

**ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR**

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

B. Tech. Scheme of Examination & Syllabus 2023-24**ENGINEERING, SCIENCES & HUMANITIES****GROUP 1: SEMESTER I**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	ES101T	Engineering Physics & Materials Science	2	0	-	2	15	35	50
2	BSC	ES101P	Engineering Physics & Materials Science Lab	-	-	2	1	25	25	50
3	BSC	ES102T	Applied Mathematics-I	3	1	-	4	30	70	100
4	ESC	ES103T	Engineering Practices-I (Electrical & Electronics)	3	-	-	3	30	70	100
5	ESC	ES103P	Engineering Practices-I Lab (Electrical & Electronics)	-	-	2	1	25	25	50
6	ESC	ES104T	Logic Building with C	2	-	-	2	15	35	50
7	ESC	ES104P	Logic Building with C Lab	-	-	2	1	25	25	50
8	AEC	ES105P	Business Communication Skills-I Lab	-	-	2	1	25	25	50
9	IKS	ES106T	Indian Knowledge Systems	2	-	-	2	15	35	50
10	SEC	ES107P	Career Development-I	-	-	2	1	50	-	50
11	PCC	xx101T	Program Foundation-I	2	-	-	2	15	35	50
12	CC	ES108T	Co-curricular Course-I	2	-	-	2	50	-	50
Total				16	1	10	22	320	380	700

		July 2023	1.0	Applicable for 2023-24
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B. Tech. Scheme of Examination & Syllabus 2023-24**ENGINEERING, SCIENCES & HUMANITIES****GROUP 1: SEMESTER II**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	ES201T	Engineering Chemistry & Environmental Science	2	-	-	2	15	35	50
2	BSC	ES201P	Engineering Chemistry & Environmental Science Lab	-	-	2	1	25	25	50
3	BSC	ES202T	Applied Mathematics-II	3	1	-	4	30	70	100
4	ESC	ES203T	Engineering Practices-II (Civil & Mechanical)	3	-	-	3	30	70	100
5	ESC	ES203P	Engineering Practices-II Lab (Civil & Mechanical)	-	-	2	1	25	25	50
6	ESC	ES204T	Problem Solving with Python	2	-	-	2	15	35	50
7	ESC	ES204P	Problem Solving with Python Lab	-	-	2	1	25	25	50
8	AEC	ES205P	Business Communication Skills II Lab	-	-	2	1	25	25	50
9	ESC	ES206T	Design Thinking	2	-	-	2	15	35	50
10	SEC	ES207P	Career Development II	-	-	2	1	50	-	50
11	PCC	xx201T	Program Foundation II	2	-	-	2	15	35	50
12	CC	ES208T	Co-curricular Course - II	2	-	-	2	50	-	50
13	ELC	ES209P	Tinkering & model Lab	-	-	2	-	-	-	-
Total				16	1	12	22	320	380	700

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B. Tech. Scheme of Examination & Syllabus 2023-24**ENGINEERING, SCIENCES & HUMANITIES****GROUP 2: SEMESTER I**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	ES201T	Engineering Chemistry & Environmental Science	2	-	-	2	15	35	50
2	BSC	ES201P	Engineering Chemistry & Environmental Science Lab	-	-	2	1	25	25	50
3	BSC	ES102T	Applied Mathematics-I	3	1	-	4	30	70	100
4	ESC	ES203T	Engineering Practices-II (Civil & Mechanical)	3	-	-	3	30	70	100
5	ESC	ES203P	Engineering Practices-II Lab (Civil & Mechanical)	-	-	2	1	25	25	50
6	ESC	ES204T	Problem Solving with Python	2	-	-	2	15	35	50
7	ESC	ES204P	Problem Solving with Python Lab	-	-	2	1	25	25	50
8	AEC	ES105P	Business Communication Skills I Lab	-	-	2	1	25	25	50
9	ESC	ES206T	Design Thinking	2	-	-	2	15	35	50
10	SEC	ES107P	Career Development I	-	-	2	1	50	-	50
11	PCC	xx101T	Program Foundation I	2	-	-	2	15	35	50
12	CC	ES108T	Co-curricular Course -I	2	-	-	2	50	-	50
13	ELC	ES209P	Tinkering & model Lab	-	-	2	-	-	-	-
Total				16	1	12	22	320	380	700

