

COMPUTER SCIENCE

1. Artificial Intelligence: Core Courses		
Sl. No	Course Name	Duration
01	Artificial Intelligence Search Methods For Problem Solving	12 weeks
02	OR An Introduction to Artificial Intelligence	12 weeks
03	Artificial Intelligence: Knowledge Representation and Reasoning	12 weeks
04	Programming, Data Structures and Algorithms in Python	8 weeks
05	OR Python for Data Science	4 weeks
06	Introduction to Machine Learning	8 weeks
07	OR Introduction to Machine Learning	12 weeks
Elective Courses		
Sl. No	Course Name	Duration
01	Deep Learning	12 weeks
02	OR Deep Learning	12 weeks
03	OR Deep Learning for Computer Vision	12 weeks
04	Reinforcement Learning	12 weeks
05	AI: Constraint Satisfaction	8 weeks
06	Computer Vision	12 weeks
07	Natural Language Processing	12 weeks
08	OR Applied Natural Language Processing	12 weeks
09	Practical Machine Learning with Tensorflow	8 weeks
10	Affective Computing	12 weeks

2. Data Science: Core Courses		
Sl. No	Course Name	Duration
01	Python for Data Science	4 weeks
02	OR Programming, Data Structures and Algorithms in Python	8 weeks
03	Introduction to Data Analytics	8 weeks
04	OR Data Science for Engineers	8 weeks
05	OR Data Analytics with Python	12 weeks
06	Introduction to Machine Learning	8 weeks
07	OR Introduction to Machine Learning	12 weeks
Elective Courses		
Sl. No	Course Name	Duration

01	Deep Learning	12 weeks
02	OR Deep Learning	12 weeks
03	OR Deep Learning for Computer Vision	12 weeks
04	Reinforcement Learning	12 weeks
05	Artificial Intelligence : Search Methods For Problem solving	12 weeks
06	OR An Introduction to Artificial Intelligence	12 weeks
07	Artificial Intelligence: Knowledge Representation and Reasoning	12 weeks
08	Computer Vision	12 weeks
09	Natural Language Processing	12 weeks
10	OR Applied Natural Language Processing	12 weeks
11	Practical Machine Learning with Tensor flow	8 weeks
12	Learning Analytics Tools	12 weeks
13	Probability for Computer Science	8 weeks

3. Programming: Core Courses

Sl. No	Course Name	Duration
01	Programming, Data Structures and Algorithms in Python	8 weeks
02	OR Data Structure and Algorithms using Java	12 weeks
03	Programming in C++	8 weeks
04	OR Programming in Modern C++	12 weeks
05	OR An Introduction to Programming through C++	12 weeks
06	Programming in Java	12 weeks
07	OR Object Oriented System Development using UML, Java and Patterns	12 weeks
08	Database Management System	8 weeks
09	OR Introduction to Database Systems	12 weeks

Elective Courses

Sl. No	Course Name	Duration
01	Data Science for Engineers	8 weeks
02	Cloud computing	12 weeks
03	Introduction to Internet of Things	12 weeks
04	Introduction to Machine Learning	8 weeks
05	OR Introduction to Machine Learning	12 weeks
06	Modern Application Development	12 weeks

4. Foundation for Computing: Core Courses

Sl. No	Course Name	Duration
--------	-------------	----------

01	Discrete Mathematics	12 weeks
02	OR Discrete Mathematics	12 weeks
03	OR Discrete Mathematics	12 weeks
04	OR Discrete Mathematics - IIITB	12 weeks
05	Design and Analysis of Algorithms	8 weeks
06	Programming, Data Structures and Algorithms in Python	8 weeks
07	Theory of Computation	8 weeks
Elective Courses		
Sl. No	Course Name	Duration
01	Randomized Algorithms	12 weeks
02	Parallel Algorithms	12 weeks
03	Modern Algebra	8 weeks
04	Graph Theory	8 weeks
05	Computational Geometry	12 weeks
06	Arithmetic Circuit Complexity	12 weeks
07	Foundations of Cryptography	12 weeks
08	Computer Graphics	8 weeks
09	Computational Complexity Theory	12 weeks
10	OR Computational Complexity	12 weeks
11	Secure Computation: Part I	12 weeks
12	Parameterized Algorithms	12 weeks
13	Probability for Computer Science	12 weeks

5. Systems: Core Courses		
Sl. No	Course Name	Duration
01	Compiler Design	12 weeks
02	Introduction to Operating Systems	8 weeks
03	OR Operating System	12 weeks
04	OR Operating System Fundamentals	12 weeks
05	Computer Networks and Internet Protocol	12 weeks
06	Introduction to Database Systems	12 weeks
Elective Courses		
Sl. No	Course Name	Duration
01	Cloud computing	12 weeks
02	Information Security - 5 - Secure Systems Engineering	12 weeks
03	Introduction to parallel programming with OpenMP and MPI	8 weeks
04	Introduction to Internet of Things	8 weeks

05	Multi-Core Computer Architecture – Storage And Interconnects	12 weeks
06	Internetwork Security	12 weeks
07	Advanced Computer Architecture	8 weeks
08	OR Advanced computer architecture	12 weeks
09	Ethical Hacking	12 weeks
10	Introduction to Blockchain Technology and Applications	8 weeks
11	OR Block chain Architecture Design and Use Cases	12 weeks
12	GPU Architectures and Programming	12 weeks
13	C-Based VLSI Design	12 weeks
14	Real-Time Systems	12 weeks
15	Introduction to Computer and Network Performance Analysis using Queuing Systems	4 weeks
16	Foundation of Cloud IoT Edge ML	8 weeks
17	Design and Engineering of Computer Systems	8 weeks