

GURUNANAK INSTITUTE OF TECHNOLOGY

Approved by A.I.C.T.E., New Delhi
Affiliated to MAKAUT, West Bengal



Supporting Document

**MINUTES OF THE MEETING, 2021 OF BOARD OF STUDIES OF ELECTRICAL
ENGINEERING DEPARTMENT HELD
ON
08/03/2021 AT 12 P.M.**

Department of Electrical Engineering

GNIT

Minutes of the BOS meeting

Date: 08/03/2021

Venue: Online platform, Google Meet

Time: 12 P.M.

As per the notice dated 22.02.2021 with Ref. No. GNIT/EE/BOS/2021/01, a BOS meeting was held on 08/03/2021 in presence of following experts and members:

Members present (Internal)

- | | |
|-------------------------------|-------------------------------|
| 1. Dr. Barnali Kundu | : Head and Chairman |
| 2. Dr. Jiban Das | : Professor, Member |
| 3. Dr. Shyamal kumar Ghosh | : Professor, Member |
| 4. Dr. Debasree Saha | : Associate Professor, Member |
| 5. Dr. Anindita Ganguly | : Associate Professor, Member |
| 6. Mr. Susovan Dutta | : Assistant Professor, Member |
| 7. Mr. Shyamal Kumar Roy | : Assistant Professor, Member |
| 8. Mrs. Madhumita Chakraborty | : Assistant Professor, Member |
| 9. Mr. Suman Ghosh | : Assistant Professor, Member |
| 10. Mr. Pratyaya Majumdar | : Assistant Professor, Member |
| 11. Mr. Pritam Chowdhury | : Assistant Professor, Member |
| 12. Mr. Utpal Kumar Mandal | : Assistant Professor, Member |
| 13. Mr. Arkadeep Mondal | : Assistant Professor, Member |
| 14. Mr. Prateem Pan | : Assistant Professor, Member |
| 15. Ms. Rikta Majumder | : Assistant Professor, Member |
| 16. Ms. Nilanjana Ghosh | : Assistant Professor, Member |
| 17. Mr. Tuhin Shubra Das | : Assistant Professor, Member |
| 18. Mr. Abhinandan Basak | : Assistant Professor, Member |
| 19. Ms. Rituparna Mukherjee | : Assistant Professor, Member |
| 20. Mr. Amit Debnath | : Assistant Professor, Member |

External Members Present:

- | | |
|---------------------------------|--------------------------------------|
| 1. Dr. Konika Das Bhattacharyya | : Professor, EE Dept., IEST, Shibpur |
| 2. Mr. Sanjay Kar Chowdhury | : DGM, CESC, Kolkata |

Members Absent:

- | | |
|------------------------|-------------------------------|
| 1. Mrs. Priyanka Dutta | : Assistant Professor, Member |
|------------------------|-------------------------------|


DR. BARNALI KUNDU
Associate Professor, Head of HOD,
Department of Electrical Engineering
GNIT, Guwahati

discussion was based on the following agenda:

Agenda:

1. Confirmation of Minutes of last BOS Meeting
2. Approval of Action taken report of the resolutions taken in the last meeting
3. Discussion on course which strengthen employability, entrepreneurship and skill development
4. Finalization of Elective Courses added in R21 Syllabus
5. New Course Added in R 21 Curriculum
6. Finalization of Regulation 21 (R 21) Curriculum and Syllabus of Electrical Engineering wef. 2021-22 admission batches under autonomy

Resolution:

After rigorous discussion and exchange of ideas, the following resolutions were taken:

Agenda 1: Confirmation of Minutes of last BOS Meeting

The minutes of last BOS meeting was duly confirmed and approved

Agenda 2: Approval of Action taken report of the resolutions taken in the last meeting

The action taken report of last BOS meeting' resolution was noted

Agenda 3: Discussion on courses which strengthen employability, entrepreneurship and skill development.

The experts agreed with the list of courses which strengthen employability, entrepreneurship and skill development (Vide Annexure I). It was assessed that about 63.86% of the courses being offered under R21 syllabus for EE contributes to the abovementioned purpose.

