

**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

APJAKTU–Academics- List of Approved MOOC Courses for B.Tech Honours -2019 Regulations- Orders issued - Reg.

ACADEMIC SECTION

U.O.No. 1987/2021/KTU

Thiruvananthapuram, Dated: 27.11.2021

*Read:-*1. Rule R.12.5 of B.Tech 2019 Regulations.

2. List of Honour MOOC courses recommended by the various Board of Studies.

ORDER

Vide paper read as (1) above, students registering for the B. Tech Honours Degree programme can earn 8 credits by undergoing 2 Massive Open Online Courses (MOOC) relevant to the concerned subjects in the respective honours groups offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR with the recommendation by the Board of studies and approval of the Academic Council.

Vide paper read (2) above, various Board of Studies, after verifying the syllabus content and duration of the courses, has recommended to approve **222 Massive Online Open Courses.**

Considering the urgency, sanction has been accorded by the Vice Chancellor to approve the list of 222 MOOC Courses offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR that can be registered by the students of B.Tech Honours Programme to earn credits, as appended herewith (*refer attachment*), subject to reporting and ratification of the matter in the Academic Council .

Sd/-

Dr. Sadiq A. *

Dean (Academic)

Forwarded / By Order

Section Officer

* This is a computer system (Digital File) generated letter. Hence there is no need for a physical signature.



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

APPLIED ELECTRONICS & INSTRUMENTATION

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	High Power multilevel converters – Analysis, design and operational issues	AEH100	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Delhi	
2	Non linear analysis	AEH101	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	
3	Sensors and actuators,	AEH102	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IISc Bangalore	
GROUP II								
1	Analog IC Design	AEH200	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	
2	Integrated circuits, MOSFETS, opamps and their applications	AEH201	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IISc Bangalore	
GROUP III								
1	Mathematical methods and techniques in Signal Processing,	AEH300	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IISc Bangalore	
2	Multirate DSP	AEH301	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

BIOMEDICAL ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Digital Image Processing	BMH100	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
2	Image Signal Processing	BMH101	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Biomedical Signal Processing	BMH102	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
4	Discrete Time Signal Processing	BMH103	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
5	Principles of Signals and Systems	BMH104	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
6	Pattern Recognition and Application,	BMH105	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
7	Mathematical Methods and Techniques in Signal Processing	BMH106	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IISC Bangalore	
8	Digital Signal Processing and its Applications	BMH107	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Bombay	
9	Statistical Signal Processing	BMH108	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
10	Computer Vision and Image Processing - Fundamentals and Applications	BMH109	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
11	Computer Vision	BMH110	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
12	Digital Speech Processing	BMH111	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
GROUP II								
1	Nanomaterials and their Properties	BMH200	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISC Bangalore	
2	Fundamentals of micro and nanofabrication	BMH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	

3	Fabrication Techniques for MEMs-based sensors: clinical perspective	BMH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISC Bangalore	
GROUP III								
1	Python 4.3.4.3	BMH300	HONOURS MOOC	15 weeks	NPTEL	B.Tech Regulation 2019	IIT Bombay	
2	Data Science for Engineers	BMH301	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Introduction to Machine Learning	BMH302	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
4	Artificial Intelligence Search Methods For Problem Solving	BMH303	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
5	Applied Linear Algebra for Signal Processing, Data Analytics and Machine Learning	BMH304	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

BIOTECHNOLOGY ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP-I								
1	Immunology	BTH100	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
2	Introduction to Proteogenomics	BTH101	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITB	
3	Algorithms for protein modelling and engineering	BTH102	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
4	Drug Delivery: Principles and Engineering	BTH103	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc	
5	Health Research Fundamentals	BTH104	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	NIE	
GROUP-II								
1	Environmental Biotechnology	BTH200	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
2	Wastewater Treatment and Recycling	BTH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
3	Municipal Solid Waste Management	BTH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITG	
4	Industrial Safety Engineering	BTH203	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
GROUP-III								
1	Numerical Methods for Engineers	BTH300	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
2	Transport Phenomena in Biological Systems	BTH301	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
3	Fundamentals of Food Process Engineering	BTH302	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
4	Data Science for Engineers	BTH303	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
5	Introduction to Biostatistics	BTH304	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IITB	



