CURRICULUM DEVELOPMENT & IMPLEMENTATION

(SSCIT)

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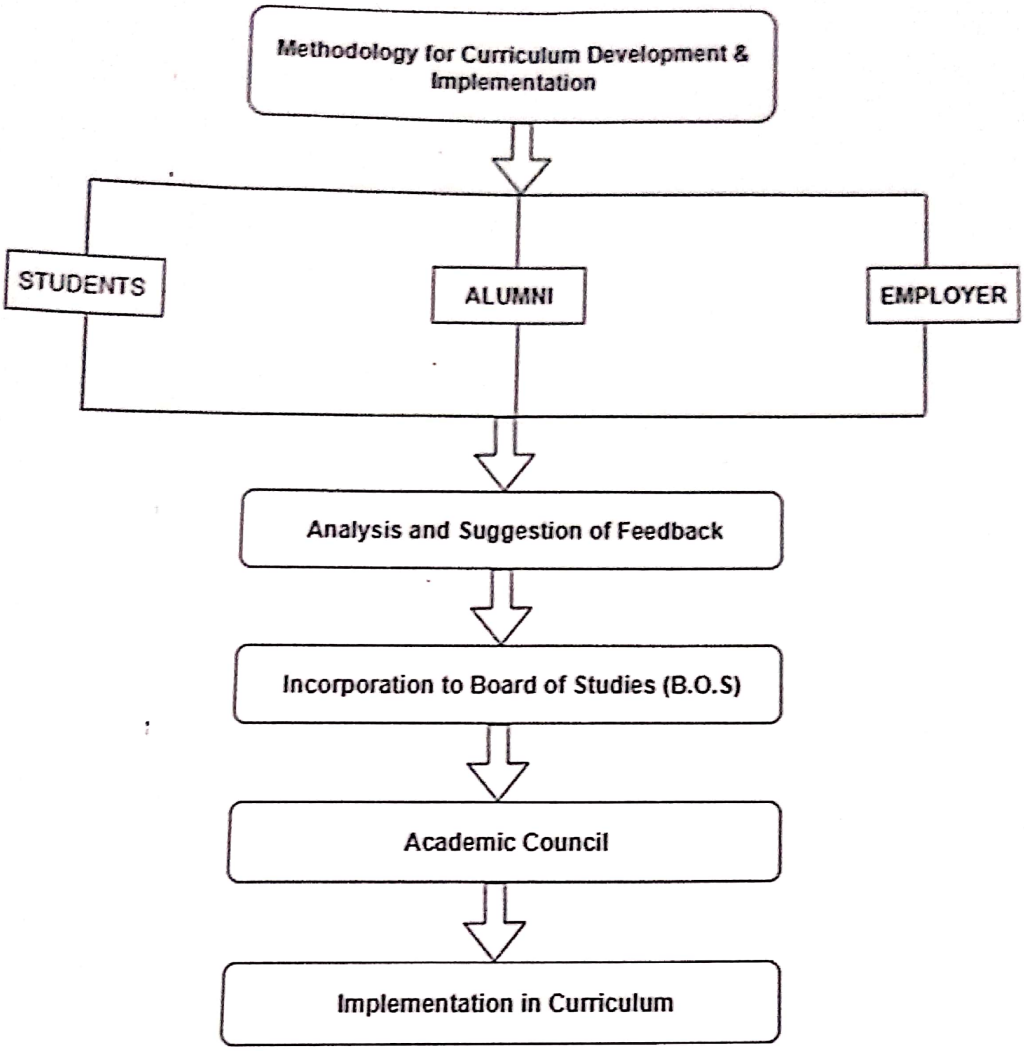

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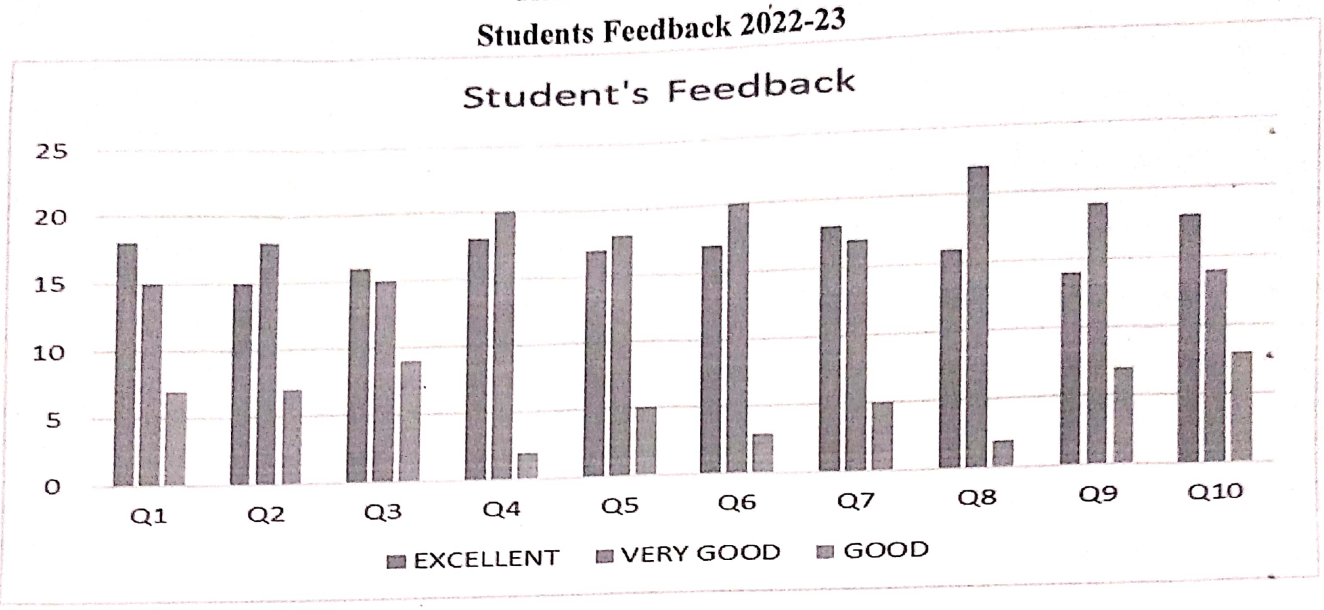
SWARRNIM
SCHOOL OF COMPUTING & IT

