JSPM's
RAJARSHI SHAHU COLLEGE OF ENGINEERING
TATHAWADE, PUNE-33
(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)

Department of Engineering Sciences & Humanities

Structure & Syllabi

F. Y. B. Tech (Revised 2023 Pattern)

A.Y 2024-25

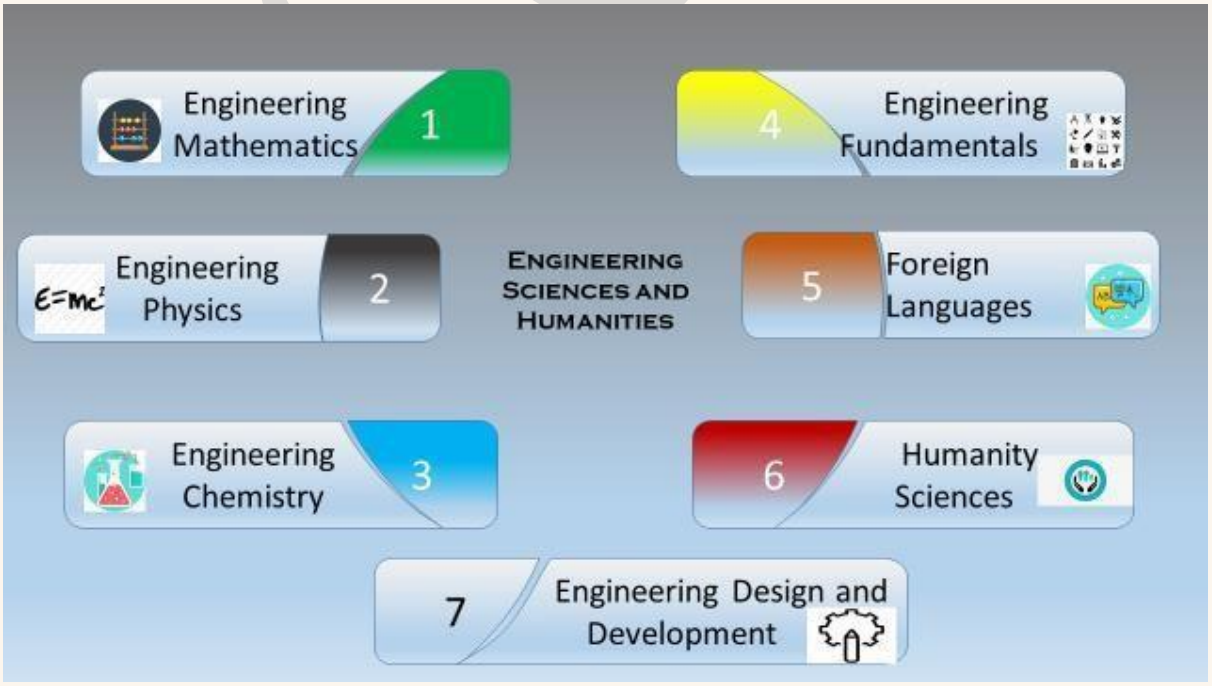
DEPARTMENT OF F.Y.B.TECH ENGINEERING

Vision

To satisfy the aspirations of youth force, who wants to lead nation towards prosperity through techno-economic development.

Mission

To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards.



Dr. S M Yadav
H.O.D, Engg. Science

Dr. Ram Joshi
Dean Academics

Dr. R. K. Jain
Director RSCOE, Pune

DEPARTMENT OF F.Y.B.TECH

Program Outcomes (POs)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Dr. S M Yadav H.O.D, Engg. Science and Humanities	Dr. R.B.Joshi Dean Academics	Dr. R. K. Jain Director RSCOE

DEPARTMENT OF F.Y.B.TECH

Highlights of the Syllabus

Curriculum of F. Y. B. Tech Department is designed in consultation with experts like:

