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GURUNANAK INSTITUTE OF TECHNOLOGY

Approved by A.I.C.T.E., New Delhi

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Supporting Document

MINUTES OF THE MEETING, 2016 OF BOARD OF STUDIES OF ELECTRICAL ENGINEERING DEPARTMENT HELD ON 16/05/2016 AT 11 A.M.

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Department of Electrical Engineering

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Minutes of the BOS meeting

Date: 16/05/2016

Venue: HOD Room, Department of Electrical Engineering

Time: 11 A.M.

As per the notice dated 03.05.2016 with Ref. No. GNIT/EE/BOS/2016/02, a BOS meeting was held on 16/05/2016 in presence of following experts and members:

Members present (Internal):

1. Dr. Prabal Deb : Head and Chairman
2. Dr. Shyamal kumar Ghosh : Professor, Member
3. Dr. Subir Ray : Professor, Member
4. Mr.Kalyan Kumar Chakraborty : Associate Professor, Member
5. Mr. Sisir Mazumder : Assistant Professor, Member
6. K.Meena Lochani : Assistant Professor, Member
7. Ms. Nitusree Saha : Assistant Professor, Member
8. Mr. Susovan Dutta : Assistant Professor, Member
9. Ms. Rikta Majumder : Assistant Professor, Member
10. Mr. Shyamal Kumar Roy : Assistant Professor, Member
11. Mr. Arindam Roy : Assistant Professor, Member

External Members Present:

1. Dr. Shib Sankar Saha : Professor, EE Dept., Kalyani Govt.Engg. College, Kalyani, Nadia,
2. Dr. Shilpi Deb :Associate Professor, EE Dept.,RCCIIT,Kolkata

Members Absent:

1. Ms. Sanchaita Pal : Assistant Professor, Internal Member
2. Mr. Ashoke Kumar Basu : Assistant Professor, Internal Member
3. Mr. Sourav Paul : Assistant Professor, Internal Member
4. Ms. Snigdha Mondal : Assistant Professor, Member

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The 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 Regulation 16 (R 16) Curriculum and Syllabus of Electrical Engineering wef. 2016-17 admission batches under autonomy.
5. Finalization of Elective Courses added in R16 Syllabus
6. Industry interface improvement
7. Miscellaneous

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

Action taken report of last BOS meeting' resolution was noted

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

Three new courses (Technical Skill Development, Technical Model Presentation Skill and Entrepreneurship Development) have been introduced in the R 16 curriculum for strengthening employability, entrepreneurship abilities, and technical and overall skill developments. All experts and members discussed and agreed to the same. It was assessed that about 48.54% of the courses being offered under R 16 syllabus for EE contributes to the abovementioned purpose. (Vide Annexure I)

Agenda 4: Finalization of Regulation 16 (R 16) Curriculum and Syllabus of Electrical Engineering wef. 2016-17 admission batch under autonomy

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

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Finally, the curriculum and syllabus of Electrical Engineering discipline was finalized and approved by BOS members (Vide Annexure II). All BOS members commented that the final R16 Curriculum is well organized and linked with departmental vision, mission, PEOs and PSOs.

Agenda 5: Finalization of Elective Courses added in R16 Syllbus

Elective courses are finalized for R16 syllabus after taking Stakeholder's feedback and suggestions of BoS Members (Vide Annexure III)

Agenda 5: Industry interface improvement

More industry interaction is needed for the students to make them industry ready. Thus compared to last year , this year we have arranged more training programs as well as Industry Visit and Industry Mentor Meet for B.Tech as well as Diploma students. External Members of BOS emphasize more on industrial visit of the students especially for 3rd year student to make them more compatible with industries .

Agenda 6: Miscellaneous

In this context several suggestions are listed below depending upon the importance of departmental activities:

(i) Patent should be filed for the development of any kind of innovative product

(ii) Faculty members holding Ph.D. degree must undergo Postdoctoral Research work for academic development.

