Curriculum Structure for Third Year B. Tech (Information Technology)

Semester – V

Sr. No.	Course Type	Course code	Course Name	Hours		Examination Scheme				Credits
				L	P	CA	MSE	ESE	Total Mark	Total
1	PCC	**26AF1246PC501**	Operating Systems	3	-	20	20	60	100	3
2	PCC Lab	**26AF1246PCL502**	Operating Systems Lab	-	2	60	-	40*	100	1
3	PCC	**26AF1246PC503**	Database Management Systems	3	-	20	20	60	100	3
4	PCC Lab	**26AF1246PCL504**	Database Management Systems Lab	-	2	60	-	40*	100	1
5	PCC	**26AF1246PC505**	Compiler Design	3	-	20	20	60	100	3
6	MDM	**26AF1246MD506**	Multidisciplinary Minor-3	3	-	20	20	60	100	3
7	OE	**25AF1MACOEMO5(X)**	Open Elective-3	3	-	20	20	60	100	3
8	PEC	**26AF1246PE508A** **26AF1246PE508B** **26AF1246PE508C**	A. Data science and visualization B. Internet of Things C. Blockchain Technology	3	-	20	20	60	100	3
9	PEC Lab	**26AF1246PEL509A** **26AF1246PEL509B** **26AF1246PEL509C**	A. Data science and visualization with Python Programming Lab B. Internet of Things Lab C. Blockchain Technology Lab	-	2	60	-	40*	100	1
10	ELC	**26AF1246ELC510**	Mini project-1	-	2	60	-	40*	100	1
			Total	**18**	**8**	**360**	**120**	**520**	**1000**	**22**

***Practical/Oral evaluation of 40 marks at the end of the semester.**
†Presentation/Oral evaluation of 40 marks at the end of the semester.

Back to Table of Contents

Semester – VI										
Sr. No.	**Course Type**	**Course code**	**Course Name**	**Hours**		**Examination Scheme**				**Credits**
				L	**P**	**CA**	**MSE**	**E S E**	**Total Marks**	**Total**
1	PCC	**26AF1246PC601**	Software Design and Testing	3	-	20	20	60	100	3
2	PCC Lab	**26AF1246PCL602**	Software Design and Testing Lab	-	2	60	-	40 *	100	1
3	PCC	**26AF1246PC603**	Computer Networks and Internet Protocol	3	-	20	20	60	100	3
4	PCC Lab	**26AF1246PCL604**	Computer Networks and Internet Protocol Lab	-	2	60	-	40 *	100	1
5	PCC	**26AF1246PC605**	Soft computing	3	-	20	20	60	100	3
6	MDM	**26AF1246MD606**	Multidisciplinary Minor-4	3	-	20	20	60	100	3
7	PEC	**26AF1246PE607A** **26AF1246PE607B** **26AF1246PE607C**	A. Cloud Computing B. Enterprise Resource Planning C. Management information System	3	-	20	20	60	100	3
8	PEC	**26AF1246PE608A** **26AF1246PE608B** **26AF1246PE608C**	A. Machine Learning B. Generative AI & prompt engineering C. Augmented Reality and Virtual Reality	3	-	20	20	60	100	3
9	PEC Lab	**26AF1246PEL609A** **26AF1246PEL609B** **26AF1246PEL609C**	A. Machine Learning Lab B. Generative AI & prompt Engineering Lab C. Augmented Reality and Virtual Reality Lab	-	2	60	-	40 *	100	1
10	ELC	**26AF1246 ELC 610**	Mini project-2	-	2	60	-	40 *	100	1
Total				**18**	**08**	**360**	**120**	**520**	**1000**	**22**

***Practical/Oral evaluation of 40 marks at the end of the semester.**
†Presentation/Oral evaluation of 40 marks at the end of the semester.

Back to Table of Contents

List of Multidisciplinary Minor (MDM) Courses offered by Department of Information Technology

Multidisciplinary Minor (MDM) Courses

Sr. No.	Course Type	Semester	Course code	Course Name	Hours		Examination Scheme				Credits
					L	P	CA	MSE	ESE	Total Marks	Total
1	MDM	Sem-III	**25AF1246MD306**	Data Structures	2	-	20	20	60	100	2
2	MDM	Sem-IV	**25AF1246MD406**	Computer Organization and Architecture	3	-	20	20	60	100	3
3	MDM	Sem-V	**25AF1246MD506**	Machine learning	3	-	20	20	60	100	3
4	MDM	Sem-VI	**25AF1246MD606**	Cloud Computing	3	-	20	20	60	100	3
5	MDM	Sem-VII	**25AF1246MD706**	Internet Of Things	3	-	20	20	60	100	3
				Total	**14**	**0**	**100**	**100**	**300**	**500**	**14**