Students Feedback 2022-23



Question	EXCELLENT	VERY GOOD	GOOD
Q1	18	15	7
Q2	15	18	7
Q3	16	15	9
Q4	18	20	2
Q5	17	18	5
Q6	17	20	3
Q7	18	17	5
Q8	16	22	2
Q9	14	19	7
Q10	18	14	8

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Suggestions received from students :

1. Increase practical-based learning and real-world exposure to improve skill application.
2. Use innovative and student-friendly teaching methodologies for better understanding.
3. Improve academic support and continuous assessment for better progress tracking.

Suggested Action:

1. Lab hours have been enhanced and made more industry-relevant. New software tools and updated lab equipment have been introduced. Industrial visits, live projects, and expert-led practical workshops are now being conducted regularly.
2. Faculty members have undergone training in interactive and ICT-enabled teaching methods. Use of smart boards, video-based content, and real-time quizzes has been integrated into classroom delivery.
3. A revised continuous assessment system with regular internal tests, quizzes, and progress monitoring has been adopted. Remedial classes and mentoring sessions are being provided to support academically weaker students.

Vikas

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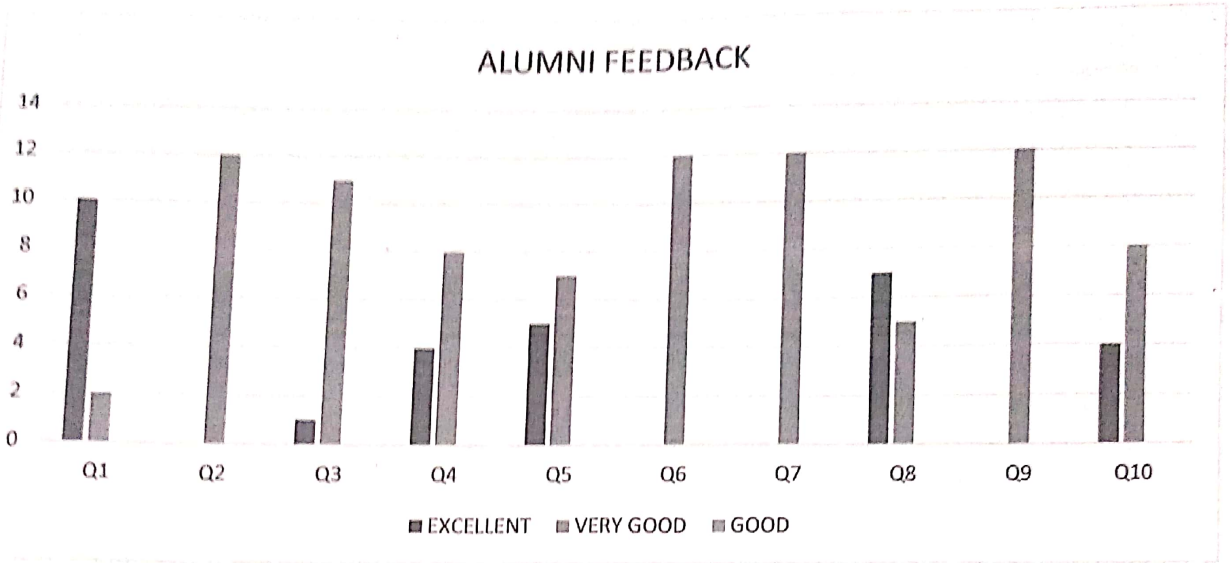
SWARRNIM
SCHOOL OF COMPUTING & IT

Alumni Feedback 2022-23



Question	EXCELLENT	VERY GOOD	GOOD
Q1	10	2	0
Q2	0	12	0
Q3	1	11	0
Q4	4	8	0
Q5	5	7	0
Q6	0	12	0
Q7	0	12	0
Q8	7	5	0
Q9	0	12	0
Q10	4	8	0

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Suggestions received from Alumni :

1. I appreciate the College's initiative to restructure courses for a gradual progression, but aligning the syllabus with the NEP's emphasis on multidisciplinary learning will better prepare students for evolving industry demands.
2. Introducing specialized electives in AI, Data Science, and Cybersecurity—alongside traditional core subjects—will enable alumni and current students to remain competitive and innovative in rapidly growing tech sectors.
3. Expanding elective options to include capstone projects and industry-driven case studies aligns perfectly with NEP's focus on experiential learning, fostering critical thinking and real-world problem-solving skills.
4. Strengthening industry-oriented offerings through guest lectures, hands-on workshops, and structured internships resonates with NEP's goal of bridging academia and industry, thereby enhancing employability.
5. Regularly updating laboratory equipment and software tools—as advocated by NEP—will ensure that students train on current technologies, maintaining the institution's reputation for quality technical education.
6. Adopting flexible, NEP-aligned specialization tracks will allow students to tailor their learning paths—combining foundational courses with advanced electives—thus catering to diverse career goals and learning paces.