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

Head and Chairman
Dr. Prabal Deb

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Annexure I

Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
Communicative English	HU101	Skill Development
Language Laboratory and Seminar Presentation	HU191	Skill Development, Employability, Entrepreneurship
Computer Fundamentals and Principle of Computer Programming	CS 201	Employability
Computer Fundamentals and Principle of Computer Programming Laboratory	CS 291	Employability, Skill Development
Soft Skill Development	MC 281	skill development
Digital Electronics	EC(EE) 301	Employability
Analog Electronic Circuits	EC(EE) 302	Employability
Thermal Power Engineering	ME(EE) 301	Employability
Analog and Digital Electronics Laboratory	EC(EE) 391	Employability, Skill Development
Thermal Power Engineering Laboratory	ME(EE) 391	Employability, Skill Development
Numerical Methods	M(CS) 401	Employability
Data Structure	CS(EE) 402	Employability
Numerical Methods Laboratory	M(CS) 491	Employability, Skill Development
Data Structure Laboratory	CS(EE) 492	Employability, Skill Development
Technical Skill Development	MC481	Employability, Skill Development
Microprocessor and Microcontroller	EE 504	Employability
Microprocessor and Microcontroller Laboratory	EE 594	Employability, Skill Development
Electrical System Design – I	EE581	Employability, Skill Development, Entrepreneurship

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Group Discussion and Seminar	MC581	Employability, Skill Development, Entrepreneurship
Digital Signal Processing	EC(EE) 604	Employability
Non-conventional Energy Sources and Applications	EE 605 A	Employability
Computational Intelligence	EE 605 B	Employability
Introduction to Robotics	EE 605 C	Employability
Mechatronics	EE 605 D	Employability
Introduction to Programming in JAVA	CS(EE) 606 A	Employability
Object Oriented Programming using C++	CS(EE) 606 B	Employability
Computer Architecture and Operating Systems	CS(EE) 606 C	Employability
Software Engineering	CS(EE) 606 D	Employability
Introduction to Programming in JAVA Laboratory	CS(EE) 696A	Employability, Skill Development
Object Oriented Programming using C++ Laboratory	CS(EE) 696B	Employability, Skill Development
Computer Architecture and Operating Systems Laboratory	CS(EE) 696C	Employability, Skill Development
Software Engineering Laboratory	CS(EE) 696D	Employability, Skill Development
Electrical System Design II	EE 681	Employability, Skill Development, Entrepreneurship
Industrial Training	EE 671	Employability, Skill Development
Artificial Intelligence and Soft Computing	CS(EE) 705A	Employability
Digital Image Processing	CS(EE) 705B	Employability
Computer Networking	CS(EE) 705C	Employability
Data Base Management System	CS(EE) 705D	Employability
Artificial Intelligence and Soft Computing Laboratory	CS(EE) 795A	Employability, Skill Development

Digital Image Processing Laboratory	CS(EE) 795B	Employability, Skill Development
Computer Networking Laboratory	CS(EE) 795C	Employability, Skill Development
Data Base Management System Laboratory	CS(EE) 795D	Employability, Skill Development
Assigned Project – I	EE 781	Skill Development, Entrepreneurship
Seminar on Industrial Training and Report	EE 771	Employability, Skill Development
Entrepreneurship Development	MC 781	Entrepreneurship
Industrial and Financial Management	HU 805	Employability, Skill Development, Entrepreneurship
Project and Thesis	EE 881	Skill Development, Entrepreneurship

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Annexure II

Curriculum Structure

(to be effective from 2016-17 admission batch)

Department: Electrical Engineering

Curriculum for B.Tech. Under Autonomy

1st Semester								
Sl. No.	**Category**	**Paper Code**	**Subject**	**Contact Hours/Week**				**Credit Points**
				L	**T**	**P**	**Total**	
A. THEORY								
1	BS	M 101	Mathematics – I	3	1	0	4	4
2	BS	CH 101	Chemistry – I	3	1	0	4	4
3	ES	EE 101	Basic Electrical Engineering	3	1	0	4	4
4	HS	HU 101	Communicative English	2	0	0	2	2
5	ES	ME 101	Engineering Mechanics	3	1	0	4	4
Total of Theory							**18**	**18**
B. PRACTICAL								
6	HS	HU 191	Language Laboratory and Seminar Presentation	0	0	2	2	1
7	BS	CH 191	Chemistry – I Laboratory	0	0	3	3	2
8	ES	EE 191	Basic Electrical Engineering Laboratory	0	0	3	3	2
9	ES	ME 191	Engineering Drawing and Graphics	0	0	3	3	2

