

MALNAD COLLEGE OF ENGINEERING, HASSAN

**Credits – It is proposed to have 160 Credits for a student to be eligible to get B.E. degree in Engineering/
Technology with an average of 20 credits per semester.**

Scheme Structure for B. E. Program

Sl.No.	Category	AICTE Breakup of Credits (Total 160)	Proposed Breakup of Credits (Total 160)
1	Humanities and Social Sciences including Management courses	12*	10
2	Basic Science courses	25*	23
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc	24*	20
4	Professional Core Courses	48*	43
5	Professional Elective courses relevant to chosen specialization/branch/Ability Enhancement Courses	18*	14
6	Open subjects – Electives from other technical, emerging, arts commerce and NCC/ NSS subjects/Ability Enhancement Courses	18*	14
7	Mini and Major Project work /seminar/ Summer Internship and Research /Industrial Internship	15*	32
8	Mandatory Non- Credit Courses [Environmental Sciences, Induction training, Indian Constitution, Universal Human Values, Kannada]	No credits	04
Total		160*	160

***Minor variation is allowed as per the need of the respective discipline**

Scheme of Teaching for the 2022-23 Admitted Batch

ODD Semester

Physics Cycle

Sl. No.	Course Category	Course Code	Course Title	L-T-P	Credits	Contact hours
1.	BS	22PH101	Engineering Physics	4-0-0	4	4
2.	BS	22MA102	Calculus and Numerical Methods	3-1-0	4	5
3.	ES	22EE103	Basic Electrical Engineering	3-0-0	3	3
4.	ES	22MD104A/B	Engineering Drawing	1-0-2	3	6
5.	ES	22CV105	Engineering Mechanics	3-0-0	3	3
6.	BS	22PH106	Engineering Physics Laboratory	0-0-1	1	2
7.	HS	22PE107	Physical Education Activity (PEA)	0-0-1	1	2
8.	PR	22DT108	Design Thinking Laboratory	0-0-1	1	2
Total					20	29

Chemistry Cycle

Sl. No.	Course Category	Course Code	Course Title	L-T-P	Credits	Contact hours
1.	BS	22PH101	Engineering Chemistry	4-0-0	4	4
2.	BS	22MA102	Calculus and Numerical Methods	3-1-0	4	5
3.	ES	22EC103	Basic Electronics Engineering	3-0-0	3	3
4.	ES	22ME104	Elements of Mechanical Engineering	3-0-0	3	3
5.	ES	22CS105	Programming for Problem Solving	3-0-0	3	3
6.	BS	22PH106	Engineering Chemistry Laboratory	0-0-1	1	2
7.	HS	22PE107	Computer Programming Laboratory	0-0-1	1	2
8.	PR	22DT108	Design Thinking Laboratory	0-0-1	1	2
Total					20	29

THIRD SEMESTER

Sl. No.	Course Category and Course Code		Course Title	L-T-P	Credits	Contact Hours
1.	PCC	22CV301	Engineering Geology and Building Materials	3-0-0	3	3
2.	IPCC	22CV302	Engineering Surveying	3-0-2	4	5
3.	IPCC	22CV303	Strength of Materials	3-0-2	4	5
4.	PCC	22CV304	Water Supply and Treatment Engineering	3-0-0	3	4
5.	PCCL	22CV305	Computer Aided Building Planning and Drawing	0-0-2	1	2
6.	ESC	22CV306X	ESC/ETC/PLC	3-0-0	3	3
7.	UHV	22CV307	Social Connect and Responsibility	0-0-2	1	2
8.	AEC/SEC	22CV358X	Ability Enhancement Course/Skill Enhancement Course-III	1-0-0	1	1
Total					20	25
PCC: Professional Core Course; IPCC: Professional Core Course Theory Integrated with Practical of the same course PCCL: Professional Core Course Laboratory AEC: Ability Enhancement Course; UHV: Universal Human Value Courses						