Agenda 4: Finalization of Elective Courses added in R21 Syllabus

The elective courses are finalized for R21 syllabus after taking Stakeholder's feedback and suggestions of BOS Members (Vide Annexure II)


DR. BARNALI KUNDU
Associate Professor and HOD,
Department: Electrical Engineering
Guru Nanak Institute of Technology
West Bengal, India

Agenda 5: New Course Added in R 21 Curriculums

As per suggestions of all stakeholders some new courses have been introduced in R21 curriculum. As per suggestion of external BOS experts Dr.Konika Das Bhattacharyya and Mr.Sanjay Kar Chowdhury following new courses are added in R 21 Curriculum:

- Artificial Intelligence
- Engineering Optimization
- Introduction to Smart Grid
- Energy Conversion and Storage
- Distributed Generation and Microgrids
- Cyber Security
- Machine Learning
- Smart and Nanomaterials for Electrical Engineering
- Blockchain

Finally, the list of new courses added in R 21 curriculum were approved by all BOS members (Vide Annexure III).

Agenda 5: Finalization of Regulation 21 (R 21) Curriculum and Syllabus of Electrical Engineering wef. 2021-22 admission batch under autonomy

Chairperson of BOS Committee has presented stakeholders feedback analysis on curriculum in front of all BOS members.

Finally, the curriculum and syllabus of Electrical Engineering discipline was finalized and approved by BOS members (Vide Annexure IV). All BOS members commented that the final R21 Curriculum is well organized and linked with departmental vision, mission, PEOs and PSOs.

Lastly the meeting was ended with vote of thanks to the Chairman BOS.



08/03/2021.
DR. BARNALI KUNDU
Associate Professor and HOD,
Department: Electrical Engineering
Guru Nanak Institute of Technology
Kolkata, West Bengal, India


Head and Chairman
Dr. Barnali Kundu

Annexure I

Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
Professional Communication	HSMC 101	Skill development and employability
Theme based Project I	PR191	Skill development
Engineering Graphics and Design Laboratory	ME192	Skill development
Skill Development – I: Soft Skill	PR192	Skill development and employability
Programming for Problem Solving	CS 201	Skill development and employability
Professional Communication Laboratory	HSMC291	Skill development and employability
Workshop and Manufacturing Practices Laboratory	ME291	Employability, Skill Development
Programming for Problem Solving Laboratory	CS291	Employability, Skill Development
Theme Based Project – II	PR291	Skill Development, Entrepreneurship
Skill Development – II:Life Skill	PR292	Skill development and employability
Python Programming Laboratory	EE394	Employability, Skill Development
Theme Based Project – III	PR391	Skill Development, Entrepreneurship
Skill Development – III:Technical Seminar Presentation	PR392	Skill development and employability
Data Structures and Algorithms	EE404	Employability
Analog and Digital Circuits	EE403	Employability
Analog and Digital CircuitsLaboratory	EE493	Employability, Skill Development
Data Structures and Algorithms Laboratory	EE494	Employability, Skill Development
Theme Based Project – IV	PR491	Skill Development, Entrepreneurship
Skill Development – IV:Soft Skill and Aptitude – I	PR492	Skill development and employability
Economics for Engineers	HSMC504	Employability
Database Management System	EE504A	Employability
Computer Network	EE504B	Employability
Artificial Intelligence	EE504C	Employability
Renewable Energy – I	EE505A	Employability

Power Commutated and Active Rectifiers	EE505B	Employability
Power Plant Engineering	EE505C	Employability
Engineering Optimization	EE505D	Employability
Database Management System Laboratory	EE594A	Employability, Skill Development
Computer Network Laboratory	EE594B	Employability, Skill Development
Artificial Intelligence Laboratory	EE594C	Employability, Skill Development
Minor Project – I	PR 591	Skill Development, Entrepreneurship
Skill Development – V: Soft Skill and Aptitude – II	PR 592	Employability, Skill Development
Principles of Management	HSMC605	Employability
Microprocessor and Microcontroller	EE601	Employability
Big Data Analytics	EE604A	Employability
Internet of Things	EE604B	Employability
Cloud Computing	EE604C	Employability
Renewable Energy – II	EE605A	Employability
Advanced Power Electronics	EE605B	Employability
Special Electric Machines	EE605C	Employability
Digital Signal Processing	EE605D	Employability
Microprocessor and Microcontroller Laboratory	EE691	Employability, Skill Development
Electrical Workshop	PR691	Employability, Skill Development
Minor Project – II	PR 692	Skill Development, Entrepreneurship
Skill Development – VI: Soft Skill and Aptitude – III	PR 693	Employability, Skill Development
Introduction to Smart Grid	EE702	Employability
Energy Conversion and Storage	EE703A	Employability
Power Quality	EE703B	Employability
Design of Electric Apparatus	EE703C	Employability
Analog and Digital Communication	EE703D	Employability
Distributed Generation and Microgrids	EE704A	Employability
FACTS and HVDC	EE704B	Employability
Electrical Energy Conservation and Auditing	EE704C	Employability

