



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

M.C.A. Scheme of Examination & Syllabus 2026-27

Annexure- I

CREDIT FRAMEWORK STRUCTURE

Semester		I	II	III	IV		Total Credits	
Course Category					A	B	A	B
Basics Science Course	BSC/ESC	3	-	-	-	-	3	3
Program Core Course (PCC)	Program Courses	10	14	9	6	14	39	47
Program Elective Course (PEC)		-	4	4	-	3	8	11
Skill Enhancement Courses (SEC)	Skill Courses	8	3	6	-	1	17	18
Projects	Experiential Learning Courses	-	-	2	-	3	2	5
Internships		-	-	-	15	-	15	-
Total Credits		21	21	21	21	21	84	84

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FIRST SEMESTER													
				Hours per week				Maximum Marks					
Sr. No.	Course Category	Course Code	Course Title	L	T	P	Credits	Mid-Sem Examination	Continual Assessment	End-Sem Examination	Total Marks	Min. Passing Marks	No. of Hours for ESE
1	SEC	26MC101T	Problem Solving through Programming	3	-	-	3	20	20	60	100	50	3
2	SEC	26MC101P	Problem Solving through Programming Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	26MC102T	Digital Logic Fundamentals	3	-	-	3	20	20	60	100	50	3
4	BSC	26MC103T	Probability and Statistics	3	-	-	3	20	20	60	100	50	3
5	PCC	26MC104T	Operating Systems	3	-	-	3	20	20	60	100	50	3
6	PCC	26MC104P	Operating Systems Lab	-	-	2	1	-	25	25	50	25	-
7	SEC	26MC105P	Web Programming Lab	-	-	2	1	-	25	25	50	25	-
8	PCC	26MC106T	Computer Architecture & Organization	3	-	-	3	20	20	60	100	50	3
9	SEC	26MC107P	Software Lab-1 (Python)	-	-	2	1	-	25	25	50	25	-
10	SEC	26MC108P	Career Development I	-	-	2	1	-	50	-	50	25	-
11	SEC	26MC109P	Technical Skill Development-I	-	-	2	1	-	50	-	50	25	-
Total				15	0	12	21	100	300	400	800	400	

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SECOND SEMESTER

SECOND SEMESTER													
				Hours per week				Maximum Marks					
Sr. No.	Course Category	Course Code	Course Title	L	T	P	Credits	Mid-Sem Examination	Continual Assessment	End-Sem Examination	Total Marks	Min. Passing Marks	No. of Hours for ESE
1	PCC	26MC201T	Data Structure & Algorithm	3	-	-	3	20	20	60	100	50	3
2	PCC	26MC201P	Data Structure & Algorithm Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	26MC202T	Software Engineering & Project Management	3	-	-	3	20	20	60	100	50	3
4	PCC	26MC202P	Software Engineering & Project Management Lab	-	-	2	1	-	25	25	50	25	-
5	PCC	26MC203T	Computer Networks	3	-	-	3	20	20	60	100	50	3
6	PCC	26MC204T	Introduction to Internet of Things	3	-	-	3	20	20	60	100	50	3
7	PEC	26MC205T	Program Elective-I	3	-	-	3	20	20	60	100	50	3
8	PEC	26MC205P	Program Elective-I Lab	-	-	2	1	-	25	25	50	25	-
9	SEC	26MC206P	Software Lab-II (Adv. Python)	-	-	2	1	-	25	25	50	25	-
10	SEC	26MC207P	Career Development II	-	-	2	1	-	50	-	50	25	-
11	SEC	26MC208P	Technical Skill Development-II	-	-	2	1	-	50	-	50	25	-
Total				15	0	12	21	100	300	400	800	400	

Program Elective-I

Track 1	Artificial Intelligence & Machine Learning	Track 2	Cloud Computing
26MC205T/P(i)	Introduction to Artificial Intelligence	26MC205T/P(iii)	Introduction to Cloud Computing
26MC205T/P(ii)	Natural Language Processing	26MC205T/P(iv)	Edge & Fog Computing