Note: ***Information Technology department Students*** *will choose a* ***Multidisciplinary Minor (MDM) Bucket*** *(a Set of Courses to be learnt from 2nd Year to Third/Final Year) offered by the* ***other departments.***

Back to Table of Contents

List of Open Elective (OE) Courses offered by University

Faculty-wise baskets of OE are prepared by University which are chosen from faculty **other than** that of the Major Faculty i.e. in this case **Major Faculty is Faculty of Engineering**. Other Faculties considered are as follows:

1. Faculty of Management and Commerce
2. Faculty of Law
3. Faculty of Humanities and Arts
4. Faculty of Architecture and Planning
5. Faculty of Health Sciences
6. Faculty of Science

Students need to take up **three or four courses of 08 credits** over semesters **III** to **V**

Open Elective (OE) Courses

Sr. No.	Course Type	Semester	University OE Courses link	Hours		Examination Scheme				Credits
				L	P	CA	MSE	E SE	Total Mark	Total
1	OE	Sem-III	https://dbatu.ac.in/wp-content/uploads/2024/08/Open-Electives-Buckets-for-University-Campus-2024-25.pdf	3	-	20	20	60	100	3
2	OE	Sem-IV		2	-	20	20	60	100	2
3	OE	Sem-V		3	-	20	20	60	100	3
Total				**8**	**0**	**60**	**60**	**180**	**300**	**8**

Note: *It is essential for students to choose these courses from disciplines* ***other than their major programme (i.e. engineering)*** *for which they initially* ***enrolled in during their first year (ex.B. Tech. IT).***

Back to Table of Contents

List of Honor Courses offered by Department of Information Technology

Honor (HON) Courses

Sr. No.	Course Type	Semester	Course code	Course Name	Hours		Examination Scheme				Credits
					L	P	CA	MSE	ESE	Total Marks	Total
1	HON	Sem-III	**25AF1246HON301**	Optimization Techniques	3	-	20	20	60	100	3
2	HON	Sem-IV	**25AF1246HON402**	Advanced Algorithms and Data Structures	3	-	20	20	60	100	3
3	HON	Sem-V	**25AF1246HON503**	Advanced Computer Architecture	3	-	20	20	60	100	3
4	HON	Sem-VI	**25AF1246HON604**	Mobile Computing	3	-	20	20	60	100	3
5	HON	Sem-VII	**25AF1246HON705**	Robotics and Embedded Systems	3	-	20	20	60	100	3
6	HON	Sem-VIII	**25AF1246HON806**	Artificial Neural Networks	3	-	20	20	60	100	3
				Total	**18**	**0**	**120**	**120**	**360**	**600**	**18**

Note: *Students with a* ***CGPA ≥ 7.5*** *after the first year are* ***eligible*** *to opt for 6 additional courses (18–20 credits) from their* ***parent (major) department.***

Back to Table of Contents

List of Double Minor (DM) Courses offered by Department of Information Technology

Double Minor (DM) Courses

Sr. No.	Course Type	Semester	Course code	Course Name	Hours		Examination Scheme				Credits
					L	P	CA	MSE	ESE	Total Marks	Total
1	DM	Sem-III	**25AF1246DM301**	Computer Networks Fundamentals	3	-	20	20	60	100	3
2	DM	Sem-IV	**25AF1246DM402**	Data science and visualization	3	-	20	20	60	100	3
3	DM	Sem-V	**25AF1246DM503**	IT Service Management (ITSM)	3	-	20	20	60	100	3
4	DM	Sem-VI	**25AF1246DM604**	DevOps (Development and operations)	3	-	20	20	60	100	3
5	DM	Sem-VII	**25AF1246DM705**	UI/UX Design	3	-	20	20	60	100	3
6	DM	Sem-VIII	**25AF1246DM806**	Data Security	3	-	20	20	60	100	3
				Total	**18**	**0**	**120**	**120**	**360**	**600**	**18**

Note: *Student are required to select a double minor program from a department* ***other than their major programme*** *(Students who enrolled in their first year of engineering is the major programme* ***B. Tech. IT****) and it* ***must different*** *from the* ***Multidisciplinary Minor programme****.*

Back to Table of Contents

List of Honor with Research Courses in Semester –VII and Semester -VIII offered by Department of Information Technology

