

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MOOC FOR MINORS AND HONOURS - 2022 SCHEME BTECH CSE [ARTIFICIAL INTELLIGENCE]

MOOC FOR MINORS:

BASKET I SOFTWARE ENGINEERING

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Programming in Java		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M20A OBJECT ORIENTED PROGRAMMING offered in Semester 3
2	Software Engineering		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M30A CONCEPTS IN SOFTWARE ENGINEERING offered in Semester 5
3	Software Testing		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIIT Bangalore	Replacing CS0M30D Introduction to Software Testing offered in Semester 6
4	Object Oriented System Development using UML, Java and Patterns		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	
5	Fundamentals of Object Oriented Programming		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Roorkee	

BASKET II MACHINE LEARNING

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Essential Mathematics for Machine Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Ropar	Replacing the course CS0M20E MATHEMATICS FOR MACHINE LEARNING offered in <i>Semester 4</i> .
2	Essential Mathematics for Machine Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Roorkee	Replacing the course CS0M20E MATHEMATICS FOR MACHINE LEARNING offered in <i>Semester 4</i> .
3	Linear Algebra in AI and ML		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing the course CS0M20E MATHEMATICS FOR MACHINE LEARNING offered in <i>Semester 4</i> .
4	Machine Learning for Engineering and Science Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing CS0M30B CONCEPTS IN MACHINE LEARNING offered in Semester 5
5	Introduction to Machine Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing CS0M30B CONCEPTS IN MACHINE LEARNING offered in <i>Semester 5</i>

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
6	Introduction to Machine Learning		MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M30B CONCEPTS IN MACHINE LEARNING offered in Semester 5
7	Optimization for machine learning: Theory and Implementation		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	
8	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Ropar	Replacing CS0M30E CONCEPTS IN DEEP LEARNING offered in Semester 6
9	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M30E CONCEPTS IN DEEP LEARNING offered in Semester 6

BASKET III NETWORKING

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Introduction to Computer Networks and Internet protocols		MOOC	15 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	Gujarat University Ahmedabad	Replacing CS0M20F INTRODUCTION TO COMPUTER NETWORKS offered in Semester 4

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
2	Advanced Computer Networks		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Gandhinagar	Replacing CS0M20F INTRODUCTION TO COMPUTER NETWORKS offered in <i>Semester 4</i>
3	Computer Networks and Internet Protocol		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M20F INTRODUCTION TO COMPUTER NETWORKS offered in <i>Semester 4</i>
4	Cloud Computing		MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	
5	Introduction to Internet of Things		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M30F WIRELESS NETWORKS AND IOT APPLICATIONS offered in <i>Semester 6</i>
6	Introduction To Industry 4.0 And Industrial Internet of Things		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing CS0M30F WIRELESS NETWORKS AND IOT APPLICATIONS offered in <i>Semester 6</i>

MOOC FOR HONOURS:**BASKET I SECURITY IN COMPUTING**

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	A basic course in Number Theory		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Bombay	Replacing <i>CS1H20A NUMBER THEORY</i> offered in <i>Semester 4</i>
2	Cryptography and Network Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IITKGP	Replacing <i>CS1H30A CRYPTOGRAPHIC ALGORITHMS</i> offered in <i>Semester 5</i>
3	Cyber Security and Privacy		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing <i>CS1H30D NETWORK SECURITY</i> offered in <i>Semester 6</i>
4	Introduction to Cyber Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	Uttarakhand Open University, Haldwani	Replacing <i>CS1H30D NETWORK SECURITY</i> offered in <i>Semester 6</i>
5	Privacy and Security in Online Social Media		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIIT Hyderabad	

6	Ethical Hacking		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	
7	Secure Computation Part 1		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIIT Bangalore	
8	Information Security and Cyber Forensics		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	Devi Ahilya Vishwavidyalaya, Indore	Replacing CS1H40A CYBER FORENSICS offered in <i>Semester 6</i>
9	Digital Forensics		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	Uttarakhand Open University, Haldwani	Replacing CS1H40A CYBER FORENSICS offered in <i>Semester 6</i>

BASKET II

COMPUTATIONAL BIOLOGY

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	BioInformatics: Algorithms and Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing CS2H20A COMPUTATIONAL FUNDAMENTALS FOR BIOINFORMATICS offered in Semester 4
2	Computational Systems Biology		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing CS2H30A COMPUTATIONAL BIOLOGY offered in Semester 5
3	Artificial Intelligence in Drug Discovery and Development		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT (BHU) Varanasi	
4	Next Generation Sequencing Technologies: Data Analysis and Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	
5	Statistics for Biomedical Engineers		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	
6	Fundaments of Computational Biology		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	CSVTU, Bhilai	

BASKET III COMPUTER VISION

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Computer Vision		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing <i>CS2H30B ADVANCED CONCEPTS IN COMPUTER VISION</i> offered in <i>Semester 5</i>
2	Computer Vision And Image Processing - Fundamentals And Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Guwahati	
3	Digital Image Processing		MOCC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	