Embedded System Design	EE704D	Employability
Data Science	EE705A	Employability
Cyber Security	EE705B	Employability
Machine Learning	EE705C	Employability
Smart and Nanomaterials for Electrical Engineering	EE705D	Employability
Computer-Aided Electrical Drawing Laboratory (AutoCAD/ Automation Studio)	EE792	Employability, Skill Development
Major Project – I	PR791	Skill Development, Entrepreneurship
Industrial Training / Internship	PR792	Employability
Skill Development – VII: Seminar and Group Discussion	PR793	Employability, Skill Development
Entrepreneurship and Innovation Skill	MC781	Skill Development, Entrepreneurship
Renewable Energy Management and Sustainability	EE801A	Employability
Electrical and Hybrid Vehicles	EE801B	Employability
Infinite Element analysis for Electrical Machines	EE801C	Employability
Robotics and Control	EE801D	Employability
Restructured Power Systems	EE802A	Employability
High Voltage Engineering	EE802B	Employability
Illumination Engineering	EE802C	Employability
Power System Operation and Control	EE802D	Employability
Bio-Medical Instrumentation	EE803A	Employability
Blockchain	EE803B	Employability
Image Processing	EE803C	Employability
3D Printing and Design	EE803D	Employability
Major Project – II	PR891	Skill Development, Entrepreneurship


 08/03/2021
DR. BARNALI KUNDU
 Associate Professor and HOD,
 Department: Electrical Engineering
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India

Annexure II

Elective Subjects incorporated in Regulation R21 Curriculum

Category	Paper Code	Subject	Semester
OEC	EE 504	A. Database Management System	5 TH
		B. Computer Network	
		C. Artificial Intelligence	
PEC	EE 505	A. Renewable Energy – I	5 TH
		B. Line Commutated and Active Rectifiers	
		C. Power Plant Engineering	
		D. Engineering Optimization	
OEC	EE 604	A. Big Data Analytics	6 TH
		B. Internet of Things	
		C. Soft Computing	
PEC	EE 605	A. Renewable Energy – II	6 TH
		B. Advanced Power Electronics	
		C. Special Electric Machines	
		D. Digital Signal Processing	
PEC	EE 703	A. Energy Conversion and Storage (Renewable Energy – III)	7 TH
		B. Power Quality	
		C. Design of Electric Apparatus	
		D. Analog and Digital Communication	
PEC	EE 704	A. Distributed Generation and Microgrids	7 TH
		B. FACTS and HVDC	
		C. Electrical Energy Conservation and Auditing	
		D. Embedded System Design	
OEC	EE705	A. Data Science	7 TH
		B. Cyber Security	
		C. Machine Learning	
		D. Smart and Nanomaterials for Electrical Engineering	
PE	EE801	A. Renewable Energy Management and sustainability	8 TH
		B. Electrical and Hybrid Vehicles	
		C. Finite Element analysis for Electrical Machines	
		D. Robotics and Control	
PE	EE802	A. Restructured Power Systems	8 TH
		B. High Voltage Engineering	
		C. Illumination Engineering	
		D. Power System Operation and Control	
OEC	EE803	A. Bio-Medical Instrumentation	8 TH
		B. Blockchain	
		C. Image Processing	
		D. 3D Printing and Design	

