



**Swami Keshvanand Institute of Technology,
Management & Gramothan, Jaipur**

Programme Scheme

B.Tech in Computer Science & Engineering

(For students admitted during A.Y. 2019-20 to 2022-23)

Teaching and Examination Scheme

I Semester: B.Tech Common to all branches of UG Engineering & Technology

SN	Categ ory	Course Code	Course Title	Hours			Marks			Cr
				L	T	P	IA	ETE	Total	
1	BSC	1FY2-01	Engineering Mathematics-I	3	1	-	40	160	200	4
2	BSC	1FY2-02/ 1FY2-03	Engineering Physics/ Engineering Chemistry	3	1	-	40	160	200	4
3	HSMC	1FY1-04/ 1FY1-05	Communication Skills/ Human Values	2	-	-	20	80	100	2
4	ESC	1FY3-06/ 1FY3-07	Programming for Problem Solving/ Basic Mechanical Engineering	2	-	-	20	80	100	2
5	ESC	1FY3-08/ 1FY3-09	Basic Electrical Engineering/ Basic Civil Engineering	2	-	-	20	80	100	2
6	BSC	1FY2-20/ 1FY2-21	Engineering Physics Lab/ Engineering Chemistry Lab	-	-	2	30	20	50	1
7	HSMC	1FY1-22/ 1FY1-23	Language Lab/ Human Values Activities	-	-	2	30	20	50	1
8	ESC	1FY3-24/ 1FY3-25	Computer Programming Lab/ Manufacturing Practices Workshop	-	-	3	45	30	75	1.5
9	ESC	1FY3-26/ 1FY3-27	Basic Electrical Engineering Lab/ Basic Civil Engineering Lab	-	-	2	30	20	50	1
10	ESC	1FY3-28/ 1FY3-29	Computer Aided Engineering Graphics/ Computer Aided Machine Drawing	-	-	3	45	30	75	1.5
11	SODE CA	1FY8-00							25	0.5
Total								1025	20.5	

L = Lecture, **T** = Tutorial,

P = Practical, **IA**=Internal Assessment,
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Teaching and Examination Scheme

II Semester: B.Tech.

Common to all branches of UG Engineering & Technology

SN	Category	Course Code	Course Title	Hours			Marks			Cr
				L	T	P	IA	ETE	Total	
1	BSC	2FY2-01	Engineering Mathematics-II	3	1	-	40	160	200	4
2	BSC	2FY2-03/ 2FY2-02	Engineering Chemistry/ Engineering Physics	3	1	-	40	160	200	4
3	HSMC	2FY1-05/ 2FY1-04	Human Values/ Communication Skills	2	-	-	20	80	100	2
4	ESC	2FY3-07/ 2FY3-06	Basic Mechanical Engineering/ Programming for Problem Solving	2	-	-	20	80	100	2
5	ESC	2FY3-09/ 2FY3-08	Basic Civil Engineering/ Basic Electrical Engineering	2	-	-	20	80	100	2
6	BSC	2FY2-21/ 2FY2-20	Engineering Chemistry Lab/ Engineering Physics Lab	-	-	2	30	20	50	1
7	HSMC	2FY1-23/ 2FY1-22	Human Values Activities/ Language Lab	-	-	2	30	20	50	1
8	ESC	2FY3-25/ 2FY3-24	Manufacturing Practices Workshop/ Computer Programming Lab	-	-	3	45	30	75	1.5
9	ESC	2FY3-27/ 2FY3-26	Basic Civil Engineering Lab/ Basic Electrical Engineering Lab	-	-	2	30	20	50	1
10	ESC	2FY3-29/ 2FY3-28	Computer Aided Machine Drawing/ Computer Aided Engineering Graphics	-	-	3	45	30	75	1.5
11	SODE CA	1FY8-00							25	0.5
Total									1025	20.5

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech. : Computer Science & Engineering 2nd Year - III Semester

THEORY											
SN	Category	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	BSC	3CS2-01	Advanced Engineering Mathematics	3	0	0	3	30	120	150	3
2	HSMC	3CS1-02/ 3CS1-03	Technical Communication/ Managerial Economics and Financial Accounting	2	0	0	2	20	80	100	2
3	ESC	3CS3-04	Digital Electronics	3	0	0	3	30	120	150	3
4	PCC	3CS4-05	Data Structures and Algorithms	3	0	0	3	30	120	150	3
5		3CS4-06	Object Oriented Programming	3	0	0	3	30	120	150	3
6		3CS4-07	Software Engineering	3	0	0	3	30	120	150	3
			Sub Total	17	0	0		170	680	850	17
PRACTICAL & SESSIONAL											
7	PCC	3CS4-21	Data Structures and Algorithms Lab	0	0	3		45	30	75	1.5
8		3CS4-22	Object Oriented Programming Lab	0	0	3		45	30	75	1.5
9		3CS4-23	Software Engineering Lab	0	0	3		45	30	75	1.5
10		3CS4-24	Digital Electronics Lab	0	0	3		45	30	75	1.5
11	PSIT	3CS7-30	Industrial Training	0	0	1		0	0	50	1
12	SODE CA	3CS8-00	Social Outreach, Discipline & Extra Curricular Activities							25	0.5
			Sub- Total	0	0	13		180	120	375	7.5
			TOTAL OF III SEMESTER	17	0	13		350	800	1225	24.5

