



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



Department of Computer Engineering
Four Year Structure
for
Computer Science and Business Systems



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

Semester -I Structure

Course Code	Course	Teaching Scheme			Examination Schemes						Credits
		TH	Tut	Lab	Theory			Practical		Total	Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
ES1106	Introduction to Probability, Statistics and Calculus	3	1	-	15	25	60	25	-	125	4
ES1107	Fundamentals of Physics	3	-	2	15	25	60	-	25	125	4
ES1108	Discrete Mathematics	3	1	-	15	25	60	25	-	125	4
EE 1102	Principles of Electrical Engineering	3	-	2	15	25	60	-	25	125	4
CS1103	Fundamentals of Computer Programming	3	-	4	15	25	60	-	50	150	5
HS1105	Business Communication and Value Science -I	-	-	2	-	-	-	-	25	25	1
ES 1104	Engineering Design and Development										
	OR										
	Language Proficiency-I: #	-	-	2	-	-	-	-	25	25	1
HS1101/ HS1102/ HS1103/ HS1104/	English/ German/ Japanese/ French										
HS1108	Induction Training\$	Non Credit									
Total		15	2	12	75	125	300	50	150	700	23



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

Semester -II Structure

Course Code	Course	Teaching Scheme			Examination Schemes					Credits	
		TH	Tut	Lab	Theory			Practical		Total	Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
ES1109	Linear Algebra	3	1	-	15	25	60	25	-	125	4
ES1110	Statistical Methods	3	1	-	15	25	60	25	-	125	4
CS1104	Data Structure and Algorithms	3	-	4	15	25	60	-	50	150	5
EC1102	Principles of Electronics Engineering	3	-	2	15	25	60	-	25	125	4
HS1107	Principles of Economics	3	-	-	15	25	60	-	-	100	3
HS1106	Business Communication and Value Science -II	-	-	2	-	-	-	-	25	25	1
CE1103	Environmental Studies	-	-	2	-	-	-	-	25	25	1
ES 1104	Engineering Design and Development										
OR											
HS1101/ HS1102/ HS1103/ HS1104/ HS1105	Language Proficiency-I: # English/ German/ Japanese/ French	-	-	2	-	-	-	-	25	25	1
Total		15	2	12	75	125	300	50	150	700	23



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

Semester -III Structure

Course Code	Course	Teaching Scheme			Examination Schemes						Credits Total
		TH	Tut	Lab	Theory			Practical		Total	
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
CS2101	Formal Language & Automata Theory	3	1	0	15	25	60	25	-	125	4
CS2102	Object Oriented Programming	3	0	2	15	25	60	-	25	125	4
CS2103	Computer Organization & Architecture	3	0	0	15	25	60	-	-	100	3
CS2104	Computational Statistics	3	0	4	15	25	60		50	150	5
CS2105	Software Engineering	3	0	2	15	25	60	-	25	125	4
CS2106	Engineering Design & Innovation	0	1	2	-	-	-	25	25	50	2
HS2101 HS2102 HS2103	Language Proficiency –II English German Japanese	0	0	2	-	-	-	25	-	25	1
	Audit Course-I	Non-Credit									
	Total	15	02	12	75	125	300	75	125	700	23

Audit Course Code	Audit Course Title
HS2106	Indian Constitution
CE2113B	Environmental Awareness
CE2106B	Road Safety Management
CS2107	Online Certification Course



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

Semester -IV Structure

Course Code	Course	Teaching Scheme			Examination Schemes					Credits Total	
		TH	Tut	Lab	Theory			Practical			Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
CS2108	Operating Systems	3	0	2	15	25	60	-	25	125	4
CS2109	Database Management Systems	3	0	2	15	25	60	-	25	125	4
ES2103	Calculus and Transforms	3	0	0	15	25	60	-	-	100	3
CS2110	Computer Graphics and Animation	3	0	2	15	25	60	-	25	125	4
CS2111	Operations Research	3	0	0	15	25	60	-	-	100	3
HS2105	Business Communication & Value Science III	-	-	2	-	-	-	25	-	25	1
CS2112	Project Ideation and Intellectual Property Right	-	2	4	-	-	-	50	50	100	4
	Audit Course-II	Non-Credit									
Total		15	02	12	75	125	300	75	125	700	23

Audit Course Code	Audit Course Title
HS2108	Indian Traditional Knowledge
ME2111C	Innovations in Agriculture Engineering
CS2113	Critical Thinking
CS2114	Online Certification Course



