B. Sc (MECs) Course Structure for CBCS w.e.f 2022 -23

First Semester (For the batches 2022-25 & 2023-26)

Course Code	Course Type	Course Title	Hours/ Week		Credits	Max. Marks		Total Marks	Duration of Exam (Hrs)
			L	P/T		Int	Ext		
ENG-1-EN-22T	CC	English – I	4	1T	5	40	60	100	3
AR-1-SL-22T FR-1-SL-22T HI-1-SL-22T SK-1-SL-22T TL-1-SL-22T	CC	Second language*	4	1T	5	40	60	100	3
BCS-1-CC-22T	AECC	Basic Computer Skills	1	2P	2	20	30	50	2
DIC-1-MM-22T	DSC	Mathematics-I Differential & Integral Calculus (Theory)	4	--	4	40	60	100	3
CA-1-EL-22T	DSC	Electronics – I Circuit Analysis (Theory)	4	--	4	40	60	100	3
OOP-1-CS-22T	DSC	Computer Science-I: Object Oriented Programming Using C++ (Theory)	4	--	4	40	60	100	3
DIC-1-MM-22P	DSC	Mathematics-I Differential & Integral Calculus (Practical)	--	3P	1	20	30	50	3
CA-1-EL-22P	DSC	Electronics-I Circuit Analysis (Practical)	--	3P	1	20	30	50	3
OOP-1-CS-22P	DSC	Computer Science-I: Object Oriented Programming Using C++ Computer Science (Practical)	--	3P	1	20	30	50	3
		Total	**21**	**13**	**27**				

CC: Compulsory Course ; AECC: Ability Enhancement Compulsory Course; DSC: Discipline Specific Core; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam HI - Hindi; AR - Arabic; SK - Sanskrit; FR - French; TL - Telugu

Second Semester (For the batches 2022-25 & 2023-26)

Subject Code	Course Type	Course Title	Hours /Week		Credits	Max marks		Total Marks	Duration of Exam (Hrs)
			L	P/T		Int	Ext		
ENG-2-EN-22T	CC	English – II	4	1T	5	40	60	100	3
AR-2-SL-22T FR-2-SL-22T HI-2-SL-22T SK-2-SL-22T TL-2-SL-22T	CC	Second language*	4	1T	5	40	60	100	3
EVS-2-EN-22T	AECC	Environmental Studies	1	1T	2	20	30	50	2
DE-2-MM-22T	DSC	Mathematics-II Differential Equations (Theory)	4	--	4	40	60	100	3
EDC-2-EL-22T	DSC	Electronics-II Electronic Devices & Circuits (Theory)	4	--	4	40	60	100	3
DS-2-CS-22T	DSC	Computer Science-II Data Structures (Theory)	4	--	4	40	60	100	3
DE-2-MM-22P	DSC	Mathematics-II Differential Equations (Practical)	--	3P	1	20	30	50	3
EDC-2-EL-22P	DSC	Electronics-II II Electronic Devices & Circuits (Practical)	--	3P	1	20	30	50	3
DS-2-CS-22P	DSC	Computer Science-II Data Structures (Practical)	--	3P	1	20	30	50	3
		Total	**21**	**12**	**27**				
	***Non-CGPA**	**Co- curricular: Value Added Course (within Sem II)**			***2**				

Total No of Credits by the end of First Year : 54

CC: Compulsory Course ; AECC: Ability Enhancement Compulsory Course; DSC: Discipline Specific Core; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam HI - Hindi; AR - Arabic; SK - Sanskrit; FR - French; TL - Telugu

Third Semester (For the batches 2022-25 & 2023-26)

Subject Code	Course Type	Course Title	Hours/ Week		Credits	Max marks		Total Marks	Duration of Exam (Hrs)
			L	P/T		Int	Ext		
ENG-3-EN-22T	CC	English – III	4	1T	5	40	60	100	3
AR-3-SL-22T FR-3-SL-22T HI-3-SL-22T SK-3-SL-22T TL-3-SL-22T	CC	Second Language*	4	1T	5	40	60	100	3
UHVGS-3-EN-22T LMS-3-BM-22T	SEC	**UGC Specified Course** (a) Universal Human Values and Gender Sensitization (b)Leadership and Management Skills	2	--	2	20	30	50	2
RA-3-MM-22T	DSC	Mathematics-III Real Analysis (Theory)	4	--	4	40	60	100	3
AC-3-EL-22T	DSC	Electronics-III Analog Circuits (Theory)	4	--	4	40	60	100	3
RD-3-CS-22T	DSC	Computer Science-III Relational Database Management System (Theory)	4	--	4	40	60	100	3
RA-3-MM-22P	DSC	Mathematics-III Real Analysis (Practical)	--	3P	1	20	30	50	3
AC-3-EL-22P	DSC	Electronics-III Analog Circuits (Practical)	--	3P	1	20	30	50	3
RD-3-CS-22P	DSC	Computer Science-III Relational Database Management System (Practical)	--	3P	1	20	30	50	3
		Total	**22**	**11**	**27**				

