R.V.R & J.C.COLLEGE OF ENGINEERING (Autonomous)

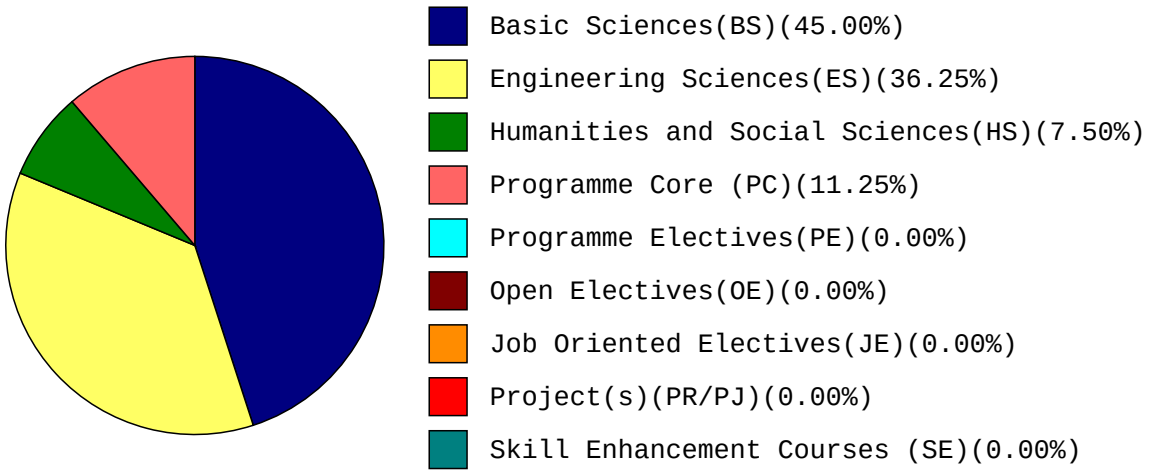
DEPARTMENT OF

B.TECH.

(w.e.f. the batch of students admitted from the academic year 2024-2025)

Programme curriculum (R24) grouping based on course components

Course Component	Curriculum Content (% of total number of credits in programme)	Total number of contact hours	Total number of credits
Basic Sciences (BS)	45	21	18
Engineering Sciences (ES)	36.25	19	14.5
Humanities and / Social Sciences (HS)	7.5	3	3
Professional Core (PC)	11.25	6	4.5
Professional Elective(s) (PE)	0		0
Open Elective(s) (OE)	0		0
Job Oriented Elective(s) (JE)	0		0
Project(s) (PR/PJ)	0		0
Skill Enhancement Course(s) (SEC)	0		0
Mandatory Course(s) (MC)	--		--
Total number of Credits			40



R.V.R & J.C.COLLEGE OF ENGINEERING (Autonomous)

B.TECH.

Course Structure, Scheme of Instruction (R24) and Examination

(w.e.f. the batch of students admitted from the academic year 2024-2025)

Three Weeks Orientation Programme is Mandatory before starting Semester I [First Year]

Semester I [First Year] COURSE STRUCTURE

SNo.	Course Details		Scheme of Instruction			Scheme of Examination			Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks		Credits	
			L	T	P	SES	EXT		
1	QC111	Linear Algebra and Calculus	3	-	-	30	70	3.0	BS
2	QC112	Fundamentals of Physics	3	-	-	30	70	3.0	BS
3	QC113	Basic Electrical and Electronics Engineering	3	-	-	30	70	3.0	ES
4	QC114	Programming for Problem Solving	3	-	-	30	70	3.0	ES
5	QC115	Communicative English	2	-	-	30	70	2.0	HS
6	QC151	Fundamentals of Physics Lab	-	-	2	30	70	1.0	BS
7	QC152	Basic Electrical and Electronics Engineering Lab	-	-	2	30	70	1.0	ES
8	QC153	Programming for Problem Solving Lab	-	-	3	30	70	1.5	ES
9	QC154	Communicative English Lab	-	-	1	30	70	1.0	HS
10	QC155	Nss/Ncc/Community Service	-	-	1	30	70	0.5	BS
		TOTAL	**14**	**0**	**9**	300	700	**19**	TPW-23

