

**APJ Abdul Kalam Technological University  
Thiruvananthapuram**

**Abstract**

APJAKTU-Academics-List of Approved MOOC Courses for B.Tech Minor in Engineering (B.Tech 2019 Regulations)-  
Orders issued-Reg.

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ACADEMIC SECTION

U.O.No. 2034/2021/KTU

Thiruvananthapuram, Dated: 04.12.2021

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- Read:-*1. Rule R.11.5 of B.Tech 2019 Regulations.  
2. U.O.No.1988/2021/KTU Dated: 27.11.2021  
3. U.O.No.2009/2021/KTU Dated 01.12.2021  
4. List of Minor MOOC Courses recommended by the various Board of Studies

**ORDER**

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

Vide University Orders read as (2) & (3) above, 187 nos. of MOOCs that can be registered by the students of B.Tech (2019 Scheme), to earn credits for **Minor** Programme, were approved.

Vide paper read as (4) above, Various Board of Studies, after verifying the syllabus content and duration of the courses, has recommended to approve **36 Massive Online Open Courses**.

Considering the urgency, sanction has been accorded by the Vice Chancellor to approve the list of 36 MOOC Courses offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR that can be registered by the students of **B.Tech Minor in Engineering** Programme to earn credits, as appended herewith (*refer attachment*), subject to reporting and ratification of the matter in the Academic Council .

Students will not be permitted to register for MOOCs other than those approved and published by the University, to earn credits for their Honours / Minor.

Orders are issued accordingly.

Sd/-

Dr. Sadiq A. \*  
Dean (Academic)

Copy to:-

1. All affiliated Institutions.
2. IT(section) for updating s/w and to publish in the website.
3. PS to VC & PVC, Dean (Acad)
4. JR(Acad) / JD(Acad) / Section
- 5.. SF / FC.

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 Minor in Engineering**

**ELECTRICAL AND ELECTRONICS ENGINEERING**

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
<b>BASKET-I DRIVES AND POWER ELECTRONICS</b>								
1	Fundamentals of power electronics	EEM100	MINOR MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IISC	
2	E-Mobility and Charging Infrastructure	EEM101	MINOR MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Guwahati	
3	Introduction to Embedded System Design	EEM102	MINOR MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Jammu	
4	Semiconductor Devices and Circuits	EEM103	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IISC	
5	Fuzzy Sets, Logic and Systems & Applications	EEM104	MINOR MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Kanpur	
6	Industrial Automation and Control	EEM105	MINOR MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Kharagpur	
7	Introduction to Industry 4.0 and Industrial Internet of Things	EEM106	MINOR MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Kharagpur	
8	Advance power electronics and Control	EEM107	MINOR MOOC	8 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Roorkee	
9	Fundamentals of Electric vehicles: Technology & Economics	EEM108	MINOR MOOC	8 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Madras	
10	Fundamentals of Electric Drives	EEM109	MINOR MOOC	8 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Kanpur	
11	Fundamentals of Electric vehicles: Technology & Economics	EEM110	MINOR MOOC	8 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT Madras	
<b>BASKET-II POWER ENGINEERING</b>								
1	Power System Engineering	EEM200	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT KGP	
2	Power System Dynamics, Control and Monitoring	EEM201	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IIT KGP	

3	Energy Resources, Economics and Environment	EEM202	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITB	
4	Power Management Integrated Circuits	EEM203	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITM	
5	Elements of Solar Energy Conversion	EEM204	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITK	
6	Non-Conventional Energy Resources	EEM205	MINOR MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITM	
7	Waste to Energy Conversion	EEM206	MINOR MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITR	
8	Solar Photovoltaics: Principles, Technologies & Materials	EEM207	MINOR MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITK	
9	Power Quality Improvement Technique	EEM208	MINOR MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITR	
10	Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems	EEM209	MINOR MOOC	8 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2019	IITG	
<b>BASKET-III CONTROL ENGINEERING</b>								
1	Control engineering	EEM300	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	(In lieu of EET385 Control Systems)
2	Power System Dynamics, Control and Monitoring	EEM301	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT KGP	
3	Sensors and Actuators	EEM302	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IISc	
4	Nonlinear System Analysis	EEM303	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IITM	
5	Linear Dynamical Systems	EEM304	MINOR MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IIT Mandi	
6	Modelling and Simulation of Dynamic Systems	EEM305	MINOR MOOC	8 Weeks	NPTEL	B.Tech Regulation 2019	IITR	

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**INFORMATION TECHNOLOGY**

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
<b>BASKET-I WEB AND ANDROID DEVELOPMENT</b>								
1	Data Base Management System	ITM102	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
<b>BASKET-III SOFTWARE ENGINEERING</b>								
1	Software Engineering	ITM302	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulation 2019	University of Madras	

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**MECHANICAL ENGINEERING**

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
<b>BASKET-I MECHANISMS AND MACHINES ENGINEERING</b>								
1	Mechanics of material	MEM100	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulations 2019	IITM	
2	Mechanics of Solids	MEM101	MINOR MOOC	12 weeks	NPTEL	B.Tech Regulations 2019	IIT Kanpur	
3	Kinematics of mechanisms and machines	MEM102	MINOR MOOC	8 weeks	NPTEL	B.Tech Regulations 2019	IIT Kharagpur	
<b>BASKET - II FLUID AND THERMAL ENGINEERING</b>								
1	Concept of Thermodynamics	MEM200	MINOR MOOC	12 Weeks	NPTEL	B.Tech Regulations 2019	IIT KGP	
2	Heat Transfer	MEM201	MINOR MOOC	12 weeks	NPTEL	B.Tech Regulations 2019	IITKGP	
<b>BASKET-III MATERIALS AND MANUFACTURING ENGINEERING</b>								
1	Basics of Material Engineering	MEM306	MINOR MOOC	13 Weeks	NPTEL	B.Tech Regulations 2019	IIT M	
2	Mechanics of Machining	MEM307	MINOR MOOC	8 weeks	NPTEL	B.Tech Regulations 2019	IIT Guwahati	