Annexure III

List of New courses introduced Program-wise during the assessment year

Program Code	Program name	Course Code	Course Name
EE (B.Tech.)	B.Tech. in Electrical Engineering	EE303	Semiconductor Devices and Circuits
		HSMC302	Gender Culture and Development
		EE393	Semiconductor Devices and Circuits Laboratory
		EE394	Python Programming Laboratory
		PR391	Theme Based Project – III
		PR392	Skill Development – III: Technical Seminar Presentation
		MC381	Learning an Art Form [Vocal or Instrumental, Dance, Painting, Clay Modeling, etc.] OR Environmental Protection Initiatives
		HSMC403	Universal Human Values – II: Understanding Harmony
		PR491	Theme Based Project – IV
		PR492	Skill Development – IV: Soft Skill and Aptitude – I
		EE504C	Artificial Intelligence
		EE505A	Renewable Energy – I
		EE505B	Line Commutated and Active Rectifiers
		EE505C	Power Plant Engineering
		EE505D	Engineering Optimization
		MC501	Intellectual Property Right
EE604C	Soft Computing		

EE605A	Renewable Energy – II
EE605B	Advanced Power Electronics
EE605C	Special Electric Machines
MC 601	Constitution of India
EE703A	Energy Conversion and Storage (Renewable Energy – III)
EE703B	Power Quality
EE703C	Design of Electric Apparatus
EE703D	Analog and Digital Communication
EE704	A. Distributed Generation and Microgrids
EE704	A. FACTS and HVDC
EE704	A. Electrical Energy Conservation and Auditing
EE704	Embedded System Design
EE705A	Data Science
EE705B	Cyber Security
EE705C	Machine Learning
EE705D	Smart and Nanomaterials for Electrical Engineering
MC781	Entrepreneurship and Innovation Skill
EE801A	A. Renewable Energy Management and sustainability
EE801B	A. Electrical and Hybrid Vehicles
EE801C	A. Finite Element analysis for Electrical Machines
EE801D	Robotics and Control
EE802A	Restructured Power Systems
EE802B	High Voltage Engineering
EE802C	Illumination Engineering

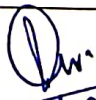
EE802D	Power System Operation and Control
EE803A	Bio-Medical Instrumentation
EE803B	Blockchain
EE803C	Image Processing
EE803D	3D Printing and Design
MC801	Essence of Indian Knowledge Tradition


08/3/2021
DR. BARNALI KUNDU
Associate Professor and HOD,
Department: Electrical Engineering
Guru Nanak Institute of Technology
Kolkata, West Bengal, India

Annexure IV
Department: Electrical Engineering
Curriculum Structure & Syllabus
(Effective from 2021-22 admission batch)

1st Year 1st Semester

Category	Paper Code	Subject	Contact Hours/Week				Credit Points
			L	T	P	Total	
A. Theory							
BSC	CH101	Chemistry – I	3	0	0	3	3
BSC	M101	Mathematics –I	4	0	0	4	4
ESC	EE101	Basic Electrical Engineering	3	0	0	3	3
HSMC	HSMC101	Professional Communication	2	0	0	2	2
B. Practical							
BSC	CH191	Chemistry – I Laboratory	0	0	3	3	1.5
ESC	EE191	Basic Electrical Engineering Laboratory	0	0	3	3	1.5
ESC	ME192	Engineering Graphics and Design Laboratory	0	0	3	3	1.5
PROJ	PR191	Theme Based Project – I	0	0	1	1	0.5
PROJ	PR192	Skill Development – I: Soft Skill	0	0	1	1	0.5
C. Mandatory Activities / Courses							
MC	MC181	Induction Program	0	0	0	0	0
Total of Theory, Practical and Mandatory Activities / Courses						23	17.5


DR. BARNALI KUNDU
 Associate Professor and HOD,
 Department: Electrical Engineering
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India
 Page 12 of 21