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B. Tech. Scheme of Examination & Syllabus 2023-24**ENGINEERING, SCIENCES & HUMANITIES****GROUP 2: SEMESTER II**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	ES101T	Engineering Physics & Materials Science	2	0	-	2	15	35	50
2	BSC	ES101P	Engineering Physics & Materials Science Lab	-	-	2	1	25	25	50
3	BSC	ES202T	Applied Mathematics – II	3	1	-	4	30	70	100
4	ESC	ES103T	Engineering Practices-I (Electrical & Electronics)	3	-	-	3	30	70	100
5	ESC	ES103P	Engineering Practices-I Lab(Electrical & Electronics)	-	-	2	1	25	25	50
6	ESC	ES104T	Logic Building with C	2	-	-	2	15	35	50
7	ESC	ES104P	Logic Building with C Lab	-	-	2	1	25	25	50
8	AEC	ES205P	Business Communication Skills II Lab	-	-	2	1	25	25	50
9	IKS	ES106T	Indian Knowledge Systems	2	-	-	2	15	35	50
10	SEC	ES207P	Career Development II	-	-	2	1	50	-	50
11	PCC	xx201T	Program Foundation II	2	-	-	2	15	35	50
12	CC	ES208T	Co-curricular Course - II	2	-	-	2	50	-	50
Total				16	1	10	22	320	380	700

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COMPUTER SCIENCE & BUSINESS SYSTEMS

ANNEXURE – I

Credit Structure for Undergraduate programs

Course Category-wise Distribution of credits of the UG Program

Year	Semester	To be offered by the Department						To be offered by the other Department			University Course			To be offered by the Department			University Course			Total Credit offered as per the recommended format	Total Credit (Min-Max)
		Major (Core)			Minor			Int. Disciplinary/Multi-Disc./Open Elective Courses/SWAYAM)			AEC			SEC			VAC				
		Level	Min. No. of Course	Min Total CU	Level	Min. No. of Course	Min Total CU	Level	Min. No. of Course	Min Total CU	Level	Min. No. of Course	Min Total CU	Level	Min. No. of Course	Min Total CU	Level	Min. No. of Course	Min Total CU		
1	I	100	2	6	100	1	3	NA	1	3	NA	1	2	NA	1	3	NA	2	4	22	20-24
	II	100	2	6	100	1	3	NA	1	3	NA	1	2	NA	1	3	NA	2	4	22	20-24
Vocational Course I (Certificate) Min 44 Credit																					
2	III	200	2	8	200	2	6	NA	1	3	NA	1	2	NA	1	3	NA	NO	NA	22	20-24
	IV	200	3	12	200	2	8	NA	NO	NA	NA	1	2	NA	NO	NA	NA	NO	NA	22	20-24
Vocational Course II (Diploma) Min 84 Credit																					
3	V	300	3 (+SPE)	12	200	1	4	NA	NO	NA	NA	NO	NA	NA	INTERNSHIP	6	NA	NO	NA	22	20-24
	VI	300	3 (+SPE)	16	200	2	6	NA	NO	NA	NA	NO	NA	NA	NO	NA	NA	NO	NA	22	20-24
3 Year Degree Program (Min 120 Credit)																					
4	VII	400	3 (+SPE)	16	300	1	4	NA	NO	NA	NA	NO	NA	NA	MINOR PROJECT	2	NA	NO	NA	22	20-24
	VIII	400	3 (+SPE)	8	300	1	4	NA	NO	NA	NA	NO	NA	NA	DISSERTATION	10	NA	NO	NA	22	20-24
4 Year Degree Program with Hons./ 4 Year Degree Program Hons. with Research (Min 160 Credit)																					

*SPE: Specialization Electives | AEC: Ability Enhancement Courses | SEC: Skill Enhancement Courses | VAC: Value Added Courses

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**GROUP 3 : SEMESTER I**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	ES111T	Discrete Mathematics	3	-	-	3	30	70	100
2	BSC	ES111P	Discrete Mathematics Lab	-	-	2	1	25	25	50
3	BSC	ES112T	Introductory Topics in Statistics, Probability and Calculus	3	-	-	3	30	70	100
4	PCC	CB103T	Fundamentals of Computer Science	3	-	-	3	30	70	100
5	PCC	CB103P	Fundamentals of Computer Science Lab	-	-	4	2	25	25	50
6	ESC	ES113T	Principles of Electrical Engineering	2	-	-	2	15	35	50
7	ESC	ES113P	Principles of Electrical Engineering Lab	-	-	2	1	25	25	50
8	BSC	ES114T	Physics for Computing Science	2	-	-	2	15	35	50
9	BSC	ES114P	Physics for Computing Science Lab	-	-	2	1	25	25	50
10	BSC	ES115T	Business Communication & Value Science - I	1	-	-	1	15	35	50
11	BSC	ES115P	Business Communication & Value Science - I	-	-	2	1	25	25	50
12	CC	ES108T	Co-curricular Courses - I	2			2	50		50
Total				16	0	12	22	310	440	750