List of Approved MOOC Courses for B.Tech Honours

CHEMICAL ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP-1								
1	Fluidization Engineering	CHH100	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITG	
2	Polymer Reaction Engineering	CHH101	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITR	
3	Advanced Chemical Thermodynamics and Kinetics	CHH102	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IISER Mohali	
4	Transport Phenomena of Non-Newtonian Fluids	CHH103	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITG	
5	Material & Energy Balance Computations	CHH104	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
6	Flow Through Porous Media	CHH105	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
7	Principles and Practices of Process Equipment and Plant Design	CHH106	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
8	Fundamentals of Particle and Fluid Solid Processing	CHH107	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
GROUP-2								
1	Applied Time-Series Analysis	CHH200	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
2	Wastewater Treatment and Recycling	CHH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
3	Environmental Quality Monitoring and Analysis	CHH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
4	Environmental remediation of contaminated sites	CHH203	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	
5	Trace and ultra-trace analysis of metals using atomic absorption spectrometry	CHH204	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IISc	
GROUP-3								
1	Chemical Process Instrumentation	CHH300	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	

2	Process Control - Design, Analysis and Assessment	CHH301	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
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COMPUTER SCIENCE AND ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Cryptography and Network Security	CEH100	HONOURS MOOC	12 WEEKS	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITKGP	
GROUP II								
1	Deep Learning	CEH200	HONOURS MOOC	12 WEEKS	SWAYAM/ NPTEL	B.Tech Regulation 2019	IIT Roopar	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

ELECTRONICS & BIOMEDICAL ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Digital Image Processing	EBH100	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
2	Image Signal Processing	EBH101	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Biomedical Signal Processing	EBH102	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
4	Discrete Time Signal Processing	EBH103	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
5	Mathematical Methods and Techniques in Signal Processing	EBH104	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
6	Digital Signal Processing and its Applications	EBH105	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Bombay	
7	Statistical Signal Processing	EBH106	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
8	Computer Vision and Image Processing - Fundamentals and Applications	EBH107	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
9	Digital Speech Processing	EBH108	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
10	Computer Vision	EBH109	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
GROUP II								
1	Digital IC Design	EBH200	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
2	Analog Electronic Circuits	EBH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Delhi	
3	Microelectronics: Devices To Circuits	EBH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Roorkee	
4	Semiconductor Devices and Circuits	EBH203	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	

5	Switching Circuits and Logic Design	EBH204	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
6	CMOS Digital VLSI Design	EBH205	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Roorkee	
7	Architectural Design of Digital Integrated Circuits	EBH206	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
8	Power Management Integrated Circuits	EBH207	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
9	Integrated Circuits, MOSFETs, Op-Amps and their Applications	EBH208	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
10	VLSI Technology	EBH209	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
GROUP III								
1	Applied Linear Algebra for Signal Processing, Data Analytics and Machine Learning	EBH300	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
2	Transport Phenomena in Biological Systems	EBH301	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Mathematical Aspects of Biomedical Electronic System Design	EBH302	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
4	Introduction to Biostatistics	EBH303	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Bombay	
5	Linear Dynamical Systems	EBH304	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Mandi	
6	Nonlinear System Analysis	EBH305	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
7	First Course On Partial Differential Equations - II	EBH306	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
8	Mathematical Methods And Its Applications	EBH307	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Roorkee	
9	Introduction to Machine Learning - IITKGP	EBH308	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
10	Biostatistics and Mathematical Biology	EBH309	HONOURS MOOC	12 weeks	CEC	B.Tech Regulation 2019	Central University of Punjab	
11	Biostatistics and Design of experiments	EBH310	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