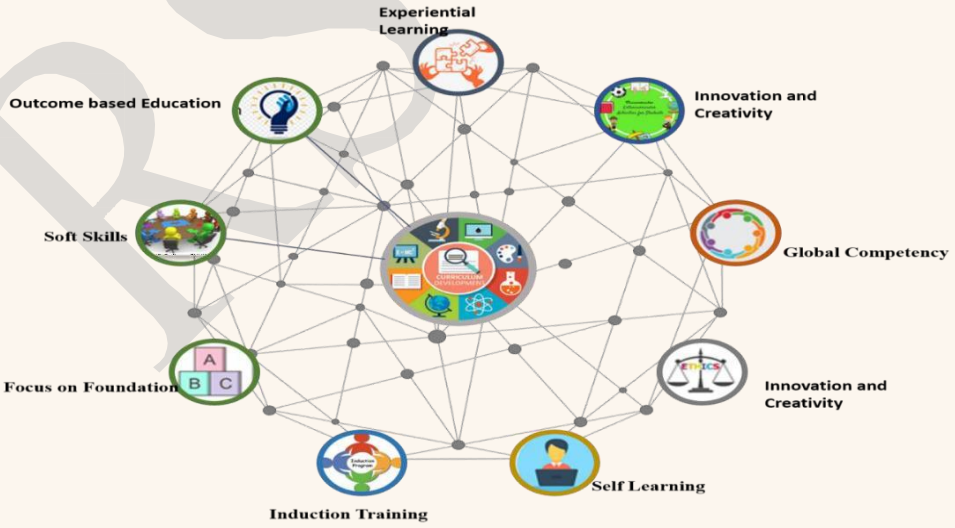
Academic Experts

Industry/Corporate Experts

Distinguished Alumni

The curriculum of the F.Y.B. Tech comprises of Four groups and designed in association with the Tata Consultancy Services, Pune, IIT Ropar, KPIT (Automotive Electronics), Bentley System and Persistent Systems Pvt. Ltd. Pune.

Group 1: Civil Engineering, Mechanical Engineering, Electronics and Telecommunication Engineering, Electrical Engineering and Automation & Robotics Engineering
Group 2: Computer Engineering.
Group 3: Information and Technology Engineering
Group 4: Computer science and Business System



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Unique features of the curriculum:

1. **Curriculum centered at Outcome Based Education**: The new curriculum is focused on **student-centered instruction models** that concentrate on evaluating student success by outcomes. The outcomes include topic awareness, industry required skills and attitude.

2. **Foundation Courses:** The **Basic Science** subjects and **Fundamental Engineering** subjects are pivotal for Engineering Education. These courses are structured in the sense of implementing the respective streams with a more realistic approach.

3. **Contemporary Curriculum:** Curriculum focuses on learning using **modern tools and technologies** such as Survey using Unmanned Aerial Vehicle: drone, robotics, biomedical engineering, CAD latest apps, hands-on experience on 3D printing technology and CNC / VMC machine, conceptualization of recent **Education 4.0** trends like Machine Learning, AI, Data Science

4. **Induction Training**: It's a well-planned three-week event to **acquaint** new aspirants about the atmosphere in the organization, connect them with the people in it, help themselves to unfold and get settled with an innocuous everyday routine. Training will also gain awareness, sensitivity and perception of oneself, individuals around them, society at large, and nature.

5. **Engineering Design and Development**: **Experiential learning** is the main aspect in information gain by experience. This gives students the opportunity to collaborate or develop their own learning skills, such as problem solving, critical thinking and time management. Students are exposed to various design and working models of Engineering Products such as AC, Refrigerator, CPU, 3D-Printer, reciprocating and rotary compressors using **Introduction to Engineering and Engineering Products (IEEP).**

6. **Self-Learning:** The curriculum provides students the **flexibility** to take initiatives satisfy their learning needs with the support of online learning platforms such as MOOCs, NPTEL, Swayam, MHRD, etc.

7. **Global Competence**: Curriculum aims to build **cognitive skills** that enable access to opportunities for personal and professional development. Foreign language training like English, German, Japanese and French enables to gain insight into the problems and solutions that arise from **different cultures**.

