

## 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 <i>CS0M20A OBJECT ORIENTED PROGRAMMING</i> offered in <i>Semester 3</i>
2	Software Engineering		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing <i>CS0M30A CONCEPTS IN SOFTWARE ENGINEERING</i> offered in <i>Semester 5</i>
3	Software Testing		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Bangalore	Replacing <i>CS0M30D Introduction to Software Testing</i> offered in <i>Semester 6</i>
4	Object Oriented System Development using UML, Java and Patterns		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	

**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 <b>CS0M20E MATHEMATICS FOR MACHINE LEARNING</b> 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 <b>CS0M20E MATHEMATICS FOR MACHINE LEARNING</b> 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 <b>CS0M20E MATHEMATICS FOR MACHINE LEARNING</b> 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 <b>CS0M30B CONCEPTS IN MACHINE LEARNING</b> offered in Semester 5
5	Introduction to Machine Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing <b>CS0M30B CONCEPTS IN MACHINE LEARNING</b> offered in <i>Semester 5</i>
6	Introduction to Machine Learning		MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing <b>CS0M30B CONCEPTS IN MACHINE LEARNING</b> offered in <i>Semester 5</i>

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
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 <i>CS0M30E CONCEPTS IN DEEP LEARNING</i> offered in <i>Semester 6</i>
9	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing <i>CS0M30E CONCEPTS IN DEEP LEARNING</i> offered in <i>Semester 6</i>

### 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 <i>CS0M20F INTRODUCTION TO COMPUTER NETWORKS</i> offered in <i>Semester 4</i>
2	Advanced Computer Networks		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Gandhinagar	Replacing <i>CS0M20F INTRODUCTION TO COMPUTER NETWORKS</i> offered in <i>Semester 4</i>

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
3	Computer Networks and Internet Protocol		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	Replacing <i>CS0M20F INTRODUCTION TO COMPUTER NETWORKS</i> 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 <i>CS0M30F WIRELESS NETWORKS AND IOT APPLICATIONS</i> 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 <b>CSIH40A</b> <b>FORENSICS</b> offered in <i>Semester 6</i> <b>CYBER</b>
9	Digital Forensics		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	Uttarakhand Open University, Haldwani	Replacing <b>CSIH40A</b> <b>FORENSICS</b> offered in <i>Semester 6</i> <b>CYBER</b>

**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 <i>CS2H20A COMPUTATIONAL FUNDAMENTALS FOR BIOINFORMATICS</i> offered in <i>Semester 4</i>
2	Computational Systems Biology		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Madras	Replacing <i>CS2H30A COMPUTATIONAL BIOLOGY</i> offered in <i>Semester 5</i>

**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	
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