FOOD TECHNOLOGY

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Environmental Chemistry and Microbiology	FTH100	HONOURS MOOC	12 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
2	Food Laws and Standards	FTH101	HONOURS MOOC	12 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IGNOU	
GROUP II								
1	Process Equipment Design	FTH200	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IIT Roorke	
2	Thermal Operations in Food Process Engineering: Theory and Applications	FTH201	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
3	Functional Foods and Nutraceuticals	FTH202	HONOURS MOOC	15 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur	
4	Fundamentals of Food Process Engineering	FTH203	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
5	Industrial Biotechnology	FTH204	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
6	Heat Transfer	FTH205	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
7	Food Chemistry	FTH206	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	Department of Studies in Biotechnology University of Mysore	
8	Principles Of Downstream Techniques In Bioprocess	FTH207	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITM	
GROUP III								
1	Food Science & Processing	FTH300	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	English and Foreign Languages University, Hyderabad	

2	Dairy and Food process and products technology	FTH301	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
3	Thermal Processing of Foods	FTH302	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITG	
4	Post Harvest Management of Fruits and Vegetables	FTH303	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	Food Safety Administration	
5	Membrane Technology	FTH304	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITG	
6	Technology of Fermented Cheese ,Ice cream and By- products	FTH305	HONOURS MOOC	16 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IGNOU	
7	Novel Technologies and Food Processing and Shelf Life Extention	FTH306	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITKGP	
8	Project management	FTH307	HONOURS MOOC	8 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITK	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

INDUSTRIAL ENGINEERING

No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP- I								
1	Operations and Supply chain management	IEH100	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITM	
2	Management of Inventory System	IEH101	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
3	Six-Sigma	IEH102	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
4	Product Design and Manufacturing	IEH103	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITR	
5	Business analytics for Management Decisions	IEH104	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
6	Industrial Safety Engineering	IEH105	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
7	E-business	IEH106	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
8	Advanced Green Manufacturing System	IEH107	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITK	
9	Decision Support System for Managers	IEH108	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
10	Virtual Reality Engineering	IEH109	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITM	
11	Introduction to Industry 4.0 and Industrial Internet of Things	IEH110	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
12	Entrepreneurship Essentials	IEH111	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IITKGP	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

INFORMATION TECHNOLOGY

Sl. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP II								
1	Computational Number Theory and Algebra	ITH200	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
2	Bioinformatics - Algorithms and Applications	ITH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Computational Systems Biology	ITH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
4	Web Based Technologies and Multimedia Applications	ITH203	HONOURS MOOC	12 Weeks	Swayam	B.Tech Regulation 2019	IGNOU	
5	Cryptography And Network Security	ITH204	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
GROUP III								
1	GPU Architectures and Programming	ITH300	HONOURS MOOC	12 Weeks	Swayam	B.Tech Regulation 2019	IIT Kharagpur	
2	Embedded System Design	ITH301	HONOURS MOOC	16 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
3	Embedded System Design with ARM	ITH302	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
4	Artificial Intelligence: Knowledge Representation and Reasoning	ITH303	HONOURS MOOC	12 Weeks	Swayam	B.Tech Regulation 2019	IIT Madras	
5	Robotics: Basics and Selected Advanced Concepts	ITH304	HONOURS MOOC	12 Weeks	Swayam	B.Tech Regulation 2019	IIT Madras	



List of Approved MOOC Courses for B.Tech Honours 2019 Regulations

INSTRUMENTATION AND CONTROL ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP-I								
1	Artificial Intelligence Search Methods for Problem Solving	ICH100	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	If the student has not taken ICT292 Engineering optimization as an elective course.
2	Optimization from fundamentals	ICH101	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITB	If the student has not taken ICT292 Engineering optimization as an elective course.
3	Traditional and Non-Traditional Optimization Tools	ICH102	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IIT KGP	If the student has not taken ICT292 Engineering optimization as an elective course.
4	Constrained and unconstrained optimization	ICH103	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT KGP	If the student has not taken ICT292 Engineering optimization as an elective course.
5	Computer Aided Applied Single Objective Optimization	ICH104	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITG	If the student has not taken ICT292 Engineering optimization as an elective course.
6	Dynamical System and Control	ICH105	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	If the student has not taken ICT393 Process Dynamics as an elective course.
7	Linear Dynamical Systems	ICH106	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Mandi	If the student has not taken ICT393 Process Dynamics as an elective course.
8	Modelling and Simulation of Dynamic Systems	ICH107	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IITR	If the student has not taken ICT393 Process Dynamics as an elective course.