8. **Blend of Curricular and Extra-Curricular Activities**: The curriculum has a good blend of activities like co-curricular, extra-curricular, sports, culture etc. for the **overall development** of students.

9. **Inculcating Ethics and Values**: The curriculum included attempts to target **ethics and values** in order to improvise student conduct, helping them make the right choices, lead their professional lives and become ethical individuals.

10. **Internship Program:** The program involves internships with the goal of acquiring various **discipline-related skills and technologies** and developing their technical and professional knowledge.

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F. Y. B. Tech (Pattern 23)
Structure for Group 1

1. Civil Engineering 2. Electronics and Telecommunication 3. Electrical Engineering

Academic Year -2024-2025 (Semester –I)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	Cr	ISE	MSE	ESE	TW		
BSC	ES1201T	Engineering Mathematics-I	3	1	0	4	4	20	30	50	50	150	Mathematics
BSC	ES1206T	Physics for Engineers	3	0	0	3	3	20	30	50	-	100	Physics
BSC	ES1206L	Physics for Engineers Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Physics
HSSM (VSEC)	ME1202L	Engineering Drawing Laboratory	0	0	4	4	2	ISCE: 50		50	-	100	Mechanical
ESC	EE1201T	Introduction to Electrical Engineering	3	0	0	3	3	20	30	50	-	100	Electrical
ESC	EE1201L	Introduction to Electrical Engineering Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Electrical
ESC	CS1201T	Introduction to Computer Programming	1	0	0	1	1	20	10	20	-	50	Computer and IT
ESC	CS1201L	Introduction to Computer Programming Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Computer and IT
HSSM (AEC)	HS1202T/ HS1203T/ HS1204T/ HS1205T	Professional English Communication / English Language skills / German/ Japanese	2	0	0	2	2	20	30	50	-	100	Humanities
HSSM (AEC)	HS1202L/ HS1203L/ HS1204L/ HS1205L	Professional English Communication lab/ English Language skills lab / German lab/ Japanese lab	0	0	2	2	1	ISCE: 30		20	-	50	Humanities
CEP	ES1209L	Community Engagement Project	0	0	4	4	2	ISCE: 50		50	-	100	Engineering Sciences
CC	HS1211L	Co-curricular Courses	0	1	0	1	1	ISCE: 50		-	-	50	Humanities
HSSM	HS1201	Induction Training			Non-credit course								
Total			**12**	**2**	**16**	**30**	**22**					**950**	

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F. Y. B. Tech (Pattern 2023)
Structure for Group 1

1. Civil Engineering 2. Electronics and Telecommunication 3. Electrical Engineering

Academic Year -2024-2025 (Semester –II)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	Cr	ISE	MSE	ESE	TW		
BSC	ES1202T	Engineering Mathematics-II	3	1	0	4	4	20	30	50	50	150	Mathematics
BSC	ES1207T	Chemistry for Engineers	3	0	0	3	3	20	30	50	-	100	Chemistry
BSC	ES1207L	Chemistry for Engineers Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Chemistry
HSSM (VSEC)	ME1201L	Workshop Practice	0	0	4	4	2	ISCE: 60		40	-	100	Mechanical
ESC	EC1201T	Basic Electronics Engineering	2	0	0	2	2	20	30	50	--	100	E&TC
ESC	EC1201L	Basic Electronics Engineering Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	E&TC
ESC	CE1201T	Engineering Mechanics	3	0	0	3	3	20	30	50	-	100	Civil
ESC	CE1201L	Engineering Mechanics Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Civil
ESC	CS1202T	Fundamentals of Data Structure	1	0	0	1	1	20	10	20	-	50	Computer and IT
ESC	CS1202L	Fundamentals of Data Structure Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Computer and IT
HSSM (VSEC)	ES1208L	Introduction to Engineering and Engineering Products	0	0	2	2	1	ISCE: 30		**20**	-	50	Humanities
HSSM (IKS)	HS1207T	Indian Knowledge Systems	2	0	0	2	2	20	30	50		100	Humanities
HSSM	HS1206	Indian Constitution	**Non-credit course**										
Total			**14**	**1**	**14**	**29**	**22**					**950**	

