

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MOOC FOR MINORS – BTECH 2023 SCHEME

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 2023	IIT Kharagpur	Replacing 23CSL2MA OBJECT ORIENTED PROGRAMMING offered in <i>Semester 3</i>
2	Object Oriented System Development using UML, Java and Patterns		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL2MA OBJECT ORIENTED PROGRAMMING offered in <i>Semester 3</i>
3	Software Engineering		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3MA CONCEPTS IN SOFTWARE ENGINEERING offered in <i>Semester 5</i>
4	Software Testing		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIIT Bangalore	Replacing 23CSL3MB INTRODUCTION TO SOFTWARE TESTING offered in <i>Semester 6</i>

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 2023	IIT Roorkee	Replacing the course 23CSL2MC MATHEMATICS FOR MACHINE LEARNING offered in <i>Semester 4</i> .
2	Essential Mathematics for Machine Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Ropar	Replacing the course 23CSL2MC MATHEMATICS FOR MACHINE LEARNING offered in <i>Semester 4</i> .
2	Linear Algebra in AI and ML		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing the course 23CSL2MC MATHEMATICS FOR MACHINE LEARNING offered in <i>Semester 4</i> .
3	Machine Learning for Engineering and Science Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	Replacing 23CSL2MD CONCEPTS IN MACHINE LEARNING offered in <i>Semester 5</i>
4	Introduction to Machine Learning		MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL2MD CONCEPTS IN MACHINE LEARNING offered in <i>Semester 5</i>
5	Introduction to Machine Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	Replacing 23CSL2MD CONCEPTS IN MACHINE LEARNING offered in <i>Semester 5</i>
6	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3MC CONCEPTS IN DEEP LEARNING offered in <i>Semester 6</i>

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
7	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Ropar	Replacing <i>23CSL3MC CONCEPTS IN DEEP LEARNING</i> offered in <i>Semester 6</i>
8	Optimization for machine learning: Theory and Implementation		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	

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 2023	Gujarat University Ahmedabad	Replacing <i>23CSL2MF INTRODUCTION TO COMPUTER NETWORKS</i> offered in <i>Semester 4</i>
2	Advanced Computer Networks		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Gandhinagar	Replacing <i>23CSL2MF INTRODUCTION TO COMPUTER NETWORKS</i> offered in <i>Semester 4</i>
3	Cloud Computing		MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
4	Computer Networks and Internet Protocol		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	
5	Introduction to Internet of Things		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3MF WIRELESS NETWORKS AND IOT APPLICATIONS offered in <i>Semester 6</i>

BASKET IV DATA SCIENCE

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Essentials Of Data Science With R Software - 1: Probability And Statistical Inference		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kanpur	
2	Natural Language Processing		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3MG NATURAL LANGUAGE PROCESSING offered in <i>Semester 5</i>

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
3	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3MH DEEP LEARNING offered in Semester 6
4	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Ropar	Replacing 23CSL3MH DEEP LEARNING offered in Semester 6
5	Optimization for machine learning: Theory and Implementation		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	

BASKET V NETWORK SECURITY

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Cyber Security Tools Techniques and Counter Measures		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Dr. Babasaheb Ambedkar Open University, Ahmedabad, Gujrat	Replacing 23CSL2MJ CYBER SECURITY offered in Semester 4

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
2	Introduction to Cyber Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Uttarakhand Open University, Haldwani	Replacing 23CSL2MJ CYBER SECURITY offered in <i>Semester 4</i>
3	Cyber Security and Privacy		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	Replacing 23CSL2MJ CYBER SECURITY offered in <i>Semester 4</i>
4	Blockchain and its Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3MI INTRODUCTION TO BLOCKCHAIN TECHNOLOGIES offered in <i>Semester 5</i>
5	Introduction To Internet Of Things		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	
6	Cryptography and Network Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	
7	Secure Computation Part 1		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIIT Bangalore	

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
8	Information Security and Cyber Forensics		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Devi Ahilya Vishwavidyalaya, Indore	

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MOOC FOR HONOURS - 2023 SCHEME BTECH CSE

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 2023	IIT Bombay	Replacing 23CSL2HA NUMBER THEORY offered in Semester 4
2	Cryptography and Network Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3HA CRYPTOGRAPHIC ALGORITHMS offered in Semester 5
3	Cyber Security and Privacy		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	Replacing 23CSL3HD NETWORK SECURITY offered in Semester 6
4	Introduction to Cyber Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Uttarakhand Open University, Haldwani	Replacing 23CSL3HD NETWORK SECURITY offered in Semester 6

5	Privacy and Security in Online Social Media		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Hyderabad	
6	Ethical Hacking		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	
7	Secure Computation Part 1		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Bangalore	Replacing 23CSLAHA CYBER FORENSICS offered in <i>Semester 7</i>
8	Information Security and Cyber Forensics		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Devi Ahilya Vishwavidyalaya, Indore	Replacing 23CSLAHA CYBER FORENSICS offered in <i>Semester 7</i>

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 2023	IIT Roorkee	Replacing 23CSL2HD COMPUTATIONAL FUNDAMENTALS FOR MACHINE LEARNING offered in <i>Semester 4</i>

2	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	Replacing 23CSL3HC NEURAL NETWORKS AND DEEP LEARNING offered in <i>Semester 5</i>
3	Deep Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Ropar	Replacing 23CSL3HC NEURAL NETWORKS AND DEEP LEARNING offered in <i>Semester 5</i>
4	Machine Learning and Deep Learning - Fundamentals and Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Guwahati	Replacing 23CSL3HD ADVANCED TOPICS IN MACHINE LEARNING offered in <i>Semester 6</i>
5	Optimization for machine learning: Theory and Implementation		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	
6	Reinforcement Learning		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	

BASKET III FORMAL METHODS

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Model Checking		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Chennai Mathematical Institute	Replacing 23CSL3HE PRINCIPLES OF MODEL OF CHECKING offered in <i>Semester 5</i>

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
MOOC FOR HONOURS - 2023 SCHEME BTECH CSE [ARTIFICIAL INTELLIGENCE]

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 2023	IIT Bombay	Replacing <i>23CSL2HA NUMBER THEORY</i> offered in <i>Semester 4</i>
2	Cryptography and Network Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IITKGP	Replacing <i>23CSL3HA CRYPTOGRAPHIC ALGORITHMS</i> offered in <i>Semester 5</i>
3	Cyber Security and Privacy		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	Replacing <i>23CSL3HD NETWORK SECURITY</i> offered in <i>Semester 6</i>
4	Introduction to Cyber Security		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	Uttarakhand Open University, Haldwani	Replacing <i>23CSL3HD 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 2023	IIT Hyderabad	
6	Ethical Hacking		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Kharagpur	
7	Secure Computation Part 1		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Bangalore	Replacing 23CSLAHA CYBER FORENSICS offered in <i>Semester 7</i>
8	Digital Forensics		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	Uttarakhand Open University, Haldwani	Replacing 23CSLAHA CYBER FORENSICS offered in <i>Semester 7</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 2023	IIT Madras	Replacing 23CTL2HA COMPUTATIONAL FUNDAMENTALS FOR BIOINFORMATICS offered in Semester 4
2	Computational Systems Biology		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Madras	Replacing 23CTL3HA COMPUTATIONAL BIOLOGY offered in Semester 5

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 2023	IIT Kharagpur	Replacing 23CTL3HB ADVANCED CONCEPTS IN COMPUTER VISION offered in Semester 5
2	Computer Vision And Image Processing - Fundamentals And Applications		MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Guwahati	

3	Digital Image Processing		MOCC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2022	IIT Kharagpur	
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