9	Process Control-Design, Analysis and Assessment	ICH108	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	If the student has not taken ICT394 Advanced Process Control as an elective course.
10	Fuzzy Sets, Logic and Systems & Applications	ICH109	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITK	If the student has not taken ICT495 Intelligent Control as an elective course.
GROUP-II								
1	Mechatronics	ICH200	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IITR	If the student has not taken ICT294 Mechatronic Systems as an elective course.
2	Introduction to Robotics	ICH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	If the student has not taken ICT395 Principles Of Robotics as an elective course.
3	Introduction to Robotics	ICH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITK	If the student has not taken ICT395 Principles Of Robotics as an elective course.
4	Robotics	ICH203	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	If the student has not taken ICT395 Principles Of Robotics as an elective course.
5	Robotics: Basics and Selected Advanced Concepts	ICH204	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc	If the student has not taken ICT395 Principles Of Robotics as an elective course.
6	Wheeled Mobile Robots	ICH205	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IITM/IIT Pa	If the student has not taken ICT396 Field And Service Robotics as an elective course.
7	Computer Vision and Image Processing - Fundamentals and Applications	ICH206	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITG	If the student has not taken ICT497 Machine Vision Systems as an elective course.
8	Computer Vision	ICH207	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	If the student has not taken ICT497 Machine Vision Systems as an elective course.



List of Approved MOOC Courses for B.Tech Honours

MECHANICAL ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP 3								
1	Oil Hydraulics and Pneumatics	MEH300	HONOUR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT M	
2	Industrial Automation and Control	MEH301	HONOUR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT KGP	

**List of Approved MOOC Courses for B.Tech Honours 2019 Regulations****MECHANICAL PRODUCTION ENGINEERING**

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Manufacturing system technology	MPH100	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
2	Principles of Mechanical Measurement	MPH101	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
3	Industrial automation and control	MPH102	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
4	Computer Integrated Manufacturing	MPH103	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
5	Introduction To Abrasive Machining And Finishing Processes	MPH104	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Tirupati	
6	Advanced Machining Processes	MPH105	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
7	Engineering Metrology	MPH106	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
8	Principles Of Mechanical Measurement	MPH107	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
9	Introduction To Mechanical Micro Machining	MPH108	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
10	Advanced Machining Processes	MPH109	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
GROUP II								
1	Product Design and Manufacturing	MPH200	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	

2	Fundamentals Of Additive Manufacturing Technologies	MPH201	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
3	Rapid Manufacturing	MPH202	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
4	Sustainability Through Green Manufacturing Systems: An Applied Approach	MPH203	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
5	Design Practice	MPH204	HONOURS MOOC	8 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
6	Applied Ergonomics	MPH205	HONOURS MOOC	12 weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	



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MECHATRONICS

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP-I								
1	Control Engineering	MRH100	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
2	Introduction to Machine Learning	MRH101	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
3	Microelectronics: Devices To Circuits	MRH102	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	
4	Soft Skills	MRH103	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	
5	AI: Knowledge Representation and Reasoning	MRH104	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
6	Joy of Computing using Python	MRH105	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITRPR	
7	Advanced Power Electronics and Control	MRH106	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	
GROUP-II								
1	Industrial Automation And Control	MRH200	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITKGP	
2	Introduction to Machine Learning	MRH201	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
3	Microelectronics: Devices To Circuits	MRH202	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	
4	Joy of Computing using Python	MRH203	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITRPR	
5	Fundamentals of Artificial Intelligence	MRH204	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITG	
6	Control Engineering	MRH205	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
7	Dynamical System and Control	MRH206	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITR	