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Abbreviations

L	**:**	**Lecture**	**P**	**:**	**Practical**
T	**:**	**Tutorial**	**C**	**:**	**Credits**
Hr	**:**	**Hours**			
In Course Code T	**:**	**Theory**	**In Course Code L**	**:**	**Lab**
BSC	**:**	**Basic Science Course**			
ESC	**:**	**Engineering Science Course**			
HSSM	**:**	**Humanities Social Science and Management Course**			
ASC		**Ability Enhancement Course**			
VSEC	**:**	**Vocational Skill Enhancement Course**			
CEP	**:**	**Community Engagement Project**			
CC	**:**	**Co-curricular activities**			
ISE	**:**	**In Semester Evaluation**			
MSE	**:**	**Mid Semester Evaluation**			
ESE	**:**	**End Semester Evaluation**			

Notes: For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.

For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a Separate head of passing.

List of Exit Courses after completion of Semester I and II

1. Exit option is available for students those who have earned the total 44 credits at the End of Second Semester.
2. Student who wants to avail the exit option after first year have to earn additional 8 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 1 st Year.
4. After fulfillment as mentioned in 1 to 3 above, Students can earn **U.G Certificate** and same will be issued by the

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Civil Engineering

Sr. No.	Course code	Name	Credits
1.	EX-CE1201	Basic Civil Engineering	2
2.	EX-CE1202	Solid Mechanics	2
3.	EX-CE1203	Geotechnical Engineering	2
4.	EX-CE1204	Fluid Mechanics	2

Electronics and Telecommunication Engineering

Sr. No.	Course code	Name	Credits
1.	EX-EC1201	Electrical Technology	2
2.	EX-EC1202	Network analysis	2
3.	EX-EC1203	Basics of Power Electronics	2
4.	EX-EC1204	Electrical Measurement	2
5.	EX-EC1205	Analog and Digital Circuit	2
6.	EX-EC1206	Microcontroller	2

Electrical Engineering

Sr. No.	Course code	Name	Credits
1.	EX-ME1201	Certificate course in Electrical Wiring	2
2.	EX-ME1202	Certificate course in fundamental electrical circuit design	2
3.	EX-ME1203	Certificate course in electrical appliances operation	2
4.	EX-ME1204	Certificate course in electrical safety	2
5.	EX-ME1205	Certificate course in electrical drawing	2

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6.	**EX-ME1206**	Certificate course in Electrical studie	**2**

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F. Y. B. Tech (Pattern 2023)
Structure for Group 1
1. Mechanical Engineering 2.A&R Engineering

Academic Year -2024-2025 (Semester –I)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	Cr	ISE	MSE	ESE	TW		
BSC	ES1201T	Engineering Mathematics-I	3	1	0	4	4	20	30	50	50	150	Mathematics
BSC	ES1207T	Chemistry for Engineers	3	0	0	3	3	20	30	50	-	100	Chemistry
BSC	ES1207L	Chemistry for Engineers Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Chemistry
HSSM (VSEC)	ME1201L	Workshop Practice	0	0	4	4	2	ISCE: 60		40	-	100	Mechanical
ESC	EC1201T	Basic Electronics Engineering	2	0	0	2	2	20	30	50	--	100	E&TC
ESC	EC1201L	Basic Electronics Engineering Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	E&TC
ESC	CE1201T	Engineering Mechanics	3	0	0	3	3	20	30	50	-	100	Civil
ESC	CE1201L	Engineering Mechanics Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Civil
ESC	CS1201T	Introduction to Computer Programming	1	0	0	1	1	20	10	20	-	50	Computer and IT
ESC	CS1201L	Introduction to Computer Programming Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Computer and IT
HSSM (VSEC)	ES1208L	Introduction to Engineering and Engineering Products	0	0	2	2	1	ISCE: 30		20	-	50	Engineering Sciences
HSSM (IKS)	HS1207T	Indian Knowledge Systems	2	0	0	2	2	20	30	50	-	100	Humanities
HSSM	HS1201	Induction Training	**Non-credit course**										
Total			**14**	**1**	**14**	**29**	**22**					**950**	