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Office of Dean Academic Affairs
Rajasthan Technical University, Kota



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech. : Computer Science & Engineering 2nd Year - IV Semester

THEORY											
SN	Categor y	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	BSC	4CS2-01	Discrete Mathematics Structure	3	0	0	3	30	120	150	3
2	HSMC	4CS1-03/ 4CS1-02	Managerial Economics and Financial Accounting /Technical Communication	2	0	0	2	20	80	100	2
3	ESC	4CS3-04	Microprocessor & Interfaces	3	0	0	3	30	120	150	3
4	PCC	4CS4-05	Database Management System	3	0	0	3	30	120	150	3
5		4CS4-06	Theory of Computation	3	0	0	3	30	120	150	3
6		4CS4-07	Data Communication and Computer Networks	3	0	0	3	30	120	150	3
		Sub Total		17	0	0		170	680	850	17
PRACTICAL & SESSIONAL											
7	PCC	4CS4-21	Microprocessor & Interfaces Lab	0	0	2		30	20	50	1
8		4CS4-22	Database Management System Lab	0	0	3		45	30	75	1.5
9		4CS4-23	Network Programming Lab	0	0	3		45	30	75	1.5
10		4CS4-24	Linux Shell Programming Lab	0	0	2		30	20	50	1
11		4CS4-25	Java Lab	0	0	2		30	20	50	1
12	SODE CA	4CS8-00	Social Outreach, Discipline & Extra Curricular Activities							25	0.5
		Sub- Total		0	0	12		180	120	325	6.5
		TOTAL OF IV SEMEESTER		17	0	12		350	800	1175	23.5

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech. : Computer Science & Engineering 3rd Year – V Semester

THEORY											
SN	Categ ory	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	ESC	5CS3-01	Information Theory & Coding	2	0	0	2	20	80	100	2
2	PCC/ PEC	5CS4-02	Compiler Design	3	0	0	3	30	120	150	3
3		5CS4-03	Operating System	3	0	0	3	30	120	150	3
4		5CS4-04	Computer Graphics & Multimedia	3	0	0	3	30	120	150	3
6		5CS4-05	Analysis of Algorithms	3	0	0	3	30	120	150	3
7		Professional Elective 1: (any one)		2	0	0	2	20	80	100	2
		5CS5-11	Wireless Communication								
		5CS5-12	Human-Computer Interaction								
		5CS5-13	Bioinformatics								
		Sub Total		16	0	0		160	640	800	16
PRACTICAL & SESSIONAL											
8	PCC	5CS4-21	Computer Graphics & Multimedia Lab	0	0	2	2	30	20	50	1
9		5CS4-22	Compiler Design Lab	0	0	2	2	30	20	50	1
10		5CS4-23	Analysis of Algorithms Lab	0	0	2	2	30	20	50	1
11		5CS4-24	Advance Java Lab	0	0	2	2	30	20	50	1
12	PSIT	5CS7-30	Industrial Training	0	0	1		75	50	125	2.5
13	SODE CA	5CS8-00	Social Outreach, Discipline &Extra Curricular Activities						25	25	0.5
		Sub- Total		0	0	9		195	155	350	7
		TOTAL OF V SEMESTER		16	0	9		355	795	1150	23

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech. : Computer Science & Engineering 3rd Year – VI Semester

THEORY											
SN	Categor ory	Course		Contact hrs/week			Marks				Cr
		Code	Title				Exm Hrs	IA	ETE	Total	
1	ESC	6CS3-01	Digital Image Processing	2	0	0	2	20	80	100	2
2	PCC/ PEC	6CS4-02	Machine Learning	3	0	0	3	30	120	150	3
3		6CS4-03	Information Security System	2	0	0	2	20	80	100	2
4		6CS4-04	Computer Architecture and Organization	3	0	0	3	30	120	150	3
5		6CS4-05	Artificial Intelligence	2	0	0	2	20	80	100	2
6		6CS4-06	Cloud Computing	3	0	0	3	30	120	150	3
7		Professional Elective 1 (any one)		2	0	0	2	20	80	100	2
		6CS5-11	Distributed System								
		6CS5-12	Software Defined Network								
		6CS5-13	Ecommerce and ERP								
		Sub-Total		17	0	0		170	680	850	17
PRACTICAL & SESSIONAL											
8	PCC	6CS4-21	Digital Image Processing Lab	0	0	3	2	45	30	75	1.5
9		6CS4-22	Machine Learning Lab	0	0	3	2	45	30	75	1.5
10		6CS4-23	Python Lab	0	0	3	2	45	30	75	1.5
11		6CS4-24	Mobile Application Development Lab	0	0	3	2	45	30	75	1.5
12	SODE CA	6CS8-00	Social Outreach, Discipline &Extra Curricular Activities						25	25	0.5
		Sub- Total		0	0	12		180	145	325	6.5
		TOTAL OF VI SEMESTER		17	0	12		350	825	1175	23.5

