



**JSPM's**  
**RAJARSHI SHAHU COLLEGE OF ENGINEERING**  
**TATHAWADE, PUNE-33**

**(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)**



**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 Sciences
CC	IT1211L	Co-curricular Courses	0	1	0	1	1	ISCE: 50		-	-	50	Humanities
HSSM	HS1201	Induction Training	Non-credit course										
	<b>Total</b>		<b>14</b>	<b>2</b>	<b>12</b>	<b>28</b>	<b>22</b>					<b>950</b>	

Dr. S.M. Yadav  
Engg Sciences and Humanities

Dr. Ram Joshi  
Dean Academics



Dr. R. K. Jain  
Director RSCOE, Pune



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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 Sciences
HSSM	HS1206	Indian Constitution	Non-credit course										
	<b>Total</b>		<b>14</b>	<b>2</b>	<b>12</b>	<b>28</b>	<b>22</b>					<b>950</b>	





**S. Y. B. Tech (Information Technology)**  
**Academic Year -2024-2025 (Semester -III)**  
**(2023 Pattern)**

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		C	ISE	MSE		
PCC	IT2201T	Computer Organization and Architecture	3	-	-	3	3	20	30	50	100	IT
PCC	IT2202T	Software Engineering and Design	3	-	-	3	3	20	30	50	100	IT
PCC	IT2203T	Fundamentals of Data Structure	3	-	-	3	3	20	30	50	100	IT
PCC	IT2203L	Fundamentals of Data Structure Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
PCC	IT2204T	Operating Systems	3	-	-	3	3	20	30	50	100	IT
PCC	IT2204L	Operating Systems Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
HSSM	ES2206T	Environmental Science and Engineering	2	-	-	2	2	20	30	50	100	Humanities
PCC	IT2205L	Programming Lab-I: Python	-	-	4	4	2	ISCE: 60		40	100	IT
PCC	IT2207T	Innovation and Entrepreneurship	2	-	-	2	2	20	30	50	100	IT
CEP	HS2206L	Soft Skills	-	-	2	2	1	ISCE: 30		20	50	Humanities
PCC	IT2206L	Design Thinking	-	-	2	2	1	ISCE: 30		20	50	IT
	<b>Total</b>		<b>16</b>	-	<b>12</b>	<b>28</b>	<b>22</b>	-		-	<b>900</b>	

**Dr. N. M. Ranjan**  
BoS Chairman

**Dr. A. M. Badadhe**  
Dean of Academics



**Dr. S. P. Bhosle**  
Director



**S. Y. B. Tech (Information Technology)**  
**Academic Year -2024-2025 (Semester -IV)**  
**(2023 Pattern)**

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		C	ISE	MSE		
ESC	ES2203T	Calculus and Transforms	3	-	-	3	3	20	30	50	100	Mathematics
PCC	IT2208T	Formal Language and Automata Theory	3	-	-	3	3	20	30	50	100	IT
PCC	IT2209T	Data Structures and Algorithms	3	-	-	3	3	20	30	50	100	IT
Skill Course (VSEC)	IT2209L	Data Structures and Algorithms Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
PCC	IT2210T	Computer Network	3	-	-	3	3	20	30	50	100	IT
MDM		Multi-Disciplinary Minor-I	3	-	-	3	3	20	30	50	100	Other department
HSSM (VSEC)	HS2203T	Universal Human Values and Ethics	2	-	-	2	2	20	30	50	100	Humanities
HSSM (VEC)	IT2211L	Web Technology Lab	-	-	4	4	2	ISCE: 60		40	100	IT
Skill Course (VSEC)	IT2212L	Programming Lab II: Advanced Python	-	-	2	2	1	ISCE: 30		20	50	IT
CC	IT2213L	Co-curricular Course-II	-	-	2	2	1	ISCE: 50		-	50	IT
	<b>Total</b>		<b>17</b>	-	<b>10</b>	<b>27</b>	<b>22</b>			-	<b>850</b>	

**Dr. N. M. Ranjan**  
BoS Chairman

**Dr. A. M. Badadhe**  
Dean of Academics



**Dr. S. P. Bhosle**  
Director

**Abbreviations:**

L – Lecture, T – Tutorial, P – Practical, Hr – Hours, C – Credits, TuT – Tutorial, 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.