Suggested Action:

1. Restructure curriculum for gradual progression from basics to advanced concepts: The Departmental Curriculum Committee has revised the course structure to support a gradual learning curve. Bridge courses and foundation modules have been introduced for better conceptual understanding and to support students with diverse learning paces.
2. Specialization tracks in emerging fields such as Artificial Intelligence, Data Science, and Cybersecurity have been proposed. These are currently under review by the Academic Council. Collaborations with ed-tech partners are being planned for effective delivery.
3. New electives have been introduced, emphasizing real-world problem-solving and application. Mini-projects have been embedded into the syllabi for final-year UG and PG programs to promote experiential learning.
4. Memoranda of Understanding (MoUs) have been signed with local IT and software firms. A guest lecture series schedule has been prepared, and internship guidelines have been revised to allow internships to contribute towards academic credits.
5. A budget proposal has been submitted for upgrading laboratory equipment. Additionally, procurement of modern software tools related to cloud computing, artificial intelligence, and simulation environments is in progress.
6. A new framework has been developed to enable credit-based elective selections across departments. Development of an interdepartmental course registration portal is underway to support multidisciplinary learning.

Vikas

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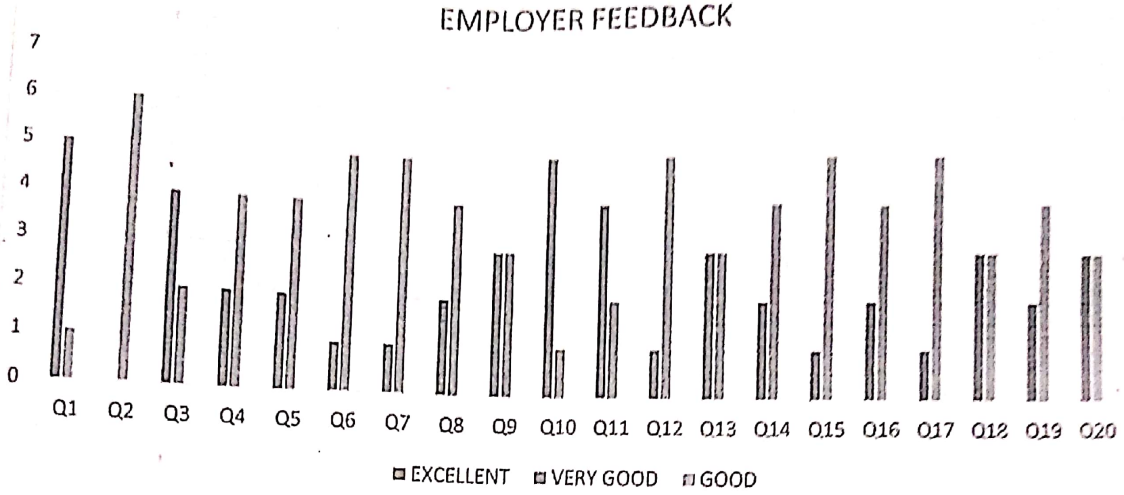
SWARRNIM
SCHOOL OF COMPUTING & IT

Employer Feedback 2022-23



Question	EXCELLENT	VERY GOOD	GOOD
Q1	5	1	0
Q2	0	6	0
Q3	4	2	0
Q4	2	4	0
Q5	2	4	0
Q6	1	5	0
Q7	1	5	0
Q8	2	4	0
Q9	3	3	0
Q10	5	1	0
Q11	4	2	0
Q12	1	5	0
Q13	3	3	0
Q14	2	4	0
Q15	1	5	0
Q16	2	4	0
Q17	1	5	0
Q18	3	3	0
Q19	2	4	0
Q20	3	3	0

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Suggestions received from Employee :

1. Restructure the curriculum to provide a smooth transition from basic to advanced topics.
2. Introduce advanced electives in high-demand areas like Artificial Intelligence, Data Science, and Cybersecurity.
3. Emphasize project-based and experiential learning in regular coursework.
4. Strengthen industry interaction through internships, guest lectures, and field visits.
5. Modernize laboratories and upgrade software tools to match industry trends.

Suggested Action:

1. Departmental curriculum committees have revised syllabi to ensure a logical and layered progression of topics. Bridge and foundation courses have been included to support students with varying academic backgrounds.
2. Proposals for new elective modules have been submitted to the Academic Council. Curriculum design is in progress, with plans to collaborate with external experts and industry professionals for delivery.
3. Final-year undergraduate and postgraduate courses now include mandatory project components. Faculty training workshops on project-based learning methodologies are being scheduled.
4. Several MoUs with industry partners have been signed. Internship structures are revised to award academic credits. A calendar for expert talks and industrial exposure is being implemented.
5. Lab audits were conducted and reports submitted for fund allocation. Advanced tools for simulation, cloud computing, and AI are being procured under the new budget plan.