Semester II [First Year] COURSE STRUCTURE

SNo.	Course Details		Scheme of Instruction			Scheme of Examination			Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks		Credits	
			L	T	P	SES	EXT		
1	QC121	Vector Calculus, Transforms & Complex Variables	3	-	-	30	70	3.0	BS
2	QC122	Introduction to Quantum Chemistry	3	-	-	30	70	3.0	BS
3	QC123	Quantum Mechanics	3	-	-	30	70	3.0	BS
4	QC124	Digital Logic Design	2	-	-	30	70	2.0	ES
5	QC125	Python Programming	2	-	-	30	70	2.0	ES
6	QC126	Data Structures	3	-	-	30	70	3.0	PC
7	QC161	Chemistry Lab	-	-	2	30	70	1.0	BS
8	QC162	Digital Logic Design Lab	-	-	2	30	70	1.0	ES
9	QC163	Python Programming Lab	-	-	2	30	70	1.0	ES
10	QC164	Data Structures Lab	-	-	3	30	70	1.5	PC
11	QC165	Health & Wellness, Yoga &Sports	-	-	1	30	70	0.5	BS
		TOTAL	**16**	**0**	**10**	330	770	**21**	TPW-26

Semester III [Second Year] **COURSE STRUCTURE**

SNo.	Course Details		Scheme of Instruction			Scheme of Examination		Credits	Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks			
			L	T	P	SES	EXT		
		TOTAL	**0**	**0**	**0**	0	0	**0**	TPW-0

Semester IV [Second Year] **COURSE STRUCTURE**

SNo.	Course Details		Scheme of Instruction			Scheme of Examination		Credits	Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks			
			L	T	P	SES	EXT		
		TOTAL	**0**	**0**	**0**	0	0	**0**	TPW-0
Internship 2 weeks (Mandatory) during summer vacation (to be evaluated during next semester)									
		Minor course (Maximum Two courses can be registered)	**3**	**-**	**-**	**30**	**70**	**3**	MR

Semester V [Third Year] **COURSE STRUCTURE**

SNo.	Course Details		Scheme of Instruction			Scheme of Examination			Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks		Credits	
			L	T	P	SES	EXT		
		TOTAL	**0**	**0**	**0**	0	0	**0**	TPW-0
		Minor course (Maximum Two courses can be registered)	**3**	**-**	**-**	**30**	**70**	**3**	MR

Semester VI [Third Year] **COURSE STRUCTURE**

SNo.	Course Details		Scheme of Instruction			Scheme of Examination			Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks		Credits	
			L	T	P	SES	EXT		
		TOTAL	**0**	**0**	**0**	0	0	**0**	TPW-0
		Internship 4 weeks (Mandatory) during summer vacation (to be evaluated during next semester)							
		Minor course (Maximum Two courses can be registered)	**3**	**-**	**-**	**30**	**70**	**3**	MR

Semester VII [Fourth Year] COURSE STRUCTURE

SNo.	Course Details		Scheme of Instruction			Scheme of Examination			Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks		Credits	
			L	T	P	SES	EXT		
		TOTAL	**0**	**0**	**0**	0	0	**0**	TPW-0
		Minor course (Maximum Two courses can be registered)	**3**	**-**	**-**	**30**	**70**	**3**	MR

Semester VIII [Fourth Year] COURSE STRUCTURE

SNo.	Course Details		Scheme of Instruction			Scheme of Examination			Category Code
	Code No.	Subject Name	Periods per week			Maximum Marks		Credits	
			L	T	P	SES	EXT		
		TOTAL	**0**	**0**	**0**	0	0	**0**	TPW-0