For Tutorial: Assessment shall be ISE of the respective course.

**List of Exit Courses after completion of Semester III and IV**

1. Exit option is available for students those who have earned the total 88 credits at the End of fourth Semester.
2. Student who wants to avail the exit option after second year have to earn additional 6-8 credits from the list of courses shown below.
3. These courses student have to complete within summer vacation after 2<sup>nd</sup> Year.
4. After fulfilment as mentioned in 1 to 3 above, Students can earn **UG-Diploma/ Diploma-Eng** and same will be issued by the Institute.

Sr. No.	Course code	Name	Credits
1.	<b>EX-IT2201</b>	Certified Python Developer	2
2.	<b>EX-IT2202</b>	Certified Network Engineer	2
3.	<b>EX-IT2203</b>	Certified Web Developer	2
4.	<b>EX-IT2204</b>	Certified Data Structure Engineer	2



**Dr. N. M. Ranjan**  
BoS Chairman



**Dr. A. M. Badadhe**  
Dean of Academics




**Dr. S. P. Bhosle**  
Director



**T. Y. B. Tech (Information Technology)**

**W.e.f. Academic Year -2025-2026 (Semester -V)**

(Level 5.5 - B.Voc./ B.Sc. Engg) -Semester V

**(2023 Pattern)**

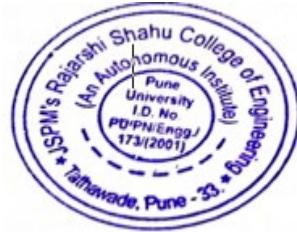
Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		C	ISE	MSE		
PCC	IT3201T	Database Management System	3	-	-	3	3	20	30	50	100	IT
PCC	IT3201L	Database Management System Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
PCC	IT3202T	Design and Analysis of Algorithm	3	-	-	3	3	20	30	50	100	IT
PCC	IT3202L	Design and Analysis of Algorithm Laboratory	-	-	2	2	1	ISCE-30		20	50	IT
MDM		Multi-Disciplinary Minor-II	3	-	-	3	3	20	30	50	100	Other department
MDM		Multi-Disciplinary Minor-II Laboratory	-	-	2	2	1	ISCE: 30		20	50	Other department
OE	ITO3201T	Open Elective I	3	-	-	3	3	20	30	50	100	Other department
PEC	IT3203T	Professional Elective-I	3	-	-	3	3	20	30	50	100	IT
PEC	IT3203L	Professional Elective-I Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
Skill Course (VSEC)	IT3204L	Programming Lab III (Java Programming)	-	-	4	4	2	ISCE: 50		50	100	IT
CC	IT3205L	Co-curricular Course	-	-	2	2	1	ISCE: 30		20	50	Respective Department
	<b>Total</b>		<b>15</b>	<b>-</b>	<b>14</b>	<b>29</b>	<b>22</b>	<b>-</b>		<b>-</b>	<b>850</b>	

*N. Ranjan*

**Dr. N. M. Ranjan**  
BoS Chairman

*A. M. Badadhe*

**Dr. A. M. Badadhe**  
Dean of Academics



*S. P. Bhosle*

**Dr. S. P. Bhosle**  
Director

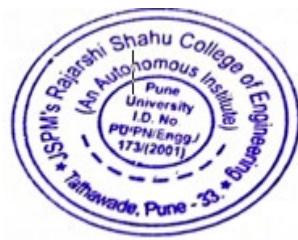
Professional Elective I		Professional Elective I Lab	
Course Code	Course Name	Course Code	Course Name
IT3203T-A	Artificial Intelligence	IT3203L-A	Artificial Intelligence Lab
IT3203T-B	Cyber Security and Privacy(MOOC) <a href="https://onlinecourses.nptel.ac.in/noc25_cs116/preview">https://onlinecourses.nptel.ac.in/noc25_cs116/preview</a>	IT3203L-B	Cyber Security and Privacy Lab
IT3203T-C	Cloud Computing (MOOC) <a href="https://onlinecourses.nptel.ac.in/noc25_cs107/preview">https://onlinecourses.nptel.ac.in/noc25_cs107/preview</a>	IT3203L-C	Cloud Computing Lab
IT3203T-D	UI and UX Design	IT3203L-	UI and UX Design Lab