Vikas

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Swarnim School of Computing & IT
Gandhinagar

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SWARRNIM STARTUP & INNOVATION UNIVERSITY
Swarnim School of Computing & IT
Board of Studies Constitution

Sr. No.	Members Name	Name of Company/Institute	Designation	Member Designation
01	Dr. Kavita Kshatriya	SSIU	Academic Dean	Chairperson
02	Mr. Vikas Chandra Sharma	SSIU (SSCIT)	HOD SSCIT	Co-Chairperson
03	Dr. Hardiksinh Rajjada	SSIU (SSCIT)	Assistant Professor	Faculty Member
04	Mr. Nirav Dave	SSIU (SSCIT)	Assistant Professor	Faculty Member
05	Ms. Pritee Solanki	SSIU (SSCIT)	Assistant Professor	Faculty Member
06	Ms. Apeksha Dave	SSIU (SSCIT)	Assistant Professor	Faculty Member
07	Mr. Hardik Parmar	SSIU (SSCIT)	Assistant Professor	Faculty Member
08	Dr. Jethva Harikrishna B	GOVERNMENT ENGINEER COLLEGE, PATAN	Associate Professor	Academic External Expert
09	Mr. Sagar Jasan	BrainyBeam Technologies Pvt. Ltd., AHMEDABAD	CEO	Industry External Expert
10	Prof. Swapnil Solanki	SSIU	Deputy Registrar	Member Secretary

AGENDA OF THE MEETING

Agenda 1: To Design curriculum of BCA (Honours) as per NEP-2020.
Agenda 2: To introduce the teaching and examination scheme of BCA Honours.

Mr. Vikas Chandra Sharma
Co-Chairperson
Board of Studies

Dr. Kavita Kshatriya
Chairperson
Board of Studies

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Swarnim School of Computing & IT

Minutes of First Board of Studies meeting of the School of Computing & IT held on August 25, 2023 at SWARNIM STARTUP & INNOVATION UNIVERSITY

Members Present:

Sr. No.	Members Name	Designation
01	Dr. Kavita Kshatriya	Chairperson
02	Mr. Vikas Chandra Sharma	Co-Chairperson
03	Dr. Hardikhsinh Rayjada	Faculty Member
04	Mr. Nirav Dave	Faculty Member
05	Ms. Pritee Solanki	Faculty Member
06	Ms. Apeksha Dave	Faculty Member
07	Mr. Hardik Parmar	Faculty Member
08	Dr. Jethva Harikrishna B.	Academic External Expert
09	Mr. Sagar Jasani	Industry External Expert
10	Prof. Swapnil Solanki	Member Secretary

Agenda 1: To Design curriculum of BCA (Honours) as per NEP-2020.

Resolved: The Members of BoS unanimously approved in BCA (Honours) program as per NEP data. following features of NEP are also Considered as below:

- Value Added Course/Indian Knowledge System.
- Skill Enhancement Courses
- Ability Enhancement Courses
- Interdisciplinary & Multidisciplinary studies
- Research based focus: On the job training in the final year of the program.

Dr. Jethva Harikrishna

Swarnim Startup & Innovation University Swarnim School of Computing & IT

Mr. Sagar Jasani

The new subjects were as under:

- Multiple Entry and Exit
- Choice Based Credit System

Agenda 2: To introduce the teaching and examination scheme of BCA Honours as per NEP 2020.

Resolved: The Members of BOS unanimously approved the teaching and examination scheme of BCA Honours as per NEP 2020.

Mr. Vikas Chandra Sharma
Co-Chairperson
Board of Studies

Dr. Kavita Kshatriya
Chairperson
Board of Studies

Dr. Jethva Hurikrishna

Swarrnim Start-up & Innovation University * Swarrnim School of Computing & IT * Gandhinagar

J Sagar
Mr. Sagar Jasani

SWARNIM STARTUP & INNOVATION UNIVERSITY

Swarnim School of Computing & IT

Board of Studies

Attendance Record

Date: August 25, 2023, Friday Time: 03:30 pm

Venue: Seminar Hall

Sr. No.	Members Name	Designation	Signature
01	Dr. Kavita Kshatriya	Chairperson	
02	Mr. Vikas Chandra Sharma	Co-Chairperson	
03	Dr. Hardikhsinh Rayjada	Faculty Member	
04	Mr. Nirav Dave	Faculty Member	
05	Ms. Pritee Solanki	Faculty Member	
06	Ms. Apeksha Dave	Faculty Member	
07	Mr. Hardik Parmar	Faculty Member	
08	Dr. Jethva Harikrishna B.	Academic External Expert	
09	Mr. Sagar Jasani	Industry External Expert	
10	Prof. Swapnil Solanki	Member Secretary	

Dr. Jethva Harikrishna

Swarnim Startup & Innovation University * Swarnim School of Computing & IT

Mr. Sagar Jasani

SWARRNIM STARTUP & INNOVATION UNIVERSITY
Swarnim School of Computing & IT
Board of Studies Constitution

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07	Mr. Hardik Parmar	SSIU (SSCIT)	Assistant Professor	Faculty Member
08	Dr. Jethva Harikrishna B	GOVERNMENT ENGINEER COLLEGE, PATAN	Associate Professor	Academic External Expert
09	Mr. Sagar Jasan	BrainyBeam Technologies Pvt. Ltd., AHMEDABAD	CEO	Industry External Expert
10	Prof. Swapnil Solanki	SSIU	Deputy Registrar	Member Secretary

AGENDA OF THE MEETING

Agenda 1: To Design curriculum of BSC-IT (Honours) as per NEP-2020.
Agenda 2: To introduce the teaching and examination scheme of BSC-IT (Honours).