Engineering Science Courses (ESC)

22CV306A	Rural, Urban Planning and Architecture	22CV306B	Sustainability in Engineering Design
22CV306C	Environmental Protection and Management		

Ability Enhancement Courses-III

22CV358A	Smart Urban Infrastructure	22CVL358B	Digital Drafting for Civil Engineers (Lab)
-----------------	-----------------------------------	------------------	---

FOURTH SEMESTER

Sl. No.	Course Category and Course Code		Course Title	L-T-P	Credits	Contact Hours
1.	PCC	22CV401	Analysis of Structures	3-0-0	3	3
2.	IPCC	22CV402	Fluid Mechanics and Hydraulics	3-0-2	4	5
3.	IPCC	22CV403	Concrete Technology	3-0-2	4	5
4.	PCCL	22CV404	Building Materials Testing Laboratory	0-0-2	1	2
5.	ESC	22CV405X	ESC/ETC/PLC	3-0-0	3	3
6.	AEC/SEC	22CV456X	Ability Enhancement Course/Skill Enhancement Course-III	1-0-0	1	1
7.	BSC	22CV406	Biology for Engineers	2-0-0	2	2
8.	UHV	22CV407	Universal Human Values	1-0-0	1	1
Total					19	21
PCC: Professional Core Course; IPCC: Professional Core Course Theory Integrated with Practical of the same course PCCL: Professional Core Course Laboratory AEC: Ability Enhancement Course; UHV: Universal Human Value Courses						

Engineering Science Courses (ESC)

22CV405A	Building Information Modeling in Architecture, Engineering and Construction (BIM)	22CV405B	Construction Equipment, Plants and Machinery
22CV405C	Concreting Techniques & Practices	22CV405D	Water Resources Engineering

Ability Enhancement Courses-III

22CVL456A	Total Station Application in Civil Engineering (Lab)	22CV456B	Components of a Smart City
-----------	--	----------	----------------------------

FIFTH SEMESTER

Sl. No.	Course Category and Course Code		Course Title	L-T-P	Credits	Contact Hours
1.	PCC	22CV501	Advanced Structural Analysis	3-0-0	3	3
2.	PCC	22CV502	Construction Management and Entrepreneurship	3-0-0	3	3
3.	IPCC	22CV503	Geotechnical Engineering	3-0-2	4	5
4.	IPCC	22CV504	Transportation Engineering	3-0-2	4	5
5.	PCCL	22CV505	Environmental Engineering Laboratory	0-0-2	1	2
6.	PEC	22CV55X	Professional Elective Course	3-0-0	3	3
7.	PCC	22CV505	Extensive Survey Project	0-0-2	1	8
8.	AEC	22CV506	Research Methodology and IPR	2-2-0	3	4
9.	MC	22EVS507	Environmental Studies	1-0-0	1	1
			Total		23	25
	PCC: Professional Core Course; IPCC: Professional Core Course Theory Integrated with Practical of the same course PCCL: Professional Core Course Laboratory AEC: Ability Enhancement Course; UHV: Universal Human Value Courses					

Professional Elective Courses

22CV551	Numerical Methods in Civil Engineering	22CV553	Remote Sensing and GIS
22CV552	Occupational Safety and Health Monitoring	22CV554	Solid Waste Management

SIXTH SEMESTER

Sl. No.	Course Category and Course Code		Course Title	L-T-P	Credits	Contact Hours
1.	IPCC	22CV601	Design of RCC Structures	3-0-2	4	5
2.	IPCC	22CV602	Irrigation Engineering and Hydraulic Structures	3-2-0	4	5
3.	PEC	22CV65X	Professional Elective Course	3-0-0	3	3
4.	OEC	22OECV66X	Open Elective Course	3-0-0	3	3
5.	PROJ	22PROJ	Major Project Phase-I	0-0-4	2	4
6.	PCCL	22CVL606	Software Application Lab	0-0-2	1	2
7.	AEC/SDC	22CV603	Ability Enhancement Course/Skill Development Course-III	1-0-0	1	1
Total					18	23
PCC: Professional Core Course; IPCC: Professional Core Course Theory Integrated with Practical of the same course PCCL: Professional Core Course Laboratory AEC: Ability Enhancement Course; UHV: Universal Human Value Courses						