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Total of Practical							**11**	**07**
C. SESSIONAL								
10	HS	XC 181	Extra-Curricular Activity (NSS / NCC)	0	0	2	2	1
Total of Theory, Practical and Sessional							**31**	**26**

2nd Semester

Sl. No.	Category	Paper Code	Subject	Contact Hours/Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	BS	M 201	Mathematics – II	3	1	0	4	4
2	BS	PH 201	Physics – I	3	1	0	4	4
3	ES	EC 201	Basic Electronics Engineering	3	1	0	4	4
4	ES	CS 201	Computer Fundamentals and Principle of Computer Programming	3	1	0	4	4
5	ES	ME 201	Engineering Thermodynamics and Fluid Mechanics	3	1	0	4	4
Total of Theory							**20**	**20**
B. PRACTICAL								
6	ES	CS 291	Computer Fundamentals and Principle of Computer Programming Laboratory	0	0	3	3	2
7	BS	PH 291	Physics – I Laboratory	0	0	3	3	2
8	ES	EC 291	Basic Electronics Engineering Laboratory	0	0	3	3	2
9	ES	ME 292	Workshop Practice	0	0	3	3	2

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Total of Practical							**12**	**08**
C. SESSIONAL								
10	MC	MC 281	Soft Skill Development	0	0	2	2	0
Total of Theory, Practical and Sessional							**34**	**28**

3rd Semester								
Sl. No.	**Category**	**Paper Code**	**Subject**	**Contact Hours/Week**				**Credit Points**
				L	**T**	**P**	**Total**	
A. THEORY								
1	BS	M 301	Mathematics – III	3	1	0	4	4
2	PC	EC(EE) 301	Digital Electronics	3	1	0	4	3
3	PC	EC(EE) 302	Analog Electronic Circuits	3	0	0	3	3
4	PC	EE 301	Circuits Theory and Networks	3	1	0	4	4
5	PC	EE 302	Field Theory	3	0	0	3	3
6	ES	ME(EE) 301	Thermal Power Engineering	2	0	0	2	2
Total of Theory							**20**	**19**
B. PRACTICAL								
7	PC	EC(EE) 391	Analog and Digital Electronics Laboratory	0	0	3	3	2
8	PC	EE 391	Circuit Theory and Network Laboratory	0	0	3	3	2
9	ES	ME(EE) 391	Thermal Power Engineering Laboratory	0	0	2	2	1
10	HS	HU 381	Technical Report Writing and Language Practice	0	0	2	2	1
Total of Practical							**10**	**06**
Total of Theory, Practical and Sessional							**30**	**25**

4th Semester								
Sl. No.	Category	Paper Code	Subject	Contact Hours/Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	BS	PH(EE) 401	Physics – II	3	0	0	3	3
2	PC	EE 401	Electrical Machines – I	3	1	0	4	4
3	PC	EE 402	Electrical and Electronics Measurement	3	0	0	3	3
4	BS	M(CS) 401	Numerical Methods	3	0	0	3	2
5	ES	CS(EE) 402	Data Structure	3	0	0	3	2
Total of Theory							**16**	**14**
B. PRACTICAL								
6	BS	PH(EE) 491	Physics – II Laboratory	0	0	3	3	2
7	PC	EE 491	Electrical Machines – I Laboratory	0	0	3	3	2
8	PC	EE 492	Electrical and Electronics Measurement Laboratory	0	0	3	3	2
9	BS	M(CS) 491	Numerical Methods Laboratory	0	0	2	2	1
10	ES	CS(EE) 492	Data Structure Laboratory	0	0	2	2	1
Total of Practical							**11**	**08**
C. SESSIONAL								
11	MC	MC 481	Technical Skill Development	0	0	2	2	0 (2 Units)
Total of Theory, Practical and Sessional							**27**	**22**

Note: Numerical Methods and Computer Programming Lab [CS(EE) 491], and Technical Report Writing and Language Laboratory Practice [HU(EE) 481] together, will be treated as one laboratory.