Mr. Vikas Chandra Sharma
Co-Chairperson
Board of Studies

Dr. Kavita Kshatriya
Chairperson
Board of Studies

Swarnim Startup & Innovation University
Swarnim School of Computing & IT
Gandhinagar

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Swarnim School of Computing & IT

Minutes of First Board of Studies meeting of the School of Computing & IT held on August 25, 2023 at SWARNIM STARTUP & INNOVATION UNIVERSITY

Members Present:

Sr. No.	Members Name	Designation
01	Dr. Kavita Kshatriya	Chairperson
02	Mr. Vikas Chandra Sharma	Co-Chairperson
03	Dr. Hardikhsinh Rayjada	Faculty Member
04	Mr. Nirav Dave	Faculty Member
05	Ms. Pritee Solanki	Faculty Member
06	Ms. Apeksha Dave	Faculty Member
07	Mr. Hardik Parmar	Faculty Member
08	Dr. Jethva Harikrishna B.	Academic External Expert
09	Mr. Sagar Jasani	Industry External Expert
10	Prof. Swapnil Solanki	Member Secretary

Agenda 1: To Design curriculum of BSC-IT (Honours) as per NEP-2020.
Resolved: The Members of BoS unanimously approved in BSC-IT (Honours) program as per NEP data. Following features of NEP are also Considered as below:

- Value Added Course/Indian Knowledge System.
- Skill Enhancement Courses
- Ability Enhancement Courses
- Interdisciplinary & Multidisciplinary studies
- Research based focus/On the job training in the final year of the program.

The new subjects were as under:

- Multiple Entry and Exit
- Choice Based Credit System

SWARNIM SCHOOL OF BUSINESS

Dr. Jethva Harikrishna

Swarnim Startup & Innovation University * Gandhinagar * Swarnim School of Computing & IT

Mr. Sagar Jasani

Agenda 2: To introduce the teaching and examination scheme of BSC-IT Honours as per NEP 2020.

Resolved: The Members of BOS unanimously approved the teaching and examination scheme of BSC-IT Honours as per NEP 2020.

Mr. Vikas Chandra Sharma
Co-Chairperson
Board of Studies

Dr. Kavita Kshatriya
Chairperson
Board of Studies

Dr. Jethva Harikrishna

Swarrnim Startup & Innovation University
Swarrnim School of Computing & IT
Gandhinagar

J Sagar
Mr. Sagar Josani

SWARNIM SCHOOL OF BUSINESS

SWARNIM STARTUP & INNOVATION UNIVERSITY

Swarnim School of Computing & IT

Board of Studies

Attendance Record

Date: August 25, 2023, Friday Time: 03:30 pm

Venue: Seminar Hall

Sr. No.	Members Name	Designation	Signature
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06	Ms. Apeksha Dave	Faculty Member	
07	Mr. Hardik Parmar	Faculty Member	
08	Dr. Jethva Harikrishna B.	Academic External Expert	
09	Mr. Sagar Jasani	Industry External Expert	
10	Prof. Swapnil Solanki	Member Secretary	

Dr. Jethva Harikrishna

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Mr. Sagar Jasani

SWARNIM SCHOOL OF BUSINESS

SWARNIM STARTUP & INNOVATION UNIVERSITY

SWARRNIM SCHOOL OF COMPUTING & IT

BCA - TEACHING SCHEME BATCH 2023-27 (NEP)

BCA (NEP) Semester – I

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
			Theory	Tutorial	Practical	Credits	Internal		External		
							Th	Pr	Th	Pr	
Major/ Core	BCA230101	Fundamentals of Computers	3	0	2	4	50	-	30	20	100
Major/ Core	BCA230102	Programming in C	3	0	2	4	50	-	30	20	100
Minor	BCA230103	Web Development Using HTML, CSS & XML	3	0	2	4	50	-	30	20	100
MDC	BCA230104	Mathematical Foundation	3	1	0	4	50	-	50	0	100
AEC	AEC230101	Communication Skills	2	0	0	2	25	-	25	-	50
SEC	SEC230101	Foundation of Entrepreneurship	2	0	0	2	25	-	25	-	50
IKS	IKS230101	Indian Science and Technology	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**275**	**0**	**215**	**60**	**550**

BCA Semester – II

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
			Theory	Tutorial	Practical	Credits	Internal		External		
							Th	Pr	Th	Pr	
Major/ Core	BCA230201	Data Structures using C	3	0	2	4	50	-	30	20	100
Major/ Core	BCA230202	Object Oriented Concepts using C++	3	0	2	4	50	-	30	20	100
Minor	BCA230203	Core Java	3	0	2	4	50	0	30	20	100
MDC	BCA230204	Foundation in Statistical Methods	3	1	0	4	50	-	50	-	100
AEC	AEC230202	Logical & Critical Thinking	2	0	2	2	25	-	25	-	50
SEC	SEC230202	Identifying Entrepreneurial Opportunities	2	0	0	2	25	-	25	-	50
VAC	VAC230202	Environmental Studies	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**275**	**0**	**215**	**60**	**550**

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BCA - TEACHING SCHEME BATCH 2023-27 (NEP)

BCA Semester – III

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BCA230301	Data Base Management Systems	3	0	2	4	50	-	30	20	100
Major/ Core	BCA230302	C# and DOT NET Framework	3	0	2	4	50	-	30	20	100
Major/ Core	BCA230303	Computer Communication and Networks	3	1	0	4	50	-	50	-	100
MDC	BCA230304	Digital Marketing	3	0	2	4	50	-	30	20	100
AEC	AEC230303	Modern Indian Language *	2	0	0	2	25	-	25	-	50
SEC	SEC230303	Marketing Strategies For Start Ups	2	0	0	2	25	-	25	-	50
IKS	IKS230302	Understanding India	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**275**	**0**	**215**	**60**	**550**