CC: Compulsory Course; AECC: Ability Enhancement Compulsory Course; DSC: Discipline Specific Core; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam HI - Hindi; AR - Arabic; SK - Sanskrit; FR - French; TL – Telugu.

Fourth Semester (For the batches 2022-25 & 2023-26)

Subject Code	Course Type	Course Title	Hours/ Week		Credits	Max Marks		Total Marks	Duration of Exam (Hrs)
			L	P/T		Int	Ext		
ENG-4-EN-22T	CC	English - IV	4	1T	5	40	60	100	3
AR-4-SL-22T FR-4-SL-22T HI-4-SL-22T SK-4-SL-22T TL-4-SL-22T	CC	Second Language*	4	1T	5	40	60	100	3
EE-4-EN-22T BEN-4-EN-22T	SEC	**UGC Specified Course** (a)English for Employability (b) Business English	1	1P	2	20	30	50	2
ALG-4-MM-22T	DSC	Mathematics-IV Algebra (Theory)	4	--	4	40	60	100	3
LIC-4-EL-22T	DSC	Electronics-IV Linear Integrated Circuits and Basic Communication Electronics(Theory)	4	--	4	40	60	100	3
JV-4-CS-22T	DSC	Computer Science - IV Java Programming (Theory)	4	--	4	40	60	100	3
ALG-4-MM-22P	DSC	Mathematics-IV Algebra (Practical)	--	3P	1	20	30	50	3
LIC-4-EL-22P	DSC	Electronics-IV Linear Integrated Circuits and Basic Communication Electronics (Practical)	--	3P	1	20	30	50	3
JV-4-CS-22P	DSC	Computer Science-IV Java Programming (Practical)	--	3P	1	20	30	50	3
		Total	**21**	**12**	**27**				
	***Non-CGPA**	***Internship (within Sem V)**			***4**				
		Co- curricular: MOOCs (within Sem III)			***2**				
		Extra Curricular Activities (within Sem III)			***2**				

Total No of Credits by the end of Second Year 108

CC: Compulsory Course ; AECC: Ability Enhancement Compulsory Course; SEC: Skill Enhancement Course; DSC: Discipline Specific Core; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam HI - Hindi; AR - Arabic; SK - Sanskrit; FR - French; TL - Telugu

Fifth Semester (For the batches 2022-25 & 2023-26)

Subject Code	Course Type	Course Title	Hours/ Week		Credits	Max Marks		Total Marks	Duration of Exam (Hrs)
			L	P/T		Int	Ext		
MM-5-MM-22T LS-5-MM-22T IOT-5-EL-22T BVD-5-EL-22T SSE-5-CS-22T	SEC	Department Specified course (any one of the following) **Mathematics:** a) Mathematical Modeling b)Logic & Sets **Electronics**: a) Internet of Things (IoT) b) Basic VLSI Design **Computer Science**: a) Cyber Security Essentials	2	--	2	20	30	50	2
LA-5-MM-22T	DSC	Mathematics-V Linear Algebra (Theory)	4	--	4	40	60	100	3
DE-5-EL-22T EI-5-EL-22T	DSE	Electronics – V a) Digital Electronics and basics of VHDL (Theory) b) Electronic Instrumentation (Theory)	4	--	4	40	60	100	3
WT-5-CS-22T PP-5-CS-22T CNCC-5-CS-22T	DSE	Computer Science—V (Theory) a) Web Technologies b) Programming in Python c) Computer Networks & Cloud Computing	4	--	4	40	60	100	3
LA-5-MM-22P	DSC	Mathematics-V Linear Algebra (Practical)	--	3P	1	20	30	50	3
DE-5-EL-22P EI-5-EL-22P	DSE	Electronics-V a) Digital Electronics and basics of VHDL (Practical) b) Electronic Instrumentation (Practical)	--	3P	1	20	30	50	3
WT-5-CS-22P PP-5-CS-22P CNCC-5-CS-22P	DSE	Computer Science—V (Practical) a) Web Technologies b) Programming in Python c) Computer Networks & Cloud Computing	--	3P	1	20	30	50	3
---	GE	*Courses offered by other Departments	4	--	4	40	60	100	3
		Total	**18**	**9**	**21**				