1st Year 2nd Semester

Category	Paper Code	Subject	Contact Hours/Week				Credit Points
			L	T	P	Total	
A. Theory							
BSC	PH201	Physics – I	3	0	0	3	3
BSC	M201	Mathematics –II	4	0	0	4	4
ESC	CS201	Programming for Problem Solving	3	0	0	3	3
B. Practical							
BSC	PH291	Physics – I Laboratory	0	0	3	3	1.5
HSMC	HSMC291	Professional Communication Laboratory	0	0	2	2	1
ESC	ME291	Workshop and Manufacturing Practices Laboratory	0	0	3	3	1.5
ESC	CS291	Programming for Problem Solving Laboratory	0	0	3	3	1.5
PROJ	PR291*	Theme Based Project – II	0	0	1	1	0.5
PROJ	PR292	Skill Development – II:Life Skill	1	0	0	1	0.5
C. Mandatory Activities / Courses							
MC	MC281	NSS/ Physical Activities / Meditation and Yoga / Photography/ Nature Club	0	0	3	3	0
Total of Theory, Practical and Mandatory Activities / Courses						26	16.5


 08/03/2021
DR. BARNALI KUNDU
 Associate Professor and HOD,
 Department: Electrical Engineering
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India

2nd Year 3rd Semester

Category	Paper Code	Subject	Contact Hours/Week				Credit Points
			L	T	P	Total	
A. Theory							
BSC	EE(PH)301	Electromagnetic Fields	3	1	0	4	4
ESC	EE(ME)301	Engineering Mechanics	3	0	0	3	3
ESC	EE301	Electrical Circuit Analysis	3	0	0	3	3
PCC	EE302	Electrical and Electronic Measurement	2	0	0	2	2
PCC	EE303	Semiconductor Devices and Circuits	3	0	0	3	3
HSMC	HSMC302	Gender Culture and Development	2	0	0	2	2
B. Practical							
ESC	EE391	Electrical Circuit Analysis Laboratory	0	0	2	2	1
PCC	EE392	Electrical and Electronic Measurement Laboratory	0	0	3	3	1.5
PCC	EE393	Semiconductor Devices and Circuits Laboratory	0	0	2	2	1
ESC	EE394	Python Programming Laboratory	0	0	3	3	1.5
PROJ	PR391 ¹	Theme Based Project – III	0	0	1	1	0.5
PROJ	PR392	Skill Development – III: Technical Seminar Presentation	1	0	0	1	0.5
C. Mandatory Activities / Courses							
MC	MC381	Learning an Art Form [Vocal or Instrumental, Dance, Painting, Clay Modeling, etc.] OREnvironmental Protection Initiatives	0	0	0	3	0
Total of Theory, Practical and Mandatory Activities / Courses without MOOC Courses						32	23

Technical Answers for Real World Problems (TARP).

Minutes of BOS Meeting, EE Dept., on 08.03.2021


DR. BARNALI KUNDU
 Associate Professor and HOD,
 Department: Electrical Engineering
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India

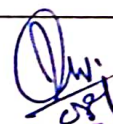
D. MOOC Courses**

MOOC	HM301	MOOC Course - I	3	1	0	4	4
Total of Theory, Practical and Mandatory Activities / Courses with MOOC Courses						36	27

2nd Year 4th Semester

Category	Paper Code	Subject	Contact Hours/Week				Credit Points
			L	T	P	Total	
A. Theory							
BSC	EE(M)401	Mathematics – III	3	0	0	3	3
PCC	EE401	Electrical Machines – I	3	0	0	3	3
PCC	EE402	Power Electronics	3	0	0	3	3
PCC	EE403	Analog and Digital Circuits	3	0	0	3	3
ESC	EE404	Data Structures and Algorithms	2	0	0	2	2
HSMC	HSMC403	Universal Human Values – II: Understanding Harmony	3	0	0	3	3
B. Practical							
PCC	EE491	Electrical Machines – I Laboratory	0	0	3	3	1.5
PCC	EE492	Power Electronics Laboratory	0	0	2	2	1
PCC	EE493	Analog and Digital Circuits Laboratory	0	0	2	2	1

**MOOC Courses for HONOURS / MINOR Degree are Program specific and to be taken from MOOC Basket.


DR. BARKHA KUNDU
 Associate Professor and HOD,
 Department of Electrical Engineering
 GNIT, Gurgaon, Haryana, India