BCA Semester – IV

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BCA230401	Python Programming	3	0	2	4	50	-	30	20	100
Major/ Core	BCA230402	Computer Multimedia and Animation	3	0	2	4	50	-	30	20	100
Major/ Core	BCA230403	Operating System Concepts	3	1	0	4	50	-	50	-	100
Minor	BCA230404	E-Commerce	3	1	0	4	50	-	50	-	100
AEC	AEC230404	Soft Skills	2	0	0	2	25	-	25	-	50
SEC	SEC230404	Finance and Funding for Start Up	2	0	0	2	25	-	25	-	50
VAC	VAC230402	Emerging Technologies	0	0	4	2	-	25	-	25	50
Total Credits Earned						**22**	**250**	**25**	**210**	**65**	**550**

SWARNIM SCHOOL OF BUSINESS

Swarnim School of Computing & IT

BCA - TEACHING SCHEME BATCH 2023-27 (NEP)

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BCA Semester – V

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BCA230501	PHP and MySQL	3	0	2	4	50	-	30	20	100
Minor	BCA230502	Software Engineering	3	1	0	4	50	-	50	-	100
							-	-	-	-	
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4			-		
		Paper 1					50	-	50	-	100
Artificial Intelligence	BCA230503A	AI and Machine Learning Fundamentals									
	BCA230503B	Deep Learning									
Data Science	BCA230504A	Statistical Computing and R Programming									
	BCA230504B	Machine Learning Fundamentals									
Cloud Computing & Information Security	BCA230505A	Information Security Principles									
	BCA230505B	Cloud Computing Fundamentals									
Mobile Applications	BCA230506A	Mobile Application Development Fundamentals									
	BCA230506B	Data Management in Mobile Applications									
SEC	SEC230505	Intellectual Property Rights	2	0	0	2	-	25	-	25	50
Total Credits Earned						**22**	**250**	**25**	**250**	**45**	**550**

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BCA Semester – VI

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BCA230601	Computer Network Security	3	1	0	4	50	-	50	-	100
SEC/Internship	BCA230602	Industrial project	0	0	8	4	-	50	-	50	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4	-				
		Paper 1					50	-	50	-	100
Artificial Intelligence	BCA230603A	Natural Language Processing									
	BCA230603B	Reinforcement Learning									
Data Science	BCA230604A	Big Data Analytics									
	BCA230604B	Predictive Analytics									
Cloud Computing & Information Security	BCA230605A	Cybersecurity Fundamentals									
	BCA230605B	Cloud Infrastructure and Services									
Mobile Applications	BCA230606A	Mobile App Testing and Debugging									
	BCA230606B	Mobile Security and Privacy									
AEC	AEC230605	Workplace Communication	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**225**	**50**	**225**	**50**	**550**

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BCA Semester – VII (With Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
RP	HRBCA230701	Research Project	0	0	12	6	-	75	-	75	150
Major/ Core	HRBCA230702	Advanced Research - I	0	0	8	4	-	50	-	50	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4			-		
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBCA230703A	AI in Robotics									
	HRBCA230703B	AI for Internet of Things									
Data Science	HRBCA230704A	Time Series Analysis and Forecasting									
	HRBCA230704B	Advanced Machine Learning									
Cloud Computing & Information Security	HRBCA230705A	Cloud Data Management and Analytics									
	HRBCA230705B	Ethical Hacking and Penetration Testing									
Mobile Applications	HRBCA230706A	Advanced Mobile App Development									
	HRBCA230706B	Cross-Platform Mobile App Development									
Total Credits Earned						22	150	125	150	125	550

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BCA - TEACHING SCHEME BATCH 2023-27 (NEP)

BCA Semester – VIII (With Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
RP	HRBCA230801	Research Project	0	0	12	6	-	75	-	75	150
Major/ Core	HRBCA230802	Advanced Research - II	0	0	8	4	-	50	-	50	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4			-		
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBCA230803A	AI in Financial Forecasting and Trading									
	HRBCA230803B	AI in Image and Video Processing									
Data Science	HRBCA230804A	Text Analytics									
	HRBCA230804B	Social Network Analysis									
Cloud Computing & Information Security	HRBCA230805A	Cloud DevSecOps									
	HRBCA230805B	Secure IoT Deployment in the Cloud									
Mobile Applications	HRBCA230806A	Mobile Game Development									
	HRBCA230806B	Augmented Reality and Virtual Reality in Mobile Apps									
Total Credits Earned						22	150	125	150	125	550

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BCA Semester – VII (Without Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
OJT	HBCA230701	On the Job Training	0	0	12	6	-	75	-	75	150
Major/ Core	HBCA230702	Block Chain Technology	3	0	2	4	50	-	50	-	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4			-		
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBCA230703A	AI in Robotics									
	HRBCA230703B	AI for Internet of Things									
Data Science	HRBCA230704A	Time Series Analysis and Forecasting									
	HRBCA230704B	Advanced Machine Learning									
Cloud Computing & Information Security	HRBCA230705A	Cloud Data Management and Analytics									
	HRBCA230705B	Ethical Hacking and Penetration Testing									
Mobile Applications	HRBCA230706A	Advanced Mobile App Development									
	HRBCA230706B	Cross-Platform Mobile App Development									
Total Credits Earned						22	200	75	200	75	550