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F. Y. B. Tech (Pattern 23)
Structure for Group 1
1. Mechanical Engineering 2.A&R Engineering

Academic Year -2024-2025 (Semester –II)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	Cr	ISE	MSE	ESE	TW		
BSC	ES1202T	Engineering Mathematics-II	3	1	0	4	4	20	30	50	50	150	Mathematics
BSC	ES1206T	Physics for Engineers	3	0	0	3	3	20	30	50	-	100	Physics
BSC	ES1206L	Physics for Engineers Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Physics
HSSM (VSEC)	ME1202L	Engineering Drawing Laboratory	0	0	4	4	2	ISCE: 50		50	-	100	Mechanical
ESC	EE1201T	Introduction to Electrical Engineering	3	0	0	3	3	20	30	50	-	100	Electrical
ESC	EE1201L	Introduction to Electrical Engineering Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Electrical
ESC	CS1202T	Fundamentals of Data Structure	1	0	0	1	1	20	10	20	-	50	Computer and IT
ESC	CS1202L	Fundamentals of Data Structure Laboratory	0	0	2	2	1	ISCE: 30		20	-	50	Computer and IT
HSSM (AEC)	HS1202T/ HS1203T/ HS1204T/ HS1205T	Professional English Communication / English Language skills / German/ Japanese	2	0	0	2	2	20	30	50	-	100	Humanities
HSSM (AEC)	HS1202L/ HS1203L/ HS1204L/ HS1205L	Professional English Communication lab / English Language skills lab / German lab / Japanese lab	0	0	2	2	1	ISCE: 30		20	-	50	Humanities
CEP	ES1209L	Community Engagement Project	0	0	4	4	2	ISCE: 50		50	-	100	Engineering Sciences
CC	HS1211L	Co-curricular Courses	0	0	2	1	1	ISCE: 50		-	-	50	Humanities
HSSM	HS1206	Indian constitution			Non-credit course								
Total			12	1	16	30	22					950	

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ESC	**:**	**Engineering Science Course**			
HSSM	**:**	**Humanities Social Science and Management Course**			
VSEC	**:**	**Vocational Skill Enhancement Course**			
AEC	**:**	**Ability Enhancement Course**			
CEP	**:**	**Community Engagement Project**			
CC	**:**	**Co-curricular activities**			
ISE	**:**	**In Semester Evaluation**			
MSE	**:**	**Mid Semester Evaluation**			
ESE	**:**	**End Semester Evaluation**			

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The ESE is a separate head of passing.

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Mechanical

Sr. No.	Course code	Name	Credits
1.	EX-ME1201	Certifiedin 3D modelling Software	2
2.	EX-ME1202	Certified in Drafting Skills	2
3.	EX-ME1203	Welding Technology	2
4.	EX-ME1204	Hands on Training in any workshop (2 Weeks)	2
5.	EX-ME1205	Certified Programmer in C	2
6.	EX-ME1206	Certified Programmer in AutoCAD	2

Automation and Robotics

Sr. No.	Course code	Name	Credits
1.	EX-AR1201	Fundamentals of Automation System	2
2.	EX-AR1202	Fundamentals of Robotics	2
3.	EX-AR1203	Certification in Design and Simulation of Hydraulic/Pneumatic System	2
4.	EX-AR1204	Certified Programmer in C++	2
5.	EX-AR1205	Mini Project	2
6.	EX-AR1206	Internship at Industry	2

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F. Y. B. Tech (Pattern 2023)
Structure for Group 2

