

BTech
Information Technology Degree Programme

Regulations & Syllabi
(under CBCS)

2019



PSG COLLEGE OF TECHNOLOGY
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13. Courses of Study and Scheme of Assessment

BTECH INFORMATION TECHNOLOGY

(2019 Regulations)
(Minimum credits to be earned: 165)

Course Code	Course Title	Periods / week				Maximum Marks			
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER 1									
19I101	Calculus and its Applications	3	1	0	4	50	50	100	BS
19I102	Electrical and Electronics Systems	3	0	0	3	50	50	100	ES
19I103	Chemistry of Electronic Materials	3	0	0	3	50	50	100	BS
19I104	C Programming	3	0	0	3	50	50	100	ES
19G105	English Language Proficiency	2	1	0	3	50	50	100	HS
19I110	Engineering Graphics	0	0	4	2	50	50	100	ES
19I111	Physics and Chemistry Laboratory	0	0	4	2	50	50	100	BS
19I112	C Programming Laboratory	0	0	4	2	50	50	100	ES
19IP15	Induction Programme **	0	0	0	0	-	-	-	MC
Total 28 periods		14	2	12	22	400	400	800	
SEMESTER 2									
19I201	Transforms and its Applications	3	1	0	4	50	50	100	BS
19I202	Materials Science	3	0	0	3	50	50	100	BS
19I203	Industrial Electrochemistry	2	0	0	2	50	50	100	BS
19I204	Communication Systems	3	0	0	3	50	50	100	ES
19I205	Digital Logic Design	2	2	0	4	50	50	100	ES
19I210	Python Programming Laboratory	0	0	4	2	50	50	100	ES
19I211	Engineering Practices	0	0	2	1	50	50	100	ES
19_____	Language Electives	0	0	4	2	50	50	100	HS
19I215	Activity Point Programme *	-	-	-	Grade	-	-	-	MC
Semester 2- Summer Term									
19I213	Internship €	0	0	0	2 [£]	100	0	100	EEC
Total 26 periods		13	3	10	21	500	400	900	

** As per norms

* As per AICTE Norms; Total 60 hrs; Grade: Completed / Not Completed; Not counted for CGPA

CA Continuous Assessment

FE Final Examination

€ This course will be conducted prior to the commencement of the third semester for a period of 3 weeks

£ For internship, one credit is equivalent to minimum 40 hours of work as per norms

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BTECH INFORMATION TECHNOLOGY**(2019 Regulations)**

Course		Periods / week			Maximum Marks				
Code	Course Title	Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER 3									
19I301	Linear Algebra	3	1	0	4	50	50	100	BS
19I302	Computer Architecture	3	1	0	4	50	50	100	ES
19I303	Data Structures	3	0	0	3	50	50	100	PC
19I304	Discrete Mathematics and Automata Theory	3	0	0	3	50	50	100	PC
19I305	Object Oriented Programming and Java	3	0	0	3	50	50	100	PC
19O306	Economics for Engineers	3	0	0	3	50	50	100	HS
19I310	Data Structures Laboratory	0	0	4	2	50	50	100	PC
19I311	Object Oriented Programming Laboratory	0	0	4	2	50	50	100	PC
19K312	Environmental Science **	2	0	0	0	-	-	-	MC
19I315	Activity Point Programme *	-	-	-	Grade	-	-	-	MC
Total 30 periods		20	2	8	24	400	400	800	
SEMESTER 4									
19I401	Probability, Stochastic Processes and Statistics	3	1	0	4	50	50	100	BS
19I402	Advanced Data Structures	2	2	0	4	50	50	100	PC
19I403	Database Management Systems	3	0	0	3	50	50	100	PC
19I404	Operating Systems	3	0	0	3	50	50	100	PC
19I405	Computer Networks	3	0	0	3	50	50	100	PC
19I410	Database Management Systems Laboratory	0	0	4	2	50	50	100	PC
19I411	Computer Networks Laboratory	0	0	4	2	50	50	100	PC
19I412	Operating Systems Laboratory	0	0	2	1	50	50	100	PC
19O412	Indian Constitution **	2	0	0	0	-	-	-	MC
19Q413	Soft Skills Development	0	0	2	1	100	0	100	EEC
19I415	Activity Point Programme *	-	-	-	Grade	-	-	-	MC
Total 31 periods		16	3	12	23	500	400	900	