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THIRD SEMESTER

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				Hours per week			Credits	Maximum Marks				Min. Passing Marks	No. of Hours for ESE
Sr. No.	Course Category	Course Code	Course Title	L	T	P		Mid-Sem Examination	Continual Assessment	End-Sem Examination	Total Marks		
1	SEC	26MC301T	Object Oriented Programming	3	-	-	3	20	20	60	100	50	3
2	SEC	26MC301P	Object Oriented Programming Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	26MC302T	Database Management System	3	-	-	3	20	20	60	100	50	3
4	PCC	26MC302P	Database Management System Lab	-	-	2	1	-	25	25	50	25	-
5	PCC	26MC303T	Research Methodology	2	-	-	2	10	10	30	50	25	1.5
6	PCC	26MC304T	Computer Graphics	3	-	-	3	20	20	60	100	50	3
7	PEC	26MC305T	Program Elective-II	3	-	-	3	20	20	60	100	50	3
8	PEC	26MC305P	Program Elective-II Lab	-	-	2	1	-	25	25	50	25	-
9	PROJ	26MC306P	Project Dissertation I	-	-	4	2	-	75	75	150	75	-
10	SEC	26MC307P	Career Development III	-	-	2	1	-	50	-	50	25	-
11	SEC	26MC308P	Technical Skill Development-III	-	-	2	1	-	50	-	50	25	-
Total				14	0	14	21	90	340	420	850	425	

Program Elective-II			
Track 1	Artificial Intelligence & Machine Learning	Track 2	Cloud Computing
26MC305T/P(i)	Introduction to Data Analytics	26MC305T/P(iii)	Virtualization & Containerization
26MC305T/P(ii)	Fundamentals Machine Learning	26MC305T/P(iv)	Dockers & Kubernetes

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FOURTH SEMESTER (OPTION A)													
				Hours per week				Maximum Marks					
Sr. No.	Course Category	Course Code	Course Title	L	T	P	Credits	Mid-Sem Examination	Continual Assessment	End-Sem Examination	Total Marks	Min. Passing Marks	No. of Hours for ESE
1	PCC	26MC401T	NPTEL1*	3	-	-	3		40 [#]	60 ^{\$}	100	50	3
2	PCC	26MC402T	NPTEL2*	3	-	-	3		40 [#]	60 ^{\$}	100	50	3
3	PROJ	26MC403P	Industry Based Internship/Research	-	-	30	15	-	300	300	600	300	-
Total				6	0	30	21	0	380	420	800	400	6

*NPTEL Courses as approved by the Head of the Department & Faculty.

[#]Continuous Assessment shall be calculated as average of NPTEL assignment scores obtained from NPTEL

^{\$}End Semester Exam shall be conducted by the institute.

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FOURTH SEMESTER (OPTION B)													
				Hours per week				Maximum Marks					
Sr. No.	Course Category	Course Code	Course Title	L	T	P	Credits	Mid-Sem Examination	Continual Assessment	End-Sem Examination	Total Marks	Min. Passing Marks	No. of Hours for ESE
1	PCC	26MC401T	Cryptography and Network Security	3	-	-	3	20	20	60	100	50	3
2	PCC	26MC401P	Cryptography and Network Security Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	26MC402T	Mobile Applications	3	-	-	3	20	20	60	100	50	3
4	PCC	26MC402P	Mobile Applications Lab	-	-	2	1	-	25	25	50	25	-
5	PCC	26MC403T	Block chain Technology	3	-	-	3	20	20	60	100	50	3
6	PCC	26MC404T	Data Warehousing & Mining	3	-	-	3	20	20	60	100	50	3
7	SEC	26MC405P	Full Stack Development Lab	-	-	2	1	-	25	25	50	25	-
8	PEC	26MC406T	Program Elective-III	3	-	-	3	20	20	60	100	50	3
9	PROJ	26MC407P	Project Dissertation II	-	-	6	3	-	75	75	150	75	
Total				15	0	12	21	100	250	450	800	400	

Program Elective-III			
Track 1	Artificial Intelligence & Machine Learning	Track 2	Cloud Computing
26MC406T(i)	Reinforcement Learning	26MC406T(iii)	Serverless Computing
26MC406T(ii)	Computer Vision	26MC406T(iv)	Cloud Security & Compliance

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Qualification Type and Credit Requirements under NEP Guidelines

Qualification title	Credit requirements
Post-Graduate Diploma for those who exit after the successful completion of the first year or two semesters of the two-year Master's degree program. (Program duration: One year or two semesters) [Post-Graduate Diploma in Computer Applications]	42+4
Master's Degree (Program duration: Two years or four semesters after obtaining a Master's degree). [MASTER OF COMPUTER APPLICATIONS]	84

List of Exit Courses for Post-Graduate Diploma in Computer Applications

(Opt any one course from NPTEL online platform (Course Duration 12 Week/ 40Hrs))

1. Data Analytics with python
2. Blockchain Technology
3. Full Stack Development
4. Foundation for Virtual and Augmented Reality Systems
5. Programming in Java
6. Foundations of Cyber Physical Systems
7. Artificial Intelligence: Knowledge Representation and Reasoning
8. Introduction to Large Language Models (LLMs)
9. Cryptography and Network Security
10. GPU Architectures and Programming

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