Startup & Innovation University, Swarrnim School of Computing & IT, Gandhinagar

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BCA Semester – VIII (Without Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
OJT	HBCA230801	On the Job Training	0	0	12	6	-	75	-	75	150
Major/ Core	HBCA230802	Automata Theory and Compiler Design	3	0	2	4	50	-	30	20	100
Major		**One Major with two papers**	8	0	0	8					-
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4					-
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBCA230803A	AI in Financial Forecasting and Trading									
	HRBCA230803B	AI in Image and Video Processing									
Data Science	HRBCA230804A	Text Analytics									
	HRBCA230804B	Social Network Analysis									
Cloud Computing & Information Security	HRBCA230805A	Cloud DevSecOps									
	HRBCA230805B	Secure IoT Deployment in the Cloud									
Mobile Applications	HRBCA230806A	Mobile Game Development									
	HRBCA230806B	Augmented Reality and Virtual Reality in Mobile Apps									
Total Credits Earned						22	200	75	200	95	550

Swarrnim Startup & Innovation University * Swarrnim School of Computing & IT * Gandhinagar

SWARNIM STARTUP & INNOVATION UNIVERSITY

SWARRNIM SCHOOL OF COMPUTING & IT

BSC-IT - TEACHING SCHEME BATCH 2023-27 (NEP)

BSC-IT (NEP) Semester – I

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
			Theory	Tutorial	Practical	Credits	Internal		External		
							Th	Pr	Th	Pr	
Major/ Core	BSCIT230101	Fundamentals of Computers	3	0	2	4	50	-	30	20	100
Major/ Core	BSCIT230102	Programming in C	3	0	2	4	50	-	30	20	100
Minor	BSCIT230103	Web Development Using HTML, CSS & XML	3	0	2	4	50	-	30	20	100
MDC	BSCIT230104	Mathematical Foundation	3	1	0	4	50	-	50	0	100
AEC	AEC230101	Communication Skills	2	0	0	2	25	-	25	-	50
SEC	SEC230101	Foundation of Entrepreneurship	2	0	0	2	25	-	25	-	50
IKS	IKS230101	Indian Science and Technology	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**275**	**0**	**215**	**60**	**550**

BSC-IT Semester – II

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
			Theory	Tutorial	Practical	Credits	Internal		External		
							Th	Pr	Th	Pr	
Major/ Core	BSCIT230201	Data Structures using C	3	0	2	4	50	-	30	20	100
Major/ Core	BSCIT230202	Database Management System	3	0	2	4	50	-	30	20	100
Minor	BSCIT230203	Mobile Application	3	0	2	4	50	0	30	20	100
MDC	BSCIT230204	Foundation in Statistical Methods	3	1	0	4	50	-	50	-	100
AEC	AEC230202	Logical & Critical Thinking	2	0	2	2	25	-	25	-	50
SEC	SEC230202	Identifying Entrepreneurial Opportunities	2	0	0	2	25	-	25	-	50
VAC	VAC230202	Environmental Studies	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**275**	**0**	**215**	**60**	**550**

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Swarnim Startup & Innovation University * Swarnim School of Computing & IT * Gandhinagar *

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BSC-IT - TEACHING SCHEME BATCH 2023-27 (NEP)

BSC-IT Semester – III

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BSCIT230301	Relational Database Management System	3	0	2	4	50	-	30	20	100
Major/ Core	BSCIT230302	Operating System	3	0	2	4	50	-	30	20	100
Major/ Core	BSCIT230303	Python Programming	3	0	2	4	50	-	30	20	100
MDC	BSCIT230304	Computer Organization	3	0	2	4	50	-	30	20	100
AEC	AEC230303	Modern Indian Language *	2	0	0	2	25	-	25	-	50
SEC	SEC230303	Marketing Strategies For Start Ups	2	0	0	2	25	-	25	-	50
IKS	IKS230302	Understanding India	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**275**	**0**	**195**	**80**	**550**

BSC-IT Semester – IV

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BSCIT230401	Cloud Computing	3	0	2	4	50	-	30	20	100
Major/ Core	BSCIT230402	Information Security	3	0	2	4	50	-	30	20	100
Major/ Core	BSCIT230403	Software Testing	3	1	0	4	50	-	50	-	100
Minor	BSCIT230404	Data Science	3	0	2	4	50	-	30	20	100
AEC	AEC230404	Soft Skills	2	0	0	2	25	-	25	-	50
SEC	SEC230404	Finance and Funding for Start Up	2	0	0	2	25	-	25	-	50
VAC	VAC230402	Interpersonal Skills	0	0	4	2	-	25	-	25	50
Total Credits Earned						**22**	**250**	**25**	**190**	**85**	**550**

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BSC-IT - TEACHING SCHEME BATCH 2023-27 (NEP)

BSCIT Semester – V

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major Core	BSCIT230501	Open-Source Technology	3	0	2	4	50	-	30	20	100
Minor	BSCIT230502	Networking and Security	3	1	0	4	50	-	50	-	100
							-	-	-	-	
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4	-				
		Paper 1					50	-	50	-	100
Artificial Intelligence	BSCIT230503A	AI and Machine Learning Fundamentals									
	BSCIT230503B	Deep Learning									
Data Science	BSCIT230504A	Statistical Computing and R Programming									
	BSCIT230504B	Machine Learning Fundamentals									
Cloud Computing & Information Security	BSCIT230505A	Information Security Principles									
	BSCIT230505B	Cloud Computing Fundamentals									
Mobile Applications	BSCIT230506A	Mobile Application Development Fundamentals									
	BSCIT230506B	Data Management in Mobile Applications									
SEC	SEC230505	Intellectual Property Rights	2	0	0	2	-	25	-	25	50
Total Credits Earned						**22**	**250**	**25**	**250**	**45**	**550**