F. Y. B. Tech. Computer Engineering

Academic Year -2024-2025 (Semester –I)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
BSC	ES1203T	Linear Algebra	3	1	-	4	4	20	30	50	50	150	Mathematics
BSC	ES1206T	Physics for Engineers	3	-	-	3	3	20	30	50	-	100	Physics
BSC	ES1206L	Physics for Engineers Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Physics
BSC	ES1204T	Discrete Mathematics	3	1	-	4	4	20	30	50	50	150	Mathematics
ESC	EC1201T	Basic Electronics Engineering	2	-	-	2	2	20	30	50	-	100	E&TC
ESC	EC1201L	Basic Electronics Engineering Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	E&TC
ESC	CS1203T	Fundamentals of Computer Programming	1	-	-	1	1	20	10	20	-	50	Computer and IT
ESC	CS1203L	Fundamentals of Computer Programming Laboratory	-	-	4	4	2	ISCE: 60		40	-	100	Computer and IT
HSSM (IKS)	HS1207T	Indian Knowledge Systems	2	-	-	2	2	20	30	50	-	100	Humanities
CEP	ES1209L	Community Engagement Project	0	0	4	4	2	ISCE: 50		50	-	100	Engineering Sciences
HSSM	HS1201	Induction Training	Non-credit course										
	Total		14	2	12	28	22					950	

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F. Y. B. Tech (Pattern 2023)
Structure for Group 2

F. Y. B. Tech. Computer Engineering

Academic Year -2024-2025 (Semester –II)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
BSC	ES1205T	Probability and Statistics	3	1	-	4	4	20	30	50	50	150	Mathematics
BSC	ES1207T	Chemistry for Engineers	3	-	-	3	3	20	30	50	-	100	Chemistry
BSC	ES1207L	Chemistry for Engineers Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Chemistry
ESC	EE1201T	Introduction to Electrical Engineering	3	-	-	3	3	20	30	50	-	100	Electrical
ESC	EE1201L	Introduction to Electrical Engineering Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Electrical
ESC	CS1204T	Object Oriented Programming	1	-	-	1	1	20	10	20	-	50	Computer and IT
ESC	CS1204L	Object Oriented Programming Laboratory	-	-	4	4	2	ISCE: 60		40	-	100	Computer and IT
HSSM (AEC)	HS1202T/ HS1203T/ HS1204T /HS1205T	Professional English Communication/ English Language skills German/ Japanese	2	-	-	2	2	20	30	50	-	100	Humanities
HSSM (AEC)	HS1202L/ HS1203L/ HS1204L/ HS1205L	Professional English Communication lab English Language skills lab German lab Japanese lab	-	-	2	2	1	ISCE: 30		20	-	50	Humanities
HSSM	HS1209T	Economics	2	-	-	2	2	20	30	50	-	100	Humanities
HSSM (VSEC)	ES1208L	Introduction to Engineering and Engineering Products	-	-	2	2	1	ISCE: 30		20	-	50	Engineering Sciences
CC	HS1211L	Co-curricular Courses	0	1	0	1	1	ISCE: 50 -		-	-	**50**	Humanities
HSSM	HS1206	Indian Constitution	Non-credit course										
	Total		**14**	**2**	**12**	**28**	**22**					**950**	

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Dean Academics

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Director RSCOE, Pune

Abbreviations

L	**:**	**Lecture**	**P**	**:**	**Practical**
T	**:**	**Tutorial**	**C**	**:**	**Credits**
Hr	**:**	**Hours**			
In Course Code T	**:**	**Theory**	**In Course Code L**	**:**	**Lab**
BSC	**:**	**Basic Science Course**			
ESC	**:**	**Engineering Science Course**			
HSSM	**:**	**Humanities Social Science and Management Course**			
AEC	**:**	**Ability enhancement course**			
VSEC	**:**	**Vocational Skill Enhancement Course**			
AEC	**:**	**Ability Enhancement course**			
CEP	**:**	**Community Engagement Project**			
CC	**:**	**Co-curricular activities**			
ISE	**:**	**In Semester Evaluation**			
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Notes: For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.

For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a Separate head of passing.

List of Exit Courses after completion of Semester I and II

1. Exit option is available for students those who have earned the total 44 credits at the End of Second Semester.
2. Student who wants to avail the exit option after first year have to earn additional 8 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 1 st Year.