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Scheme & Syllabus

IV Year- VII Semester: B. Tech. (Computer Science & Engineering)

Teaching & Examination Scheme B.Tech. : Computer Science & Engineering 4th Year – VII Semester

THEORY											
SN	Categor y	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	PCC	7CS4-01	Internet of Things	3	0	0	3	30	120	150	3
2	OE		Open Elective - I	3	0	0	3	30	120	150	3
		Sub Total		6	0	0	6	60	240	300	6
PRACTICAL & SESSIONAL											
3	PCC	7CS4-21	Internet of Things Lab	0	0	4	2	60	40	100	2
4	PCC	7CS4-22	Cyber Security Lab	0	0	4	2	60	40	100	2
6	PSIT	7CS7-30	Industrial Training	1	0	0				125	2.5
7	PSIT	7CS7-40	Seminar	2	0	0				100	2
8	SODE CA	7CS8-00	Social Outreach, Discipline &Extra Curricular Activities							25	0.5
		Sub- Total		0	0	10	4	120	80	450	9
		TOTAL OF VII SEMESTER		6	0	10	10	180	320	750	15

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Scheme & Syllabus

IV Year- VII Semester: B. Tech. (Computer Science & Engineering)

Teaching & Examination Scheme B.Tech. : Computer Science & Engineering 4th Year – VIII Semester

THEORY											
SN	Categor y	Course		Contact hrs/week			Marks				Cr
		Code	Title	L	T	P	Exm Hrs	IA	ETE	Total	
1	PCC/ PEC	8CS4-01	Big Data Analytics	3	0	0	3	30	120	150	3
2	OE		Open Elective - II	3	0	0	3	30	120	150	3
		Sub Total		6	0	0	6	60	240	300	6
PRACTICAL & SESSIONAL											
3	PCC	8CS4-21	Big Data Analytics Lab	0	0	2	2	30	20	50	1
4	PCC	8CS4-22	Software Testing and Validation Lab	0	0	2	2	30	20	50	1
5	PSIT	8CS7-50	Project	3	0	0		210	140	350	7
6	SODE CA	8CS8-00	Social Outreach, Discipline &Extra Curricular Activities							25	0.5
		Sub- Total		0	0	4	4	120	80	475	9.5
		TOTAL OF VIII SEMESTER		6	0	4	10	180	320	775	15.5

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RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Scheme & Syllabus

IV Year- VII Semester: B. Tech. (Computer Science & Engineering)

List of Open Electives for Computer Science & Engineering			
Subject Code	Title	Subject Code	Title
Open Elective - I		Open Elective - II	
7AG6-60.1	Human Engineering and Safety	8AG6-60.1	Energy Management
7AG6-60.2	Environmental Engineering and Disaster Management	8AG6-60.2	Waste and By-product Utilization
7AN6-60.1	Aircraft Avionic System	8AN6-60.1	Finite Element Methods
7AN6-60.2	Non-Destructive Testing	8AN6-60.2	Factor of Human Interactions
7CH6-60.1	Optimization Techniques	8CH6-60.1	Refinery Engineering Design
7CH6-60.2	Sustainable Engineering	8CH6-60.2	Fertilizer Technology
7CR6-60.1	Introduction to Ceramic Science & Technology	8CR6-60.1	Electrical and Electronic Ceramics
7CR6-60.2	Plant, Equipment and Furnace Design	8CR6-60.2	Biomaterials
7CE6-60.1	Environmental Impact Analysis	8CE6-60.1	Composite Materials
7CE6-60.2	Disaster Management	8CE6-60.2	Fire and Safety Engineering
7EE6-60.1	Electrical Machines and Drives	8EE6-60.1	Energy Audit and Demand side Management
7EE6-60.2	Power Generation Sources.	8EE6-60.2	Soft Computing
7EC6-60.1	Principle of Electronic communication	8EC6-60.1	Industrial and Biomedical applications of RF Energy
7EC6-60.2	Micro and Smart System Technology	8EC6-60.2	Robotics and control
7ME6-60.1	Finite Element Analysis	8ME6-60.1	Operations Research
7ME6-60.2	Quality Management	8ME6-60.2	Simulation Modeling and Analysis
7MI6-60.1	Rock Engineering	8MI6-60.1	Experimental Stress Analysis
7MI6-60.2	Mineral Processing	8MI6-60.2	Maintenance Management
7PE6-60.1	Pipeline Engineering	8PE6-60.1	Unconventional Hydrocarbon Resources
7PE6-60.2	Water Pollution control Engineering	8PE6-60.2	Energy Management & Policy
7TT6-60.1	Technical Textiles	8TT6-60.1	Material and Human Resource Management
7TT6-60.2	Garment Manufacturing Technology	8TT6-60.2	Disaster Management