

School of Technology, Pandit Deendayal Petroleum University, Gandhinagar
Proposed course structure of B. Tech (Computer Engineering) from session 2016-17

Courses (figure in parenthesis indicates L-T-P)		III Sem.		IV Sem.		V Sem.		VI Sem.		VII Sem.		VIII Sem.	
		Course	Credit	Course	Credit	Course	Credit	Course	Credit	Course	Credit	Course	Credit
Discipline based	Core + Elective	Data & File Structures (4-0-0)	4	Design & Analysis of Algorithms (3-1-0)	4	Artificial Intelligence (3-1-0)	4	Software Engineering (3-1-0)	4	Information Security (3-1-0)	4	Big Data Analytics (4-0-0)	4
		Database Management Systems (3-1-0)	4	Computer Networks (4-0-0)	4	Operating Systems (4-0-0)	4	System Software (4-0-0)	4	Parallel & Distributed Computing (4-0-0)	4	Department Elective III* (3-0-0)	3
		Digital Logic & Design (3-1-0)	4	Computer Organization & Programming (3-1-0)	4	Theory of Computation (3-1-0)	4	Wireless Communication & Mobile Computing (3-1-0)	4			Department Elective IV* (3-0-0)	3
				Object Oriented Modeling & Design (3-0-0)	3	Computer Graphics & Visualisation (3-0-0)	3	Embedded Systems (3-0-0)	3	Department Elective I* (3-1-0)	4	Department Elective II* (3-1-0)	4
Discipline based/Generic	Core	Discrete Mathematics (3-1-0)	4	Numerical & Statistical Methods (3-1-0)	4	Principles of Economics (3-1-0)	4	Web Technology (3-1-0)	4	Seminar (3-0-0)	3	Project Management (3-0-0)	3
Generic (other discipline)	Core	Maths-III (3-1-0)	4										
	Elective			Open electives (optional)		Open electives (optional)						*Other discipline elective (3-0-0)	3
Lab/Practical	Core	Data & File Structures Lab (0-0-3)	1.5	Object Oriented Programming Lab (0-0-3)	1.5	Operating System Lab (0-0-3)	1.5	System Software Lab (0-0-2)	1	Parallel & Distributed Computing Lab (0-0-3)	1.5		
		DBMS Lab (0-0-3)	1.5	Computer Networks Lab (0-0-3)	1.5	Computer Graphics & Visualization Lab (0-0-3)	1.5	Embedded System Lab (0-0-2)	1	Information Security Lab (0-0-3)	1.5		
								Web Technology Lab (0-0-2)	1				
Dissertation/Project												Major Project (0-0-12)	6
Contact hours		26		25		25		25		25		28	
Total credit			23		22		22		22		22		22

Minimum credit requirement for BTech degree: 180

Total Credit of courses offered as per time –table (based on the above) + Other Compulsory Training etc listed below: 173 + 4 = 177

Remaining 3 Credits (Minimum) to be earned by student through the Skill/Ability enhancement courses listed below :

Credit	
* Compulsory	
Civic Services and Social Internship	1
Industrial Orientation (3 weeks)	1
Training at Centre of excellence (e.g. Siemens Centre)/Industrial Training/ IEP (6 weeks) (Letter grade course)	2
Optional: Letter grade courses: MOOC/ Open electives / EdX/ Coursera courses (depending on course)/ NCC – 'B' Certificate/ 'C' Certificate	3 or, more

Computer Engineering Department Electives					
VII- Semester			VII- Semester		
Sub. Code	Elective –I	Credits	Sub. Code	Elective- II	Credits
	Mobile Applications Development Technologies	3-1-0		Cloud Computing	3-1-0
	Advanced Java	3-1-0		Digital Image Processing	3-1-0
	LAMP Technologies	3-1-0		Advanced Computer Architecture	3-1-0
	.NET Programming	3-1-0		Design of Operating System	3-1-0
	Modern Databases	3-1-0		Data Compression	3-1-0
				Optimization techniques	3-1-0
				Advanced Compiler	3-1-0

Computer Engineering Department Electives					
VIII- Semester			VIII- Semester		
Sub. Code	Elective –III	Credits	Sub. Code	Elective- IV	Credits
	Internet of Things	3-0-0		Machine Learning	3-0-0
	Multimedia Computing	3-0-0		Natural Language Processing	3-0-0
	Service Oriented Architecture	3-0-0		Pattern Recognition	3-0-0
	Agile Software development	3-0-0		Information Retrieval Systems	3-0-0
	Software Testing & Quality Assurance	3-0-0		Machine Human Interface	3-0-0
	Cyber Security	3-0-0		Parallel & Randomized Algorithms	3-0-0

Expected Self Learning by students at the end of each semester:

1. Sem 1, 2, 3 Improving Communication skills like reading, writing, speaking, listening.
2. Sem 4 Learn foreign language like French, German, etc.
3. Sem 5 Participate in Group Discussions, Debate for soft skill development and learning current affairs.
4. Sem 5 Learn tools like LATEX, Matlab, Mathematica, R, Python, SPSS, etc.
5. Sem 6 Learning tools for Web and Application development like LAMP/WAMP/NO SQL, ANDROID, IOS, etc.
6. Sem 6 Prepare for GRE/TOEFL/CAT/GATE.
7. Sem 7 Revise all technical core subjects to get ready for placements.