Dr. S.M.Yadav
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4. After fulfillment as mentioned in 1 to 3 above, Students can earn **U.G Certificate** and same will be issued by the Institute.

Computer Engineering

Sr. No.	Course code	Name	Credits
1.	**EX-CS1201**	Desktop Engineer	**2**
2.	**EX-CS1202**	IT Support Engineer	**2**
3.	**EX-CS1203**	Certified Programmer in C	**2**
4.	**EX-CS1204**	Certified Programmer in C++	**2**
5.	**EX-CS1205**	MS Office certification program	**2**
6.	**EX-CS1206**	Computer Hardware Maintenance	**2**

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F. Y. B. Tech (Pattern 2023)
Structure for Group 2

F. Y. B. Tech. Information Technology

Academic Year -2024-2025 (Semester –I)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
BSC	ES1203T	Linear Algebra	3	1	-	4	4	20	30	50	50	150	Mathematics
BSC	ES1207T	Chemistry for Engineers	3	-	-	3	3	20	30	50	-	100	Chemistry
BSC	ES1207L	Chemistry for Engineers Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Chemistry
ESC	EE1201T	Introduction to Electrical Engineering	3	-	-	3	3	20	30	50	-	100	Electrical
ESC	EE1201L	Introduction to Electrical Engineering Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Electrical
ESC	CS1203T	Fundamentals of Computer Programming	1	-	-	1	1	20	10	20	-	50	Computer and IT
ESC	CS1203L	Fundamentals of Computer Programming Laboratory	-	-	4	4	2	ISCE: 60		40	-	100	Computer and IT
HSSM (AEC)	HS1202T/ HS1203T/ HS1204T /HS1205T	Professional English Communication English Language skills German Japanese	2	-	-	2	2	20	30	50	-	100	Humanities
HSSM (AEC)	HS1202L/ HS1203L/ HS1204L/ HS1205L	Professional English Communication lab English Language skills lab German lab Japanese lab	-	-	2	2	1	ISCE: 30		20	-	50	Humanities
HSSM	HS1209T	Economics	2	-	-	2	2	20		30	50	100	Humanities
HSSM (VSEC)	ES1208L	Introduction to Engineering and Engineering Products	-	-	2	2	1	ISCE: 30		20	-	50	Engineering Science
CC	HS1211L	Co-curricular Courses	0	1	0	1	1	ISCE: 50		-	-	50	Humanities
HSSM	HS1201	Induction Training	Non-credit course										
	Total		**14**	**2**	**12**	**28**	**22**					**950**	

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F. Y. B. Tech (Pattern 2023)
Structure for Group 2

F. Y. B. Tech. Information Technology Engineering

Academic Year -2024-2025 (Semester –II)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
BSC	ES1205T	Probability and Statistics	3	1	-	4	4	20	30	50	50	150	Mathematics
BSC	ES1206T	Physics for Engineers	3	-	-	3	3	20	30	50	-	100	Physics
BSC	ES1206L	Physics for Engineers Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Physics
BSC	ES1204T	Discrete Mathematics	3	1	-	4	4	20	30	50	50	150	Mathematics
ESC	EC1201T	Basic Electronics Engineering	2	-	-	2	2	20	30	50	-	100	E&TC
ESC	EC1201L	Basic Electronics Engineering Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	E&TC
ESC	CS1204T	Object Oriented Programming	1	-	-	1	1	20	10	20	-	50	Computer and IT
ESC	CS1204L	Object Oriented Programming Laboratory	-	-	4	4	2	ISCE: 60		40	-	100	Computer and IT
HSSM (IKS)	HS1207T	Indian Knowledge Systems	2	-	-	2	2	20	30	50	-	100	Humanities
CEP	ES1209L	Community Engagement Project	0	0	4	4	2	ISCE: 50		50	-	100	Engineering Science
HSSM	HS1206	Indian Constitution	Non-credit course										
	Total		**14**	**2**	**12**	**28**	**22**					**950**	

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Abbreviations

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CEP	**:**	**Community Engagement Project**			
CC	**:**	**Co-curricular activities**			
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List of Exit Courses after completion of Semester I and II

1. Exit option is available for students those who have earned the total 44 credits at the End of Second Semester.
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Institute.