Dr. N. M. Ranjan  
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**T. Y. B. Tech (Information Technology)**

**W.e.f. Academic Year -2025-2026 (Semester –VI)**

(Level 5.5 - B.Voc./ B.Sc. Engg) -Semester VI

**(2023 Pattern)**

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		C	ISE	MSE		
PCC	IT3206T	Machine Learning	3	-	-	3	3	20	30	50	100	IT
PCC	IT3206L	Machine Learning Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
MDM		Multi-Disciplinary Minor-III	3	-	-	3	3	20	30	50	100	Other department
OE	ITO3202T	Open Elective	3	-	-	3	3	20	30	50	100	Other department
PEC	IT3207T	Professional Elective-II	3	-	-	3	3	20	30	50	100	IT
PEC	IT3207L	Professional Elective-II Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
PEC	IT3208T	Professional Elective-III	3	-	-	3	3	20	30	50	100	IT
PEC	IT3208L	Professional Elective-III Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
Skill Course (VSEC)	IT3209L	Programming Lab-IV: Advanced Java Programming	-	-	4	4	2	ISCE: 50		50	100	IT
Project	IT3210L	Engineering Innovation and Society-I (Project-I)	-	-	4	4	2	ISCE: 50		50	100	IT
	<b>Total</b>		<b>15</b>	-	<b>14</b>	<b>29</b>	<b>22</b>	<b>-</b>		<b>-</b>	<b>850</b>	

Professional Elective II		Professional Elective II Lab	
Course Code	Course Name	Course Code	Course Name
IT3207T-A	Natural Language Processing (MOOC) <a href="https://onlinecourses.nptel.ac.in/noc26_cs45/preview">https://onlinecourses.nptel.ac.in/noc26_cs45/preview</a>	IT3207L-A	Natural Language Processing Lab
IT3207T-B	Ethical Hacking	IT3207L-B	Ethical Hacking Lab
IT3207T-C	Introduction to Internet of Things (MOOC) <a href="https://onlinecourses.nptel.ac.in/noc26_cs37/preview">https://onlinecourses.nptel.ac.in/noc26_cs37/preview</a>	IT3207L-C	Internet of Things & Industry 4.0 Lab
IT3207T-D	Advanced Web Technology	IT3207L-D	Advanced Web Technology Lab

Professional Elective III		Professional Elective III Lab	
Course Code	Course Name	Course Code	Course Name
IT3208T-A	Computer Vision (MOOC) <a href="https://onlinecourses.nptel.ac.in/noc25_cs143/preview">https://onlinecourses.nptel.ac.in/noc25_cs143/preview</a>	IT3208L-A	Computer Vision Lab
IT3208T-B	Digital Forensics (MOOC) <a href="https://onlinecourses.swayam2.ac.in/nou25_cs05/preview">https://onlinecourses.swayam2.ac.in/nou25_cs05/preview</a>	IT3208L-B	Digital Forensics Lab
IT3208T-C	Cloud Security and Governance	IT3208L-C	Cloud Security and Governance Lab
IT3208T-D	DevOps Fundamentals	IT3208L-D	DevOps Fundamentals Lab

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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 V and VI**

1. Exit option is available for students those who have earned the total 132 credits at the End of sixth Semester.
2. Student who wants to avail the exit option after third 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 3<sup>rd</sup> Year.
4. After fulfilment as mentioned in 1 to 3 above, Students can earn **B.Voc./ B.Sc. Engg** and same will be issued by the Institute.