Sixth Semester (For the batches 2022-25 & 2023-26)

Subject Code	Course Type	Course Title	Hours/ Week		Credits	Max Marks		Total Marks	Duration of Exam (Hrs)
			L	P/T		Int	Ext		
TE-6-MM-22T VC-6-MM-22T AP-6-EL-22T FOR-6-EL-22T GDS-6-CS-22T	SEC	<u>Department Specified course (any one of the following)</u> **Mathematics:** a) Theory of Equations b) Vector Calculus **Electronics:** a) Arduino Programming b)Fundamentals of Robotics **Computer Science:** a) Google Data Studio	2	--	2	20	30	50	2
NA-6-MM-22T DM-6-MM-22T ASG-6-MM-22T	DSE	**Mathematics:** a) Numerical Analysis (Theory) b) Discrete Mathematics (Theory) c) Analytical Solid Geometry (Theory)	4	--	4	40	60	100	3
MC-6-EL-22T DC-6-EL-22T	DSE	**Electronics:** a) 8051 Microcontroller (Theory) b) Digital Communication (Theory)	4	--	4	40	60	100	3
FSWD-6-CS-22T DSP-6-CS-22T OS-6-CS-22T	DSE	**Computer Science – VI (Theory)** a) Full Stack Web Development b) Data Science with Python c) Operating Systems	4	--	4	40	60	100	3
NA-6-MM-22P IT-6-MM-22P ASG-6-MM-22P	DSE	**Mathematics:** a) Numerical Analysis (Practical) b) Integral Transforms (Practical) c) Analytical Solid Geometry (Practical)	--	3P	1	20	30	50	3
MC-6-EL-22P DC-6-EL-22P	DSE	**Electronics:** a) 8051 Microcontroller (Practical) b) Digital Communication (Practical)	--	3P	1	20	30	50	3
FSWD-6-CS-22P DSP-6-CS-22P OS-6-CS-22P	DSE	**Computer Science – VI (Practical)** a) Full Stack Web Development b) Data Science with Python c) Operating Systems	--	3P	1	20	30	50	3

BRMMP-6-MM-22 EPR-6-EL-22 CPR-6-CS-22	Project	**Project** **1. Mathematics:** Basics of Research Methodology for Mathematics Project (OR) **2. Electronics:** Electronics Project (OR) **3. Computer Science:** Computer Science project	4	--	4	40	60	100	3
		Total	**18**	**9**	**21**				

Total No of Credits by the End of Third Year 150

CC (EL): Compulsory Course (English Language); CC (SL): Compulsory Course (Second Language: HI - Hindi; AR - Arabic; SK - Sanskrit; FR - French; TL - Telugu); AECC: Ability Enhancement Compulsory Course; SEC: Skill Enhancement Course; DSC: Discipline Specific Course; GE: Generic Elective; DSE: Discipline Specific Elective; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam: PR: Project Report; VV: Viva-Voce Examination

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SUMMARY OF CREDITS

Sl. No.	Course Category	No. of Courses	Credits per Course	Total Credits
1	CC (EL)	4	5	20
2	CC (SL)	4	5	20
3	AECC	2	2	4
4	DSC	13	5	65
5	SEC	4	2	8
6	GE	1	4	4
7	DSE	5	5	25
8	Project	1	4	4
	TOTAL	**34**		**150**
Non-CGPA*		*Value Added Courses	2	2
		MOOCs	2	2
		*Extra-Curricular	2	2
		Internship	4	4

Note:

1 UG 1st Year students should enroll for Value added Courses & MOOCs Courses in Semester I & Complete it by the end of Semester III.

2 Online courses should be for a minimum of 4 weeks & upto 8 weeks duration

3 Non CGPA Courses will have 2 credit each of 30 hours.

4 GE Courses will be offered to Students of other Department Programmes