Professional Elective Courses

Code No.	Subject Name	Code No.	Subject Name

Skill Courses

Code No.	Subject Name	Code No.	Subject Name

Science & Humanities Elective Courses

Code No.	Subject Name	Code No.	Subject Name
HSEL1	Industrial Management & Entrepreneurship	HSEL2	Economics for Engineers
HSEL3	Introduction to Industrial Management	HSEL4	Project Management & Entrepreneurship

Open Elective Courses (Offered by other Departments)

Code No.	Subject Name	Code No.	Subject Name
CBOE1	Operating Systems Concepts	CBOE2	Business Analytics
CDOE1	Python for Data Science	CDOE2	Data Science for Engineers
CEOE1	Fundamentals of Building Planning	CEOE2	Remote Sensing and Gis
CEOE3	Disaster Management	CHOE1	Sustainable Engineering
CHOE2	Biofuels	CMOE1	Fundamentals of Artificial Intelligence
CMOE2	Programming with C++	COOE1	Fundamentals of IoT
COOE2	IoT Architecture and Protocols	CSOE1	Programming with JAVA
CSOE2	Relational DataBase Management System	ECOE1	Applied Electronics
ECOE2	Microprocessors & Interfacing	EEOE1	Renewable Energy Sources
EEOE2	Utilization of Electrical Energy	ITOE1	Data Structures and Algorithms
ITOE2	Web Technologies	MEOE1	Operations Research
MEOE2	Elements of Robotics		

General Minor Courses (Offered by other Department)

Note : 1. A student can opt any 4 subjects from each pool @ 3 credits per subject.
2. Compulsory MOOC/NPTEL Courses for 06 credits (02 courses@ 3 credits each)

Industry Track - Minor Courses

Note : 1. A student can opt any 4 subjects from each Track @ 3 credits per subject.
2. Compulsory MOOC/NPTEL Courses for 06 credits (02 courses@ 3 credits each)

Minor in Industrial Automation & Robotics (Offered by Mechanical Engineering)

Code No.	Subject Name	Code No.	Subject Name
ARMR1	Robotic Engineering	ARMR2	Mechatronics and Microcontrollers
ARMR3	Mechanics of Robots	ARMR4	Industrial Automation
ARMR5	Computer Integrated Manufacturing	ARMR6	3D Printing

Minor in Full Stack Development (Offered by Computer Science & Business Systems)

Code No.	Subject Name	Code No.	Subject Name
FSMR1	Client Side Scripting	FSMR2	React Js
FSMR3	C# (.Net Framework)	FSMR4	MEAN stack (MongoDB, Express JS, Angular JS, Node JS)
FSMR5	Web Application Development using Asp		

Minor in VLSI (Offered by Electronics & Communication Engineering)

Code No.	Subject Name	Code No.	Subject Name
VLMR1	HDL Programming	VLMR2	System Verilog and UVM
VLMR3	Physical Design Fundamentals	VLMR4	Low Power VLSI Design
VLMR5	Synthesis and Formal Verification	VLMR6	Advanced Physical Design

Minor in Electric Vehicles (Offered by Electrical & Electronics Engineering)

Code No.	Subject Name	Code No.	Subject Name
EVMR1	Energy Systems and Electrical Machines	EVMR2	Hybrid Electric Vehicles
EVMR3	Plug-in Electric vehicles	EVMR4	Electric Vehicle Power Train
EVMR5	Autotronics	EVMR6	BMS & Charging stations

Minor in Quantum Technolgies (Offered by Computer Science & Business Systems)

Code No.	Subject Name	Code No.	Subject Name
QTMR1	Fundamentals of Quantum Computing	QTMR2	Foundations of Quantum Technologies
QTMR3	Basic Programming Lab	QTMR4	Basic Laboratory Course for Quantum Technologies
QTMR5	Introduction to Quantum Computation	QTMR6A	Introduction to Quantum Communication
QTMR6B	Engineering Foundation of Quantum Technologies	QTMR7	Introduction to Quantum Sensing
QTMR8	Introduction to Quantum Materials		

Department of

Open Electives (Offered to other Departments)

Code No.	Subject Name	Code No.	Subject Name