Information Technology

Sr. No.	Course code	Name	Credits
1.	**EX-CS1201**	Desktop Engineer	**2**
2.	**EX-CS1202**	IT Support Engineer	**2**
3.	**EX-CS1203**	Certified Programmer in C	**2**
4.	**EX-CS1204**	Certified Programmer in C++	**2**
5.	**EX-CS1205**	MS Office certification program	**2**
6.	**EX-CS1206**	Computer Hardware Maintenance	**2**

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F. Y. B. Tech (Pattern 2023)
Structure for Group 3

F. Y. B. Tech. Computer Science and Business System

Academic Year -2024-2025 (Semester –I)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
BSC	ES1203T	Linear Algebra	3	1	-	4	4	20	30	50	50	150	Mathematics
ESC	EE1201T	Introduction to Electrical Engineering	3	-	-	3	3	20	30	50	-	100	Electrical
ESC	EE1201L	Introduction to Electrical Engineering Laboratory	-	-	2	2	1	ISCE: 30		20	-	50	Electrical
ESC	CS1203T	Fundamentals of Computer Programming	1	-	-	1	1	20	10	20	-	50	Computer and IT
ESC	CS1203L	Fundamentals of Computer Programming Laboratory	-	-	4	4	2	ISCE: 60		40	-	100	Computer and IT
HSSM (AEC)	HS1202T/ HS1203T/ HS1204T/ HS1205T	Professional English Communication/ English Language skills German/ Japanese	2	-	-	2	2	20	30	50	-	100	Humanities
HSSM (AE	HS1202L/ HS1203L/ HS1204L/ HS1205L	Professional English Communication lab English Language skills lab German lab Japanese lab	-	-	2	2	1	ISCE: 30		20	-	50	Humanities
SSM (VSEC	ES1208L	Introduction to Engineering and Engineering Products	0	0	2	2	1	ISCE: 30		**20**	-	50	Engineering Sciences
HSSM	HS1209T	Economics	2	-	-	2	2	20	30	50	-	100	Humanities
HSSM	HS1210L	Business Communication and Value Science-I	-	-	-	2	1	ISCE: 50			-	50	Humanities
CC	HS1211L	Co-curricular Course	-	1	-	1	1	ISCE: 50		-	-	50	Humanities
HSSM	HS1208T	Universal Human values	3	-	-	3	3	20	30	50	-	100	Humanities
HSSM	HS1201	Induction Training	Non-credit course										
	Total		14	2	10	28	22					950	

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F. Y. B. Tech (Pattern 2023)
Structure for Group 3

F. Y. B. Tech. Computer Science and Business System

Academic Year -2024-2025 (Semester –II)

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
			L	T	P	Hr	C	ISE	MSE	ESE	TW		
BSC	ES1204T	Discrete Mathematics	3	1	-	4	4	20	30	50	50	150	Mathematics
BSC	ES1206T	Physics for Engineers	3	-	-	3	3	20	30	50	-	100	Physics
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ESC	CS1204T	Object Oriented Programming	1	-	-	1	1	20	10	20	-	50	Computer and IT
ESC	CS1204L	Object Oriented Programming Laboratory	-	-	4	4	2	ISCE: 60		40	-	100	Computer and IT
CEP	ES1209L	Community Engagement Project	0	0	4	4	2	ISCE: 50		50	-	100	Engineering Sciences
HSSM (IKS)	HS1207T	Indian Knowledge Systems	2	-	-	2	2	20		30	50	100	Humanities
HSSM	HS1206	Indian Constitution	Non-credit course										
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Computer Sciences and Business Systems

Sr. No.	Course code	Name	Credits
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2.	EX-CB1202	IT Support Engineer	2
3.	EX-CB1203	Certified Programmer in C	2
4.	EX-CB1204	Certified Programmer in C++	2

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