S. B. JAIN INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NAGPUR.

(An Autonomous Institute, Affiliated to RTMNU, Nagpur)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Vision: To become a center for quality education in the field of computer science & engineering and to create competent professionals.

CURRICULUM SCHEME
FOR
B.TECH. COMPUTER SCIENCE AND ENGINEERING
With Effect from Session 2022-2023
2nd YEAR / SEMESTER-III

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCCS301T	Engineering Mathematics - III	3	1	0	4	40	60	100	3
2	PCCCS306T	Fundamentals of Digital Electronics & Computer Architecture	3	0	0	3	40	60	100	3
3	PCCCS306P	Fundamentals of Digital Electronics & Computer Architecture Lab	0	0	2	1	25	25	50	--
4	PCCCS307T	Data Structures & Algorithms	3	0	0	3	40	60	100	3
5	PCCCS307P	Data Structures & Algorithms Lab	0	0	4	2	25	25	50	--
6	PCCCS303T	Object Oriented Programming	3	0	0	3	40	60	100	3
7	PCCCS303P	Object Oriented Programming Lab	0	0	4	2	25	25	50	--
8	PCCCS304T	Data Communication & Networking	3	0	0	3	40	60	100	3
9	PCCCS304P	Data Communication & Networking Lab	0	0	2	1	25	25	50	--
10	PCCCS308P	System Lab	0	0	4	2	25	25	50	--
11	PROJCS301	Practice School-I (Internship of 1-2 week)	-	-	-	1	During Summer Vacations after II Semester			
		TOTAL	**15**	**1**	**16**	**25**	**325**	**425**	**750**	--

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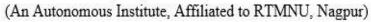
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2nd YEAR / SEMESTER-IV

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Computer Science and Engineering)										
1	PCCCS401T	Discrete Mathematics and Graph Theory	3	1	0	4	40	60	100	3
2	PCCCS405T	Database Management System	3	0	0	3	40	60	100	3
3	PCCCS405P	Database Management System Lab	0	0	4	2	25	25	50	--
4	PCCCS403T	Operating System	4	0	0	4	40	60	100	3
5	PCCCS403P	Operating System Lab	0	0	2	1	25	25	50	--
6	PCCCS404P	Python Programming Lab	0	0	4	2	25	25	50	--
7	HSMCCS401T	Ethics for IT Engineers and IPR	2	0	0	2	20	30	50	2
8	HSMCCS402P	Soft Skills – I	0	0	2	1	25	25	50	--
9	MCCS401	Essence of Indian Traditional Knowledge	2	0	0	0	50	--	50	--
10	OEC	**Open Elective-I**	3	0	0	3	40	60	100	3
		TOTAL	**17**	**1**	**12**	**22**	**330**	**370**	**700**	**--**

3rd YEAR / SEMESTER-V

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Computer Science and Engineering)										
1	PCCCS501T	Theory of Computation	3	1	0	4	40	60	100	3
2	PCCCS502T	Artificial Intelligence	3	0	0	3	40	60	100	3
3	PCCCS502P	Artificial Intelligence Lab	0	0	2	1	25	25	50	--
4	PCCCS503T	Design & Analysis of Algorithms	3	0	0	3	40	60	100	3
5	PCCCS503P	Design & Analysis of Algorithms Lab	0	0	2	1	25	25	50	--
6	PCCCS505T	Software Engineering & Quality Assurance	3	0	0	3	40	60	100	3
7	PCCCS505P	Software Engineering & Quality Assurance Lab	0	0	2	1	25	25	50	--
8	HSMCCS501P	Soft Skills – II	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – II**	3	0	0	3	40	60	100	3
10	PROJCS501	Practice School-II (Internship of 2-3 week)	-	-	-	1	During Summer Vacations after IV Semester			
		TOTAL	**15**	**1**	**8**	**21**	**300**	**400**	**700**	**--**

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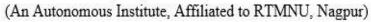
3rd YEAR / SEMESTER-VI