ESC	EE494	Data Structures and Algorithms Laboratory	0	0	3	3	1.5
PROJ	PR491*	Theme Based Project – IV	0	0	1	1	0.5
PROJ	PR492	Skill Development – IV: Soft Skill and Aptitude – I	1	0	0	1	0.5
C. Mandatory Activities / Courses							
MC	MC401	Environmental Science	3	0	0	3	0
Total of Theory, Practical and Mandatory Activities / Courses without MOOC Courses						32	23
D. MOOC Courses**							
MOOC	HM401	MOOC Course – II	3	1	0	4	4
Total of Theory, Practical and Mandatory Activities / Courses with MOOC Courses						36	27

3 rd Year 5 th Semester								
Category	Paper Code	Subject	Contact Hours/Week				Credit Points	
			L	T	P	Total		
A. Theory								
HSMC	HSMC504	Economics for Engineers	2	0	0	2	2	
PCC	EE501	Electrical Machines – II	3	0	0	3	3	
PCC	EE502	Power Systems – I	3	0	0	3	3	
PCC	EE503	Control Systems-I	3	0	0	3	3	
OEC	EE504	A. Database Management System B. Computer Network	3	0	0	3	3	

*Technical Answers for Real World Problems (TARP).

**MOOC Courses for HONOURS / MINOR Degree are Program specific and to be taken from MOOC Basket.

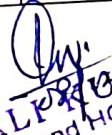
Minutes of BOS Meeting, EE Dept., on 08.03.2021


DR. BARNADI KUNDU
 Associate Professor and HOD,
 Department of Electrical Engineering,
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India

		C. Artificial Intelligence						
PEC	EE505	A. Renewable Energy – I B. Line Commutated and Active Rectifiers C. Power Plant Engineering D. Engineering Optimization	3	0	0	3	3	
B. Practical								
PCC	EE591	Electrical Machines – II Laboratory	0	0	3	3	1.5	
PCC	EE592	Power Systems – I Laboratory	0	0	3	3	1.5	
PCC	EE593	Control Systems – I Laboratory	0	0	2	2	1	
OEC	EE594	A. Database Management System Laboratory B. Computer Network Laboratory C. Artificial Intelligence Laboratory	0	0	3	3	1.5	
PROJ	PR 591	Minor Project – I	0	0	2	2	1	
PROJ	PR 592	Skill Development – V: Soft Skill and Aptitude – II	1	0	0	1	0.5	
C. Mandatory Activities / Courses								
MC	MC501	Intellectual Property Right	0	0	3	3	0	
Total of Theory, Practical and Mandatory Activities / Courses without MOOC Courses						34	24	
D. MOOC Courses**								
MOOC	HM501	MOOC Course – III	3	1	0	4	4	
Total of Theory, Practical and Mandatory Activities / Courses with MOOC Courses						38	28	

3rd Year 6th Semester					
S. No.	Category	Paper Code	Subject	Contact Hours/Week	Credit Points

**MOOC Courses for HONOURS / MINOR Degree are Program specific and to be taken from MOOC Basket.


DR. BARNALI PRASAD
 Associate Professor and HOD,
 Department: Electrical Engineering
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India

			L	T	P	Total	
A. Theory							
HSMC	HSMC605	Principles of Management	2	0	0	2	2
PCC	EE601	Microprocessor and Microcontroller	3	0	0	3	3
PCC	EE602	Power Systems – II	3	0	0	3	3
PCC	EE603	Control Systems – II	3	0	0	3	3
OEC	EE604	A. Big Data Analytics B. Internet of Things C. Soft Computing	3	0	0	3	3
PEC	EE605	A. Renewable Energy – II B. Advanced Power Electronics C. Special Electric Machines D. Digital Signal Processing	3	0	0	3	3
B. Practical							
PCC	EE691	Microprocessor and Microcontroller Laboratory	0	0	3	3	1.5
PCC	EE692	Power System – II Laboratory	0	0	3	3	1.5
PCC	EE693	Control Systems – IILaboratory	0	0	3	3	1.5
PROJ	PR691*	Electrical Workshop	0	0	2	2	1
PROJ	PR 692	Minor Project – II	0	0	2	2	1
PROJ	PR 693	Skill Development – VI:Soft Skill and Aptitude – III	1	0	0	1	0.5
C. Mandatory Activities / Courses							
MC	MC 601	Constitution of India	3	0	0	3	0
Total of Theory, Practical and Mandatory Activities / Courses without MOOC Courses						34	24
D. MOOC Courses**							
MOOC	HM601	MOOC Course – IV	3	1	0	4	4
Total of Theory, Practical and Mandatory Activities / Courses with MOOC Courses						38	28

Students will initially see all the cutset models and prototypes of different electrical systems (Motor, Generator, transformers, Transmission Lines, Solar Panels etc.) and prepare the data sheets and thereafter design their own.