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POLYMER ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Plastic Waste Management	POH100	HONOURS MOOC	8 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IIT KGP	
2	Medical Biomaterials	POH101	HONOURS MOOC	8 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITM	
3	Essentials of Biomolecules : Nucleic Acids and Peptides	POH102	HONOURS MOOC	12 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITG	
4	Product Design and Manufacturing	POH103	HONOURS MOOC	12 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITK	
5	Product Design and Innovation	POH104	HONOURS MOOC	12 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITG	
GROUP II								
1	Introduction to Polymer Science	POH200	HONOURS MOOC	8 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IIT KGP	
2	Polymers: concepts, properties, uses and sustainability	POH201	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITM	
3	Introduction to Polymer Physics	POH202	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITG / IITR	
5	Soft Nano Technology	POH203	HONOURS MOOC	8 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IIT KGP	
6	Principles and Applications of NMR Spectroscopy	POH204	HONOURS MOOC	8 Weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IISc	
GROUP III								
1	Polymer Reaction Engineering	POH300	HONOURS MOOC	12 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITR	
2	Processing of Polymers and Polymer Composites	POH301	HONOURS MOOC	8 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITR	
3	Introduction to Polymer Science	POH302	HONOURS MOOC	8 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IIT KGP	
4	Processing of Polymeric Composites	POH303	HONOURS MOOC	8 weeks	SWAYAM/NPTEL	B.Tech Regulation 2019	IITM	

5	Particle characterization	POH304	HONOURS MOOC	12 weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITM	
6	Fundamentals of Spectroscopy	POH305	HONOURS MOOC	12 weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	NCL	

**List of Approved MOOC Courses for B.Tech Honours 2019 Regulations****PRODUCTION ENGINEERING**

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP I								
1	Fundamentals of Artificial Intelligence	PEH100	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Guwahati	
2	Introduction to Internet of Things	PEH101	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kharagpur	
3	Introduction to Industry 4.0 and Industrial Internet of Things	PEH102	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kharagpur	
4	Introduction to Machine Learning	PEH103	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	
5	Machine Learning for Engineering and Science Applications	PEH104	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	
6	Data Analytics with Python	PEH105	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Roorkee	
7	Business Analytics And Data Mining Modeling using R	PEH106	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Roorkee	
GROUP II								
1	Computer Integrated Manufacturing	PEH200	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kanpur	
2	Introduction to Mechanical Micro Machining	PEH201	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kharagpur	

3	Introduction to Robotics	PEH202	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kanpur	
4	Fundamentals of surface engineering: mechanisms, processes and characterizations	PEH203	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Roorkee	
5	Oil Hydraulics and Pneumatics	PEH204	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	
6	Rapid manufacturing	PEH205	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kanpur	
GROUP III								
1	Strategies for sustainable design	PEH300	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Hyderabad	
2	System design for sustainability	PEH301	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Guwahati	
3	Glass in buildings – Design and applications	PEH302	HONOURS MOOC	12 Weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Madras	
4	Energy efficiency, Acoustics and Day lighting in building	PEH303	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Delhi	
5	Integrated waste management for a smart city	PEH304	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Kharagpur	
6	Sustainable Architecture	PEH305	HONOURS MOOC	12 weeks	NPTEL SWAYAM	B.Tech Regulation 2019	IIT Roorkee	



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ROBOTICS AND AUTOMATION

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
GROUP- I								
1	Sensors and Actuators	RAH100	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	If the student has not taken RAT292 Sensors and Actuators for Robots as an elective course.
2	Mechanics And Control of Robotic Manipulators	RAH101	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IIT Palakkad	
3	Industrial Automation and Control	RAH102	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT, Khargpur	If the student has not taken RAT393 – PLC And SCADA as an elective course.
4	Automation in Production Systems and Management	RAH103	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
5	Robotics: Basics and Selected Advanced Concepts	RAH104	HONOURS MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	If the student has not taken RAT394 – Advanced Control for Robotics as an electivecourse.
6	Robotics and Control: Theory and Practice	RAH105	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IIT Roorkee	If the student has not takenRAT394 – Advanced Control for Robotics as an elective Ccourse.
7	Wheeled Mobile Robots	RAH106	HONOURS MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras, IIT Palakkad	