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BSC-IT Semester – VI

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
Major/ Core	BSCIT230601	Introduction to Blockchain	3	1	0	4	50	-	50	-	100
SEC/Internship	BSCIT230602	Industrial project	0	0	8	4	-	50	-	50	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4			-		
		Paper 1					50	-	50	-	100
Artificial Intelligence	BSCIT230603A	Natural Language Processing									
	BSCIT230603B	Reinforcement Learning									
Data Science	BSCIT230604A	Big Data Analytics									
	BSCIT230604B	Predictive Analytics									
Cloud Computing & Information Security	BSCIT230605A	Cyber security Fundamentals									
	BSCIT230605B	Cloud Infrastructure and Services									
Mobile Applications	BSCIT230606A	Mobile App Testing and Debugging									
	BSCIT230606B	Mobile Security and Privacy									
AEC	AEC230605	Workplace Communication	2	0	0	2	25	-	25	-	50
Total Credits Earned						**22**	**225**	**50**	**225**	**50**	**550**

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BSC-IT Semester – VII (With Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
RP	HRBSCIT230701	Research Project	0	0	12	6	-	75	-	75	150
Major/ Core	HRBSCIT230702	Advanced Research - I	0	0	8	4	-	50	-	50	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4	-				
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBSCIT230703A	AI in Robotics									
	HRBSCIT230703B	AI for Internet of Things									
Data Science	HRBSCIT230704A	Time Series Analysis and Forecasting									
	HRBSCIT230704B	Advanced Machine Learning									
Cloud Computing & Information Security	HRBSCIT230705A	Cloud Data Management and Analytics									
	HRBSCIT230705B	Ethical Hacking and Penetration Testing									
Mobile Applications	HRBSCIT230706A	Advanced Mobile App Development									
	HRBSCIT230706B	Cross-Platform Mobile App Development									
Total Credits Earned						22	150	125	150	125	550

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BSC-IT - TEACHING SCHEME BATCH 2023-27 (NEP)

BSC-IT Semester – VIII (With Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
RP	HRBSCIT230801	Research Project	0	0	12	6	-	75	-	75	150
Major/ Core	HRBSCIT230802	Advanced Research - II	0	0	8	4	-	50	-	50	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4	-				
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBSCIT230803A	AI in Financial Forecasting and Trading									
	HRBSCIT230803B	AI in Image and Video Processing									
Data Science	HRBSCIT230804A	Text Analytics									
	HRBSCIT230804B	Social Network Analysis									
Cloud Computing & Information Security	HRBSCIT230805A	Cloud DevSecOps									
	HRBSCIT230805B	Secure IoT Deployment in the Cloud									
Mobile Applications	HRBSCIT230806A	Mobile Game Development									
	HRBSCIT230806B	Augmented Reality and Virtual Reality in Mobile Apps									
Total Credits Earned						22	150	125	150	125	550

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Swarrnim Startup & Innovation University, Swarrnim School of Computing & IT

BSC-IT Semester – VII (Without Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
OJT	HBSCIT230701	On the Job Training	0	0	12	6	-	75	-	75	150
Major/ Core	HBSCIT230702	Web Development using Python Framework	3	0	2	4	50	-	50	-	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4			-		
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBSCIT230703A	AI in Robotics									
	HRBSCIT230703B	AI for Internet of Things									
Data Science	HRBSCIT230704A	Time Series Analysis and Forecasting									
	HRBSCIT230704B	Advanced Machine Learning									
Cloud Computing & Information Security	HRBSCIT230705A	Cloud Data Management and Analytics									
	HRBSCIT230705B	Ethical Hacking and Penetration Testing									
Mobile Applications	HRBSCIT230706A	Advanced Mobile App Development									
	HRBSCIT230706B	Cross-Platform Mobile App Development									
Total Credits Earned						22	200	75	200	75	550

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BSC-IT Semester – VIII (Without Research)

Category of Course	Subject Code	Subject title	Teaching Scheme (Per week)				Examination				Total
							Internal		External		
			Theory	Tutorial	Practical	Credits	Th	Pr	Th	Pr	
OJT	HBSCIT230801	On the Job Training	0	0	12	6	-	75	-	75	150
Major/ Core	HBSCIT230802	Internet of Things (IoT) and its applications	3	0	2	4	50	-	30	20	100
Major		**One Major with two papers**	8	0	0	8					
		Paper 1					50	-	50	-	100
		Paper 2					50	-	50	-	100
Minor		**One Minor with one paper**	4	0	0	4	-				
		Paper 1					50	-	50	-	100
Artificial Intelligence	HRBSCIT230803A	AI in Financial Forecasting and Trading									
	HRBSCIT230803B	AI in Image and Video Processing									
Data Science	HRBSCIT230804A	Text Analytics									
	HRBSCIT230804B	Social Network Analysis									
Cloud Computing & Information Security	HRBSCIT230805A	Cloud DevSecOps									
	HRBSCIT230805B	Secure IoT Deployment in the Cloud									
Mobile Applications	HRBSCIT230806A	Mobile Game Development									
	HRBSCIT230806B	Augmented Reality and Virtual Reality in Mobile Apps									
Total Credits Earned						**22**	**200**	**75**	**200**	**95**	**550**

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