** As per norms

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Course		Periods / week				Maximum Marks			
Code	Course Title	Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER 5									
19I501	Design and Analysis of Algorithms	3	0	0	3	50	50	100	PC
19I502	Software Engineering	3	1	0	4	50	50	100	PC
19I503	Internet of Things	3	0	0	3	50	50	100	PC
19I504	Data Mining	3	0	0	3	50	50	100	PC
19I____	Professional Elective I	3	0	0	3	50	50	100	PE
19I510	Design and Analysis of Algorithms Laboratory	0	0	2	1	50	50	100	PC
19I511	Data Mining Laboratory	0	0	4	2	50	50	100	PC
19I512	Internet of Things Laboratory	0	0	4	2	50	50	100	PC
19Q513	Business and Managerial Communications	0	0	2	1	100	0	100	EEC
19I515	Activity Point Programme *	-	-	-	Grade	-	-	-	MC
Total 28 periods		15	1	12	22	500	400	900	
SEMESTER 6									
19I601	Wireless Networks	3	0	0	3	50	50	100	PC
19I602	Web Technologies	3	0	0	3	50	50	100	PC
19I603	Artificial Intelligence	3	1	0	4	50	50	100	PC
19____	Open Elective I	3	0	0	3	50	50	100	OE
19I____	Professional Elective II	3	0	0	3	50	50	100	PE
19I610	Web Technologies Laboratory	0	0	4	2	50	50	100	PC
19I611	Mobile Application Development Laboratory	0	0	2	1	50	50	100	PC
19I620	Innovation Practices	0	0	4	2	50	50	100	EEC
19Q613	Quantitative and Reasoning Skills	0	0	2	1	100	0	100	EEC
19I615	Activity Point Programme *	-	-	-	Grade	-	-	-	MC
Total 28 periods		15	1	12	22	500	400	900	

At the end of 6th semester, the students are required to earn the minimum number of activity points from the AICTE mandated ACTIVITY POINT PROGRAMME to qualify for the award of BE / BTech degree (Refer Section 4 (vii) (c) of 2019 Regulations)

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FE Final Examination

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Course		Periods / week				Maximum Marks			
Code	Course Title	Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER 7									
19I701	Cloud Computing	3	0	0	3	50	50	100	PC
19I702	Cryptography	3	0	0	3	50	50	100	PC
19_____	Open Elective II	3	0	0	3	50	50	100	OE
19I_____	Professional Elective III	3	0	0	3	50	50	100	PE
19I_____	Professional Elective IV	3	0	0	3	50	50	100	PE
19I710	Software Testing Laboratory	0	0	4	2	50	50	100	EEC
19I720	Project Work I	0	0	4	2	50	50	100	EEC
Total 23 periods		15	0	8	19	350	350	700	
SEMESTER 8									
19I_____	Professional Elective V	3	0	0	3	50	50	100	PE
19I_____	Professional Elective VI	3	0	0	3	50	50	100	PE
19I820	Project Work II	0	0	8	4	50	50	100	EEC
Total 14 periods		6	0	8	10	150	150	300	

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PROFESSIONAL ELECTIVES

19I001	Big Data Analytics
19I002	Compiler Design
19I003	Computer Vision
19I004	Cyber Physical Systems
19I005	Cyber Security
19I006	Deep Learning
19I007	Digital Image Processing
19I008	Distributed Computing
19I009	Graphics and Multimedia
19I010	Healthcare Informatics
19I011	Human Computer Interaction
19I012	Information Ethics
19I013	Intelligent Systems
19I014	Machine Learning
19I015	Modelling and Simulation
19I016	Multi-Core Computing
19I017	Natural Language Processing
19I018	Network Security
19I019	Optimization Techniques
19I020	Secure Coding
19I021	Soft Computing
19I022	Software Process Management
19I023	Software Quality Assurance
19I024	Swarm Intelligence
19I025	System Software
19I026	TCP/IP and Socket Programming
19I027	Linux Internals
19I028	Web Services and Service Oriented Architecture

LANGUAGE ELECTIVES

19G001	Communication Skills for Engineers
19G002	German- Level A1.1
19G003	French Language Level 1
19G004	Basic Japanese

ONE-CREDIT COURSES

INFORMATION TECHNOLOGY

19IF01	Augmented Reality
19IF02	Block Chain Technology
19IF03	Cyber Forensics
19IF04	Edge/Fog Computing
19IF05	Industrial Automation
19IF06	Machine to Machine Communication
19IF07	Tiled-Chip Multi-Core Processors
19IF08	Unified Communication Services
19IF09	Virtual Reality
19IF10	5G Networks

ENGLISH

19GF01	Interpersonal and Organizational Communication
19GF02	Human Values Through Literature

HUMANITIES

19OFA1	Export – Import Practices
19OFA2	Insurance - Concepts and Practices
19OFA3	Public Finance
19OFA4	Public Finance and Taxation