Professional Elective Courses

22CV651	Design of Bridges	22CV653	Applied Geotechnical Engineering
22CV652	Design of Form Work and Scaffolding	22CV654	Design and Construction of Highway Pavements
22CV655	Wastewater Engineering		

Open Elective Courses

22OECV661	Water Conservation and Rainwater Harvesting	22OECV663	Water Supply and Sanitation
22OECV662	Geographic Information Systems	22OECV664	Sustainable Development Goals
22OECV665	Composite and Smart Materials	22OECV666	Remote Sensing and GIS
22OECV667	Urban Design and Regeneration	22OECV668	Railway Engineering

SEVENTH SEMESTER

Sl. No.	Course Category and Course Code		Course Title	L-T-P	Credits	Contact Hours
1.	IPCC	22CV701	Design of Steel Structures	3-0-2	4	5
2.	PCC	22CV702	Estimation and Contract Management	3-2-0	4	5
3.	PCC	22CV703	Prestressed Concrete	3-2-0	4	5
3.	PEC	22CV75X	Professional Elective Course	3-0-0	3	3
4.	OEC	22OECV76X	Open Elective Course	3-0-0	3	3
5.	PROJ	22PROJ	Major Project Phase -II	0-0-12	6	12
Total					24	25
PCC: Professional Core Course; IPCC: Professional Core Course Theory Integrated with Practical of the same course PCCL: Professional Core Course Laboratory AEC: Ability Enhancement Course; UHV: Universal Human Value Courses						

Professional Elective Courses

22CV751	Intelligent Transport System	22CV753	Ground Improvement and Reinforced Earth
22CV752	Precast Members-Systems and Constructions	22CV754	Industrial Waste Control and Management

Open Elective Courses

22OECV761	Road Safety Engineering	22OECV765	Hazardous Waste Engineering
22OECV762	Natural Disaster Management	22OECV766	Energy Efficiency, Acoustics and Day Lighting in Building
22OECV763	Engineering Optimization	22OECV767	Water Supply and Sanitation
22OECV764	Integrated Building Services		

EIGHTH SEMESTER

Sl. No.	Course Category and Course Code		Course Title	L-T-P	Credits	Contact Hours
1.	PEC	22CV84X	Professional Elective (Online Course)	3-0-0	3	3
2.	OEC	22OECV86X	Open Elective (Online Course)	3-0-0	3	3
3.	INT	BCV803	Internship (Industry/Research) (14-20 Weeks)	0-0-20	10	20
Total					16	26
PCC: Professional Core Course; IPCC: Professional Core Course Theory Integrated with Practical of the same course PCCL: Professional Core Course Laboratory AEC: Ability Enhancement Course; UHV: Universal Human Value Courses						

Professional Elective Courses

22CV841	Geotechnical Earthquake Engineering	22CV843	Bridge Engineering
22CV842	Reliability Based Structural Design	22CV844	Advanced Geomatics Engineering

Open Elective Courses

22OECV861	Pavement Materials	22OECV863	Sustainable Transportation System
22OECV862	Waste Governance and Treatment	22OECV864	Environmental Chemistry

Grouping of Departments :

Group-A	Group-B
ECE	CV
CSE	MECH
ISE	EEE
---	EIE

Credit Distribution

Sl. No.	Semester	Credits
1.	I	20
2.	II	20
3.	III	20
4.	IV	19
5.	V	23
6.	VI	18
7.	VII	24
8.	VIII	16
	Total	160