

INDIAN INSTITUTE OF TECHNOLOGY PATNA

Programme: Bachelor of Technology in Computer Science & Engineering

Curriculum

First Semester		
Course Number	Course Title	L-T-P-C
CH101	Chemistry	3-1-0-8
CH110	Chemistry Laboratory	0-0-3-3
EE101	Electrical Sciences	3-1-0-8
MA101	Mathematics – I	3-1-0-8
ME111	Engineering Drawing	2-0-3-7
PH101	Physics – I	2-1-0-6
ME110	Workshop – I	0-0-3-3
HS101	English	3-0-0-6
Total L-T-P-C		16-4-9-49

Second Semester		
CH102	Chemistry-II	3-0-0-6
CS101	Introduction to Computing	3-0-0-6
CS110	Computing Laboratory	0-0-3-3
EE102	Basic Electronics Laboratory	0-0-4-4
MA102	Mathematics-II	3-1-0-8
ME101	Engineering Mechanics	3-1-0-8
PH110	Physics Laboratory	0-0-3-3
PH102	Physics – II	2-1-0-6
Total L-T-P-C		14-3-10-44

Third Semester		
MA201	Mathematics – III	3-1-0-8
CS201	Object Oriented Programming and Data Structures	3-0-3-9
HS2xx	HSS Elective	3-0-0-6
CS 203	Discrete Mathematics	3-0-0-6
CS 221	Digital Design	3-0-0-6
EC 220	Signals, Systems and Networks	3-1-0-8
Total L-T-P-C		18-2-3-43

Fourth Semester		
HS2xx	HSS Elective	3-0-0-6
XX2xx	Science Elective	3-0-0-6
CS 204	Algorithms	3-0-0-6
CS 222	Computer Organization and Architecture	3-0-0-6
CS 223	Hardware Laboratory	0-0-3-3
CS 241	Software Engineering	2-0-3-7
CS 242	Systems Programming Laboratory	0-1-3-5

MA 225	Probability Theory and Random Processes	3-1-0-8
Total L-T-P-C		17-2-9-47

Fifth Semester		
CS 301	Formal Language and Automata	3-0-0-6
CS 331	Programming Language	3-0-2-8
CS 341	Operating Systems	3-0-0-6
CS 342	Operating Systems Laboratory	0-1-3-5
CS 343	Data Communications	3-0-0-6
CS 344	Databases	3-0-0-6
CS 345	Databases Laboratory	0-1-3-5
Total L-T-P-C		15-2-8-42

Sixth Semester		
HS3xx	HSS Elective	3-0-0-6
CS 302	Theory of Computation	3-0-0-6
CS 346	Compilers	3-0-0-6
CS 347	Compilers Laboratory	0-0-3-3
CS 348	Computer Networks	3-0-2-8
CS 362	Computer Graphics	3-0-2-8
CS 399	Seminar	0-0-3-3
Total L-T-P-C		15-0-10-40

Seventh Semester		
XX4xx	Open Elective - I	3-0-0-6
CS 498	Project-I	0-0-10-10
CS xxx	Departmental Elective – I	3-0-0-6
CS xxx	Departmental Elective - II	3-0-0-6
CS 421	Computer Peripherals and Interfacing	3-0-0-6
CS 422	Peripherals and Interfacing Lab	0-1-3-5
Total L-T-P-C		12-1-13-39

Eighth Semester		
XX4xx	Open Elective - II	3-0-0-6
HS4xx	HSS Elective	3-0-0-6
CS 499	Project – II	0-0-16-16
CS xxx	Departmental Elective - III	3-0-0-6
CS xxx	Departmental Elective - IV	3-0-0-6
Total L-T-P-C		12-0-16-40

Grand Total of L-T-P-C for all semesters:		119-14-78-344
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* The work load for the courses of XX498 and XX499 are approximately equivalent to one theory course and two theory courses respectively.

Components of the Curriculum & their Total Credits											
HSS Part Component		Basic Sciences & Mathematics Component		Engineering Sciences Component		Professional Subject Component					Total Credits
Theory	Lab	Theory	Lab	Theory	Lab	Theory	Lab	Seminar	Project	Others	
30	0	56	6	44	16				24		

Components of the Curriculum & their Total Credits				
Institutional Core	Institutional Electives	Departmental Core	Departmental Electives	Total Credits
110	42		24	

Note: The first year curriculum, MA201 & CS201 in the third semester are common to all B.Tech. programmes.

Please remember the following rules.

- The credit requirements for a B.Tech. programme will be in the range of 340 - 360 credits.
To get 340 credits, one has to plan 43 credits for each semester.
- Normally, the number of credits registered for during a semester should not be less than 36 credits and should not exceed 52 credits. The L-T-P loading for a semester should not exceed 32 contact hours per week.
- No semester will normally have more than six lecture based courses and four laboratory courses.
- The curriculum of an individual department may include industrial training for 8 weeks for every undergraduate student. Industrial training and/or fieldwork are to be satisfactorily completed before a student is declared eligible for the degree. The curriculum for an individual department may show a credit allocation for industrial training, if considered necessary. Normally industrial training will be arranged during the summer vacation following the sixth semester of studies.