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCCS601T	Compiler Design	4	0	0	4	40	60	100	3
2	PCCCS601P	Compiler Design Lab	0	0	2	1	25	25	50	--
3	PEC	Program Elective - I	3	0	0	3	40	60	100	3
4	PEC	Program Elective - I Lab	0	0	2	1	25	25	50	--
5	PEC	Program Elective-II	3	0	0	3	40	60	100	3
6	PEC	Program Elective-II Lab	0	0	2	1	25	25	50	--
7	HSMCCS601T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
8	HSMCCS602P	Soft Skills - III	0	0	2	1	25	25	50	--
9	PROJCS601	Mini Project	0	0	4	2	25	25	50	--
10	OEC	**Open Elective – III**	3	0	0	3	40	60	100	3
		TOTAL	15	0	12	21	305	395	700	--

Program Elective – I and Program Elective – I Lab

Sr. No	Course Code	Course Title
1	PECCS601T	Cryptography & Network Security
	PECCS601P	Cryptography & Network Security Lab
2	PECCS602T	Data Mining & Warehousing
	PECCS602P	Data Mining & Warehousing Lab
3	PECCS603T	Cloud Computing
	PECCS603P	Cloud Computing Lab

Program Elective – II and Program Elective – II Lab

Sr. No	Course Code	Course Title
1	PECCS604T	Security in Internet of Things
	PECCS604P	Security in Internet of Things Lab
2	PECCS605T	Machine Learning
	PECCS605P	Machine Learning Lab
3	PECCS606T	Design Patterns
	PECCS606P	Design Patterns Lab

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4th YEAR / SEMESTER-VII

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PEC	Program Elective-III	3	0	0	3	40	60	100	3
2	PEC	Program Elective-III Lab	0	0	2	1	25	25	50	--
3	PEC	Program Elective-IV	3	0	0	3	40	60	100	3
4	PEC	Program Elective-IV Lab	0	0	2	1	25	25	50	--
5	PEC	Program Elective-V	3	0	0	3	40	60	100	3
6	PEC	Program Elective-V Lab	0	0	2	1	25	25	50	--
7	PEC	Program Elective-VI	3	0	0	3	40	60	100	3
8	PEC	Program Elective-VI Lab	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – IV**	3	0	0	3	40	60	100	3
10	PROJCS701	Practice School-III (Internship of 4-6 week)	-	-	-	2	During Summer Vacations after VI Semester			
11	PROJCS702	Project-I	0	0	8	4	75	75	150	--
		TOTAL	15	0	16	25	375	475	850	--

Program Elective – III and Program Elective – III Lab

Sr. No	Course Code	Course Title
1	PECCS701T	Cyber Security and Ethical Hacking
	PECCS701P	Cyber Security and Ethical Hacking Lab
2	PECCS702T	Big-Data Analysis
	PECCS702P	Big-Data Analysis Lab
3	PECCS703T	GPU Computing
	PECCS703P	GPU Computing Lab

Program Elective – IV and Program Elective – IV Lab

Sr. No	Course Code	Course Title
1	PECCS704T	Web Security
	PECEE704P	Web Security Lab
2	PECCS705T	Deep Learning
	PECCS705P	Deep Learning Lab
3	PECCS706T	TCP / IP
	PECCS706P	TCP / IP Lab

Program Elective –V and Program Elective –V Lab

Sr. No	Course Code	Course Title
1	PECCS707T	Blockchain Technology
	PECCS707P	Blockchain Technology Lab
2	PECCS708T	Natural Language Processing
	PECCS708P	Natural Language Processing Lab
3	PECCS709T	Distributed Operating Systems
	PECCS709P	Distributed Operating Systems Lab

Program Elective –VI and Program Elective –VI Lab

Sr. No	Course Code	Course Title
1	PECCS710T	Malware Analysis for Mobile Devices
	PECCS710P	Malware Analysis for Mobile Devices Lab
2	PECCS711T	Computer Vision
	PECCS711P	Computer Vision Lab
3	PECCS712T	Embedded Systems
	PECCS712P	Embedded Systems Lab

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4th YEAR / SEMESTER-VIII

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PROJCS801	Project–II / Industry Internship	0	0	12	6	75	75	150	--
		TOTAL	**0**	**0**	**12**	**6**	**75**	**75**	**150**	**--**

Scheme of Teaching & Examination of Bachelor of Engineering VIII Semester B.E. (Computer Science & Engineering)