MOOC Courses for HONOURS / MINOR Degree are Program specific and to be taken from MOOC Basket.

Minutes of BOS Meeting, EE Dept., on 08.03.2021

DR. BARNALI KUNDU
 Associate Professor and HOD,
 Department of Electrical Engineering
 G. P. Narayan Institute of Technology
 Mukundpur, West Bengal, India

4th Year 7th Semester

Category	Paper Code	Subject	Contact Hours/Week				Credit Points
			L	T	P	Total	

A. Theory

PCC	EE701	Electric Drives	2	0	0	2	2
PCC	EE702	Introduction to Smart Grid	3	0	0	3	3
PEC	EE703	A. Energy Conversion and Storage (Renewable Energy – III) B. Power Quality C. Design of Electric Apparatus D. Analog and Digital Communication	3	0	0	3	3
PEC	EE704	A. Distributed Generation and Microgrids B. FACTS and HVDC C. Electrical Energy Conservation and Auditing D. Embedded System Design	3	0	0	3	3
OEC	EE705	A. Data Science B. Cyber Security C. Machine Learning D. Smart and Nanomaterials for Electrical Engineering	3	0	0	3	3

B. Practical

5	PCC	EE791	Electric Drives Laboratory	0	0	2	2	1
7	PCC	EE792	Computer-Aided Electrical Drawing Laboratory (AutoCAD/ Automation Studio)	0	0	3	3	1.5
8	PROJ	PR791	Major Project – I	0	0	0	4	2
9	PROJ	PR792*	Industrial Training / Internship	0	0	0	0	1
10	PROJ	PR793	Skill Development – VII: Seminar and Group Discussion	0	0	1	1	0.5

C. Mandatory Activities / Courses

*Collective Data from 3rd to 6th Semester (Summer/Winter Training during Semester Break and Internship should be done after 5th Semester or 6th Semester). All related certificates to be collected by the training/internship coordinator(s).

MC	MC781	Entrepreneurship and Innovation Skill	0	0	3	3	0
Total of Theory, Practical and Mandatory Activities / Courses without MOOC Courses						27	20
D. MOOC Courses**							
MOOC	HM701	MOOC Course – V	3	1	0	4	4
Total of Theory, Practical and Mandatory Activities / Courses with MOOC Courses						31	24

4th Year 8th Semester

Category	Paper Code	Subject	Contact Hours/Week				Credit Points
			L	T	P	Total	
A. Theory							
PEC	EE801	A. Renewable Energy Management and sustainability B. Electrical and Hybrid Vehicles C. Finite Element analysis for Electrical Machines D. Robotics and Control	3	3	0	3	3
PEC	EE802	A. Restructured Power Systems B. High Voltage Engineering C. Illumination Engineering D. Power System Operation and Control	3	0	0	3	3
OEC	EE803	A. Bio-Medical Instrumentation B. Blockchain C. Image Processing D. 3D Printing and Design	2	0	0	2	2
B. Practical							
PROJ	PR891	Major Project – II	0	0	0	12	6

**MOOC Courses for HONOURS / MINOR Degree are Program specific and to be taken from MOOC Basket.

PROJ	PR892	Grand Viva	0	0	0	0	1
C. Mandatory Activities / Courses							
MC	MC801	Essence of Indian Knowledge Tradition	3	0	0	3	0
of Theory, Practical and Mandatory Activities / Courses without MOOC Courses						24	15


 08/03/2021
DR. BARNALI KUNDU
 Associate Professor and HOD.
 Department: Electrical Engineering
 Guru Nanak Institute of Technology
 Kolkata, West Bengal, India