

**Indian Institute of Information Technology Ranchi**  
(at NIT Jamshedpur)

**B.Tech. Computer Science and Engineering**  
**Semester I:**

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	MA-101	Mathematics - I	3-1-0	4
2.	PH-101	Engineering Physics	3-0-0	3
3.	EL-101	Electrical Sciences	3-1-0	4
4.	CS-101	Computer Programming - I	3-0-0	4
5.	ME-101	Engineering Graphics	3-0-0	3
6.	HS-101	Professional Communication	1-0-2	2
7.	PH-102	Physics Lab	0-0-3	2
8.	CS-102	Computer Programming Lab	0-0-3	2
Total Credit:				24

**Semester 2:**

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	MA-102	Mathematics - II	3-1-0	4
2.	CH-101	Engineering Chemistry	3-0-0	3
3.	EC-101	Electronics Devices and Circuits	3-1-0	4
4.	CS-103	Computer Programming - II	3-0-0	3
5.	EC-102	Engineering Materials	3-0-0	3
6.	HS-102	Professional Ethics for Engineers	2-0-0	2
7.	CH-102	Chemistry Lab	0-0-3	2
8.	EC-103	Electronics Devices and Circuits Lab	0-0-3	2
9.	CS-104	Computer Programming - II Lab	0-0-3	2
Total Credit:				25

**Semester 3:**

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	EC-205	Digital Design	3-1-0	4
2.	CS-205	Discrete Mathematics	3-1-0	4
3.	CS-206	Data Structure and Algorithms	3-1-0	4
4.	CS-207	Computer Organization	3-1-0	4
5.	HS-203	Management Concept & Technology	3-0-0	3
6.	EC-206	Digital Design Lab	0-0-3	2
7.	CS-208	Data Structure Lab	0-0-3	2
8.	CS-209	Computer Organization Lab	0-0-3	2
Total Credit:				25

*Suman*  
15.12.2017

*Ranab*  
14.12.2017

*R. Ranjan*  
15.12.2017

*15/12/2017*

*15.12*

**Semester 4:**

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	CS-210	Theory of Computation	3-0-0	3
2.	CS-211	Design and Analysis of Algorithms	3-1-0	4
3.	CS-212	Microprocessing and Interfacing	3-0-0	3
4.	CS-213	Operating Systems	3-1-0	4
5.	CS-214	Combinatorics and Graph Theory	3-0-0	3
6.	ES-202	Environmental Science and Green Technology	2-0-0	2
7.	CS-215	Algorithms Lab	0-0-3	2
8.	CS-216	Microprocessing Lab	0-0-3	2
9.	CS-217	Operating Systems Lab	0-0-3	2
Total Credit:				25

**Semester 5:**

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	CS-318	Computer Architecture	3-1-0	4
2.	CS-319	Computer Networks	3-1-0	4
3.	CS-320	Compiler Design	3-1-0	4
4.	CS-321	Computer Graphics	3-1-0	4
5.	CS-322	Elective - I	3-0-0	3
6.	CS-323	Computer Network Lab	0-0-3	2
7.	CS-324	Compiler Design Lab	0-0-3	2
8.	CS-325	Computer Graphics Lab	0-0-3	2
Total Credit:				25

**Semester 6:**

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	CS-326	Database Management Systems	3-1-0	4
2.	CS-327	Software Engineering	3-1-0	4
3.	CS-328	Artificial Intelligence	3-1-0	4
4.	CS-329	Parallel and Distributed Computing	3-0-0	3
5.	CS-330	Elective - II	3-0-0	3
6.	CS-331	DBMS Lab	0-0-3	2
7.	CS-332	Software Engg. Lab	0-0-3	2
8.	CS-333	PDP Lab	0-0-3	2
Total Credit:				24

*Pranav*  
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*Ranjana*  
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*R. Ranjan*  
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*Abhishek*  
15/12/2017

*Pranav*  
15.12.17

Semester 7:

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	HS-405	Foreign Language	2-0-0	2
2.	CS-402	Digital Image Processing	3-1-0	4
3.	CS-403	Elective - III	3-1-0	4
4.	CS-404	Elective - IV	3-1-0	4
5.	CS-405	Elective - V	3-1-0	4
6.	CS-406	Digital Image Processing Lab	0-0-3	2
7.	CS-407	Minor Project	0-0-6	4
Total Credit:				24

Semester 8:

Sl. No.	Course Code	Course Name	L-T-P	Credit
1.	CS408	Dissertation		16
2.	CS-409	Industrial Training Seminar		2
Total Credit:				18

Total Credits: 190

*Rana*  
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*R. Romyan*  
15.12.2017

*Rafiqe*  
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*Subho*  
15/12/17

*Rana*  
15.12.17

**Group 1:**

**Elective I**

1. Evolutionary Computation
2. Information and Coding Theory
3. Cryptography and Network Security
4. Multimedia Computing
5. Computational Geometry
6. Advanced Algorithms
7. Modelling and Simulation
8. Functional & Logic Programming
9. Optimization Techniques

**Group 2:**

**Elective II**

1. Data Mining
2. Wireless and Mobile Communication
3. Bioinformatics & Algorithm
4. Robotics
5. Internet of Things
6. Internet Technology
7. Informational Retrieval
8. Computer Vision
9. Multimedia System

**Group 3:**

**Elective III, IV, V**

1. Cloud Computing
2. Pattern Recognition
3. Machine Learning
4. Big Data Analysis
5. Distributed Systems
6. Real Time Systems
7. Human Computer Interface
8. Social Network Analysis
9. Natural Language Processing
10. Quantum Computing
11. Intrusion Detection System
12. Embedded System
13. Nano Technology
14. Software Reliability
15. Medical Imaging

*Ram*  
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*Rafiq*  
15.12.2017

4 R. Ranjan  
15.12.2017

*Banji*  
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*Subodh*  
15/12/17  
*Sumit*  
15.12.2017