Honor with Research (HR) Courses

Sr. No.	Course Type	Semester	Course code	Course Name	Hours		Examination Scheme				Credits
					L	P	CA	MSE	ESE	Total Mark	Total
1	HR	Sem-VII	**25AF1246HRL701**	**Research Orientation, Literature Review & Proposal Approval** *(Includes: problem identification, research gap analysis, and proposal defense)*	-	6	60	-	40	100	**3**
2	HR	Sem-VII	**25AF1246HRL702**	**Project Implementation – Phase I & IPR Awareness** *(Initial design, development, and Intellectual Property Rights & Research Ethics training)*	-	6	60	-	40	100	**3**
3	HR	Sem-VIII	**25AF1246HRL803**	**Project Implementation – Phase II & Documentation** *(Final implementation, validation, and thesis preparation)*	-	6	60	-	40	100	**3**
4	HR	Sem-VIII	**25AF1246HRL804**	**Research Paper Writing & Publication** *(Target: Scopus/Web of Science/IEEE/UGC-CARE journals or reputed conferences)*	-	6	60	-	40	100	**3**
5	HR	Sem-VIII	**25AF1246HRL805**	**Final Viva / Project Defense** *(Internal & External evaluation, defense of research work)*	-	12	100		100	200	**6**
				Total	**-**	**36**	**340**	**-**	**260**	**600**	**18**

Note: *Students with a* ***CGPA ≥ 7.5 or 75%*** *after the* ***6th semester*** *are eligible for the* ***UG Research degree*** *and must complete an* ***additional 18-credit*** *research project/dissertation in the 4th year within their major discipline.*

Back to Table of Contents

Credit Distribution:

1. B.Tech. degree with a multidisciplinary minor:

SEM- I	SEM -II	SEM -III	SEM -IV	SEM -V	SEM -VI	SEM -VII	SE M – VIII	TOTA L
21	23	22	23	22	22	22	12	**167** (160-176)

2. B.Tech. honour with multidisciplinary minor:

SEM- I	SEM -II	SEM -III	SEM -IV	SEM -V	SEM -VI	SEM -VII	SE M – VIII	TOTA L
21	23	22+3	23+3	22+3	22+3	22+3	12+3	**167+18 =185** (180-194)

3. B.Tech. honour with Research and multidisciplinary minor:

SEM- I	SEM -II	SEM -III	SEM -IV	SEM -V	SEM -VI	SEM -VII	SE M – VIII	TOTA L
21	23	22	23	22	22	22+6	12+12	**167+18 =185** (180-194)

4. B.Tech. degree with Double Minors (Multidisciplinary and Specialization Minors) :

SEM- I	SEM -II	SEM -III	SEM -IV	SEM -V	SEM -VI	SEM -VII	SEM - VIII	TOTA L
21	23	22+3	23+3	21+3	22+3	22+3	18+3	**167+18 =185** (180-194)

Back to Table of Contents

List of Exit Options after Third Year B.Tech to Qualify for B. Voc. in Information Technology

Sr. No.	Course Code	Semester	Name of the course	Credits		
				Theory	Practical	Total
1	**25AF1246EX401**	Sem-IV	IT Hardware and Networking https://klic.mkcl.org/klic-courses/it-hardware-and-networking	120Hr		8
			Total	**120**		**8**

OR

Sr. No.	Course Code	Semester	Name of the course	Credits		
				Theory	Practical	Total
1	**25AF1246EX402**	Sem-IV	Java Programming Essentials and Mobile App Development https://klic.mkcl.org/klic-courses/java-programming-essentials-and-mobile-app-development	120Hr		8
			Total	**120**		**8**

Important criteria for the Exit Option after Second Year	
Total Additional Credits Required	**08**
Certificate Awarded	**B. Voc.** in IT
Requirement	Completion of any one Skill-Based Course listed in the Exit Option Structure
Duration	Summer Vacation
Important Guidelines	
1. **Option Registration**	Must be registered with the Parent Department & Exam Section
2. **Prerequisite**	Clearing of all course work till the End of Third Year as a Regular Student.
3. **Minimum Credits Earned**	**120**
4. **Evaluation**	Conducted by the Department for the award of the said certification.
5. **Document Submission**	Original Course/Internship Certificates required at the time of evaluation

Back to Table of Contents

Criteria for Re-entry or Lateral Entry under NEP 2020

Sr.No.	Re-entry or Lateral Entry (NEP 2020)
1.	**Re-entry Option**: Students exiting at any level can **rejoin** the same or another institution **within 4 years** to complete their degree.
2.	**Maximum Duration**: The entire degree must be completed **within 8 years** from the date of first admission.
3.	**Based on Credits**: Re-entry or lateral entry is allowed based on **valid earned credits** stored in the **Academic Bank of Credits (ABC)**.
4.	**Multiple Entry Paths**: Students can re-enter into **UG Diploma, B.Voc, UG Degree (Single/Double Minor), Honours, or Research** programs.
5.	**Subject to Availability**: Admission depends on **intake capacity** and **validation of prior learning outcomes**.

Back to Table of Contents