Sr. No.	Course code	Name	Credits
1.	EX-IT3201	Certified Database Engineer	2
2.	EX-IT3202	Certified Java Programmer	2
3.	EX-IT3203	Certified Machine Learning Engineer	2
4.	EX-IT3204	Certified Security Engineer	2



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**B. Tech (Information Technology)**  
**Academic Year -2026-2027 (Semester –VII)**  
**(Level 6 – B.Tech ) -Semester VII**

**(2023 Pattern)**

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		C	ISE	MSE	ESE	
PCC	IT4201T	Parallel & Distributed Computing	3	-	-	3	3	20	30	50	100	IT
PCC	IT4201L	Parallel & Distributed Computing Lab	-	-	2	2	1	ISCE: 30		20	50	IT
PCC	IT4202T	Deep Learning	3	-	-	3	3	20	30	50	100	IT
PCC	IT4202L	Deep Learning Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
HSS	HS4201T	Industrial Psychology	2	-	-	2	2	20	30	50	100	IT
MDM		Multi-Disciplinary Minor-IV	3	-	-	3	3	20	30	50	100	Other department
MDM		Multi-Disciplinary Minor-IV Laboratory	-	-	2	2	1	ISCE: 30		20	50	Other department
PEC	IT4203T	Professional Elective-IV	3	-	-	3	3	20	30	50	100	IT
PEC	IT4203L	Professional Elective-IV Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
Project	IT4204L	Engineering Innovation and Society-II (Project II)	-	-	12	12	6	ISCE: 150		150	300	IT
	<b>Total</b>		<b>14</b>	<b>-</b>	<b>20</b>	<b>34</b>	<b>24</b>	<b>-</b>		<b>480</b>	<b>1000</b>	

Professional Elective IV			Professional Elective IV Lab		
Course Code	Course Name		Course Code	Course Name	
IT4203T-A	Generative AI		IT4203L-A	Generative AI Lab	
IT4203T-B	Advances in Cyber Security		IT4203L-B	Advances in Cyber Security Lab	
IT4203T-C	IoT and Cloud Integration		IT4203L-C	IoT and Cloud Integration Lab	
IT4203T-D	Advances in Full Stack Development		IT4203L-D	Advances in Full Stack Development Lab	



**B. Tech.(Information Technology)**  
**Academic Year -2026-2027 (Semester –VIII)**  
**(Level 6 – B.Tech ) -Semester VIII**  
**Track I - Regular Track**

**(2023 Pattern)**

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		C	ISE	MSE	ESE	
PCC	IT4205T	Data Management, Protection, and Governance	3	-	-	3	3	20	30	50	100	IT
PCC	IT4205L	Data Management, Protection, and Governance Laboratory	-	-	2	2	1	ISCE: 30		20	50	IT
PCC	IT4206T	Research Methodology	3	-	-	3	3	20	30	50	100	IT
ESC	IT4206T	Cognitive Science	3	-	-	3	3	20	30	50	100	IT
PCC	IT4207T	Soft Computing	2	-	-	2	2	20	30	50	100	IT
VSEC	IT4208T	Swayam Professional Elective Courses	2	-	-	2	2	-	-	-	100	IT
	<b>Total</b>		<b>13</b>	<b>-</b>	<b>02</b>	<b>15</b>	<b>14</b>	<b>-</b>		<b>-</b>	<b>550</b>	



**B. Tech (Information Technology)**  
**Academic Year -2026-2027 (Semester –VIII)**  
**(Level 6 – B.Tech ) -Semester VIII**

**Track II - Internship and Training**  
**(2023 Pattern)**

Course	Course Code	Course	Teaching Scheme				Credit	Examination Scheme			Total Marks	Ownership
			L	T	P	Hr		ISE	MSE	ESE		
PCC	IT4209L	Industry Internship / Entrepreneurial Internship/ Training Program	-	-	28	28	14	ISCE: 300		200	500	IT
	<b>Total</b>		-	-	<b>28</b>	<b>28</b>	<b>14</b>	-		-	<b>500</b>	

**Abbreviations:**

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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.