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GROUP 3 : SEMESTER II

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Credit	Continual Assessment	End Sem Examination
1	BSC	ES211T	Linear Algebra	3	-	-	3	30	70	100
2	BSC	ES211P	Linear Algebra Lab	-	-	2	1	25	25	50
3	BSC	ES212T	Statistical Methods & Modelling	3	-	-	3	30	70	100
4	BSC	ES212P	Statistical Methods & Modelling Lab	-	-	2	1	25	25	50
5	PCC	CB203T	Data Structures & Algorithms	3	-	-	3	30	70	100
6	PCC	CB203P	Data Structures & Algorithms Lab	-	-	4	2	25	25	50
7	ESC	ES213T	Principles of Electronics	2	-	-	2	15	35	50
8	ESC	ES213P	Principles of Electronics Lab	-	-	2	1	25	25	50
9	BSC	ES214T	Fundamentals of Economics	2	-	-	2	15	35	50
10	BSC	ES215T	Business Communication & Value Science – II	2	-	-	2	25	25	50
11	BSC	ES216T	Environmental Sciences	2	-	-	-	Audit Course		
12	CC	ES208T	Co-curricular Courses - II	2	-	-	2	50		50
Total				19	0	10	22	295	405	700

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SEMESTER III

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
	SEC		Career Development III	-	-	2	1	50	-	50
	VEC		Value Education Course I	2	-	-	2	15	35	50
	ELC		Micro Project I*	-	-	2	1	50	-	50
			Total							

* Field Project or Community engagement project in the major discipline

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SEMESTER IV

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
	OE		Open Elective - I	2	-	-	2	15	35	50
	VSC		Technical Skill Development - I	2	-	-	2	50	-	50
	VEC		Value Education Course II	2	-	-	2	15	35	50
	SEC		Career Development - IV		-	2	1	50	-	50
	ELC		Micro Project II*			2	1	50	-	50
			Total							

* Field Project or Community engagement project in the major discipline

Open Elective - I	

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SEMESTER V

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
	OE		Open Elective - II	3	-	-	3	30	70	100
	VSC		Technical Skill Development - II	2	-	-	2	50	-	50
	SEC		Career Development - V	-	-	2	1	50	-	50
			Total							

Open Elective - II	

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SEMESTER VI

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
	AEC		Economics. & Management	2			2	15	35	50
	OE		Open Elective- III	3	-	-	3	30	70	100
	ELC		Project - I	-	-	4	2	50	50	100
	SEC		Career Development - IV	-	-	2	1	50	-	50
			Total							

Open Elective - III	

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SEMESTER VII

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
	ELC		Project - II	-	-	8	4	50	50	100
	ELC		Summer / Winter Internship*	-	-	-	2	50	--	50
			Total							

* Summer / Winter Internship (Evaluation of Four weeks Internship Completion till 6th Semester)

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SEMESTER VIII

Option A

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	xxxxxP*	Project based on one semester internship in Industry/Research Institute/ National Laboratories/ Incubation Center	-	-	-	12	300	100	400
Total				0	0	0	12	300	100	400

*End semester examination will consist of evaluation of seminar & project report.

Option B

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	xxxxxP#	Institutional Internship	-	-	12	6	100	100	200
2	ELC	xxxxxP	Project – III	-	-	12	6	100	100	200
Total				0	0	0	12	300	100	400

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.

* Minimum 90 days internship in any industry and project is to be carried out during internship.

Two NPTEL courses (as per choice of student) or Institutional Internship by IEDC, SVP CET.

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EXIT OPTIONS

Award of UG Certificate in Major with 40 credits and an additional 8 credits (After First Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits

Award of UG Diploma in Major with _____ credits and an additional 8 credits (After Second Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits

Award of UG Degree in Major with _____ credits and an additional 8 credits (After Third Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits

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Multidisciplinary Minor

Minor 1 :- Management

Sr No	Sem	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
					L	T	P		Continual Assessment	End Sem Examination	Total
1		MDM									
2		MDM									
3		MDM									
4		MDM									
				Total				14			

Multidisciplinary Minor

Minor 2 :- Emerging Trends

Sr No	Sem	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
					L	T	P		Continual Assessment	End Sem Examination	Total
1		MDM									
2		MDM									
3		MDM									
4		MDM									

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				Total				14			
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