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

Semester -V Structure

Course Code	Course	Teaching Scheme			Examination Schemes						Credits
		TH	Tut	Lab	Theory			Practical		Total	Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
CS3101	Artificial Intelligence	3	-	2	15	25	60	-	25	125	4
CS3102	Computer Networks	3	-	2	15	25	60	-	25	125	4
CS3103	Design and Analysis of Algorithms	3	-	0	15	25	60	-	-	100	3
CS3104	Elective-I	3	-	2	15	25	60	-	25	125	4
HS/ CS3105	Elective-II	3	-	0	15	25	60	-	-	100	3
CS3106	Design Thinking		2		-	-	-	50		50	2
CS3107	Engineering Design & Innovation III	-	1	2	-	-	-	25	50	75	2
HS3106	Audit Course:	Non Credit									
Total		15	3	8	75	125	300	75	125	700	22

Elective I		
Course Code	Specialization Track	Course Name
CS3104A	ML-DL	Machine Learning
CS3104B	Security	Cryptology and Network Security
CS3104C	Machine Vision	Introduction to IoT
Elective II		
Course Code	Specialization Track	Course Name
HS3101A	Management	Behavioral Economics
HS3101B		Computational Finance & Modelling
HS3101C		Financial & Cost Accounting
CS3105	General	Cloud, Microservices & Application

Audit Course	
Code	Name of Course
HS3106	Essence of Indian Knowledge Tradition -I
HS3108	Cultural Studies
CE3113	Urbanization and environment



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

Semester -VI Structure

Course Code	Course	Teaching Scheme			Examination Schemes					Credits	
		TH	Tut	Lab	Theory			Practical		Total	Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
HS3102	Fundamentals of Management and Strategy Formulation	3	0	0	15	25	60	-	-	100	3
CS3108	Mobile Computing	3	-	2	15	25	60	-	25	125	4
CS3109	Compiler Design	3	0	2	15	25	60	-	25	125	4
CS3110	Elective III	3	0	2	15	25	60	-	25	125	4
HS/CS3111	Elective-IV	3	0	-	15	25	60	-	-	100	3
HS3104	Business Communication & Value Science IV	-	-	2	-	-	-	-	50	50	1
CS3112	Engineering Design & Innovation IV	0	-	2	-	-	-	-	50	50	1
HS3107	Audit Course:	Non Credit									
Total		15	0	12	75	125	300	-	200	700	20

Elective III

Course Code	Specialization Track	Course Name
CS3110A	ML-DL	Data Mining
CS3110B	Security	Information Security
CS3110C	Machine Vision	Image Processing and Pattern Recognition

Elective IV

Course Code	Specialization Track	Course Name
HS3103A	Management	Industrial Psychology
HS3103B		Advance Finance
CS3111A	General	Enterprise Systems
CS3111B		Modern Web Application

Audit

Code	Name of Course
HS3107	Essence of Indian Knowledge Tradition -II
HS3109	Introduction to Human Factors and Ergonomics
HS3110	Mind Education



Final Year B. Tech Computer Science and Business System

Semester - VII Structure

Course Code	Course	Teaching Scheme			Examination Schemes					Credits Total	
		TH	Tut	Lab	Theory			Practical			Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
CS3115	Usability Design of Software Applications	2	0	2	15	25	60	-	25	125	3
CS3116	IT Workshop Skylab / Matlab	-	1	4	-	-	-	-	25	25	3
HS	Human Resource Management	2	0	0	15	25	60	-	-	100	2
CS3117	Elective V	2	1	2	15	25	60	-	25	125	4
CS3118	Elective VI	2	1	2	15	25	60	-	25	125	4
CS3119	Services Science & Service Operational Management + Lab	4	-	-	15	25	60	-	-	100	4
Total		12	3	10	75	125	300	-	100	600	20

Elective V		
Course Code	Specialization Track	Course Name
CS3117A	Data Science	Cognitive Science & Analytics
CS3117B	Security	Cryptology
CS3117C	Cloud Computing	
CS3117D	Robotics	Introduction to IoT
Elective VI		
Course Code	Specialization Track	Course Name
CS3118A	Data Science	Advanced Social, Text and Media Analytics
CS3118B	Security	Mobile Computing
CS3118C	Cloud Computing	Quantum Computation & Quantum Information
CS3118D	General	Psychology



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



Final Year B. Tech (CSBS)
Semester -VIII Structure

Course Code	Course	Teaching Scheme			Examination Schemes					Credits Total	
		TH	Tut	Lab	Theory			Practical			Total
					ISE (15)	MSE (25)	ESE (60)	TW	Lab		
CS3120	Project	-	-	32	-	-	-	200	400	600	16
Total		-	-	32	-	-	-	200	400	600	16