NMEC209	Heat Transfer Laboratory	0-0-2	Practical	1
5	DP6	NMEC210	Production Technology Laboratory	0-0-2	Practical	1
6	ESC4	NMEE202	Computer Aided Engineering Design	3-0-0	Theory	3
7	SEC4	NMES201	Computer Aided Machine Drawing	3-0-0	Theory	3
						20

B. Tech. 5th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC9	NMEC301	Fluid Machines	3-1-0	Theory	4
2	DC10	NMEC302	Machine Design	3-1-0	Theory	4
3	DE1		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP7	NMEC303	Heat Power, Refrigeration and Air Conditioning Laboratory	0-0-2	Practical	1
5	DP8	NMEC304	Machine Design Laboratory	0-0-2	Practical	1
6	HSSE1		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
7	DC1 (Minor)/ DC1 (Hons)			3-1-0	Theory	4
8	SDC1 (Minor)/ DP1 (Hons)			0-0-3	Practical	1.5
						21.5

B. Tech. 6th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC11	NMEC305	Machining and Machine Tools	3-1-0	Theory	4
2	DC12	NMEC306	Internal Combustion Engines and Gas Turbines	3-1-0	Theory	4
3	DE2		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP9	NMEC307	Machine Tools Laboratory	0-0-2	Practical	1
5	HSSE2		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
6	DC2 (Minor)/ DC2 (Hons)			3-1-0	Theory	4
7	SDC2 (Minor)/ DP2 (Hons)			0-0-3	Practical	1.5
						20.5

B. Tech. 7th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DE3		*To be chosen from the pool.*	3-0-0	Theory	3
2	DE4		*To be chosen from the pool.*	3-0-0	Theory	3
3	DC3 (Minor)/ DC3 (Hons)			3-1-0	Theory	4
4	SDC3 (Minor)/ DP3 (Hons)			0-0-3	Practical	1.5
5	Project	NMEC401	Project - I	8-0-0	Project	8
6	Internship	NMES401	Internship	0-0-0	Internship	4
						23.5

B. Tech. 8th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC4 (Minor)/ DC4 (Hons)			3-1-0	Theory	4
2	DC5 (Minor)/ DC5 (Hons)			3-1-0	Theory	4
3	SDC4 (Minor)/ DP4 (Hons)			0-0-3	Practical	1.5
4	Project	NMEC402	Project - II	8-0-0	Project	8
						17.5

POOLS/TABLES

MINOR TABLE

Title of Minor			Mechanical Engineering				
Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	DC1 (Minor)	NMEM301	Mechanical Engineering I (Manufacturing+Design)	3-1-0	Theory	4	5
2	SDC1 (Minor)	NMEM302	Mechanical Engineering I Laboratory (Mfg+Design)	0-0-3	Practical	1.5	5
3	DC2 (Minor)	NMEM303	Mechanical Engineering II (Thermal+Fluid)	3-1-0	Theory	4	6
4	SDC2 (Minor)	NMEM304	Mechanical Engineering II Laboratory (Thermal+Fluid)	0-0-3	Practical	1.5	6
5	DC3 (Minor)	NMEM401	Industrial Automation	3-1-0	Theory	4	7
6	SDC3 (Minor)	NMEM402	Industrial Automation Laboratory	0-0-3	Practical	1.5	7
7	DC4 (Minor)	NMEM403	Maintenance Engineering	3-1-0	Theory	4	8
8	DC5 (Minor)	NMEM404	Fundamentals and Applications of Renewable Energy	3-1-0	Theory	4	8
9	SDC4 (Minor)	NMEM405	Renewable Energy Laboratory	0-0-3	Practical	1.5	8
				26 - Minor			

HONORS TABLE

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**
1	DC1 (Hons)	NMEH301	Advanced Solid Mechanics	3-1-0	Theory	4
2	DP1 (Hons)	NMEH302	Advanced Design Laboratory	0-0-3	Practical	1.5
3	DC2 (Hons)	NMEH303	Modeling of Dynamical Systems	3-1-0	Theory	4
4	DP2 (Hons)	NMEH304	Modeling of Dynamical Systems Laboratory	0-0-3	Practical	1.5
5	DC3 (Hons)	NMEH401	Computer Integrated Manufacturing	3-1-0	Theory	4
6	DP3 (Hons)	NMEH402	Computer Integrated Manufacturing Laboratory	0-0-3	Practical	1.5
7	DC4 (Hons)	NMEH403	Smart Manufacturing	3-1-0	Theory	4
8	DC5 (Hons)	NMEH404	Fundamentals of Turbulent Flows	3-1-0	Theory	4
9	DP4 (Hons)	NMEH405	Aerodynamics And Aeroacoustics Laboratory	0-0-3	Practical	1.5
					26 - Hons.	

POOL of ESC (except MS & HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	ESC3	NMEE201	Engineering Materials	3-0-0	Theory	3	3
2	ESC4	NMEE202	Computer Aided Engineering Design	3-0-0	Theory	3	4

POOL of AEC (except HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**
1	AEC	NMEA201	Introduction to MATLAB and SIMULINK	3-0-0	Theory	3
2	AEC			3-0-0	Theory	3

POOL of SEC (except HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	SEC			3-0-0	Theory	3	3
2	SEC	NMES201	Computer Aided Machine Drawing	3-0-0	Theory	3	4

POOL of UG DE course

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Level of Course**
1	DE	NMED301	Mechanical Measurements	3-0-0	Theory	3	**3**
2	DE	NMED302	Refrigeration and Air-conditioning	3-0-0	Theory	3	**3**
3	DE	NMED303	Optimization Theory	3-0-0	Theory	3	**3**
4	DE	NMED304	Robotics and Automation	3-0-0	Theory	3	**3**
5	DE	NMED305	Introduction to Viscous Flows	3-0-0	Theory	3	**3**
6	DE	NMMD301	Automobile Engineering	3-0-0	Theory	3	**3**
7	DE	NMED401	Energy Conversion Equipment	3-0-0	Theory	3	**4**
8	DE	NMED402	Power Plant Engineering	3-0-0	Theory	3	**4**
9	DE	NMED403	Digital Manufacturing	3-0-0	Theory	3	**4**
10	DE	NMED404	Mechanics of Composite Material	3-0-0	Theory	3	**4**
11	DE	NMED405	Introduction to nonlinear dynamics	3-0-0	Theory	3	**4**
12	DE	NMMD401	Mine Pumps, Fans and Compressors	3-0-0	Theory	3	**4**