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5th Semester								
Sl. No.	Category	Paper Code	Subject	Contact Hours/Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	HS	HU 501	Environmental Science	2	0	0	2	2
2	PC	EE 501	Electric Machine – II	3	1	0	4	4
3	PC	EE 502	Power Systems – I	3	1	0	4	4
4	PC	EE 503	Control Systems – I	3	1	0	4	4
5	PC	EE 504	Microprocessor and Microcontroller	3	0	0	3	3
Total of Theory							**17**	**17**
B. PRACTICAL								
6	PC	EE 591	Electric Machine – II Laboratory	0	0	3	3	2
7	PC	EE 592	Power Systems – I Laboratory	0	0	3	3	2
8	PC	EE 593	Control System – I Laboratory	0	0	3	3	2
9	PC	EE 594	Microprocessor and Microcontroller Laboratory	0	0	3	3	2
10	PW	EE581	Electrical System Design – I	0	1	3	4	2
Total of Practical							**16**	**10**
C. SESSIONAL								
11	MC	MC 581	Group Discussion and Seminar	0	0	2	2	0 (2 Units)
Total of Theory, Practical and Sessional							**35**	**27**

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6th Semester								
Sl. No.	Category	Paper Code	Subject	Contact Hours/Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	PC	EE 601	Control System II	3	0	0	3	3
2	PC	EE 602	Power System II	3	0	0	3	3
3	PC	EE 603	Power Electronics	3	0	0	3	3
4	PC	EC(EE) 604	Digital Signal Processing*	3	0	0	3	3
5	PE	EE 605	A. Non-conventional Energy Sources and Applications B. Computational Intelligence C. Introduction to Robotics D. Mechatronics	3	1	0	4	4
6	OE	CS(EE) 606	A. Introduction to Programming in JAVA B. Object Oriented Programming using C++ C. Computer Architecture and Operating Systems D. Software Engineering	3	0	0	3	3
Total of Theory							**19**	**19**
B. PRACTICAL								
7	PC	EE 691	Control System II Laboratory	0	0	3	3	2
8	PC	EE 692	Power System II Laboratory	0	0	3	3	2
9	PC	EE 693	Power Electronics Laboratory	0	0	3	3	2
10	OE	CS(EE) 696	A. Introduction to Programming in JAVA Laboratory B. Object Oriented Programming using C++ Laboratory C. Computer Architecture and Operating Systems Laboratory D. Software Engineering Laboratory	0	0	2	2	1
11	PW	EE 681	Electrical System Design II	0	1	3	4	2
12	PW	EE 671	Industrial Training	4 Weeks				2

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Total of Practical	15	11
Total of Theory, Practical and Sessional	34	30

* As per recommendations of External Expert, the course has been changed from PE to PC.

7th Semester								
Sl. No.	Category	Paper Code	Subject	Contact Hours/Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	HS	HU 702	Values and Ethics in Profession	2	0	0	2	2
2	PC	EE 701	Electric Drives	3	0	0	3	3
3	PE	EE 702	A. Utilization of Electric Power B. Advanced Power Electronics C. Illumination Engineering	3	1	0	4	4
4	PE	EE 703	A. Advanced Power Systems B. Power Generation and Economics C. High Voltage Engineering D. Advanced Electrical Measurement and Instrumentation	3	1	0	4	4
5	OE	CS(EE) 705	A. Artificial Intelligence and Soft Computing B. Digital Image Processing C. Computer Networking D. Data Base Management System	3	0	0	3	3
Total of Theory							16	16
B. PRACTICAL								
7	PC	EE 791	Electric Drives Laboratory	0	0	3	3	2
8	OE	CS(EE) 795	A. Artificial Intelligence and Soft Computing Laboratory B. Digital Image Processing Laboratory C. Computer Networking Laboratory D. Data Base Management System Laboratory	0	0	2	2	1
9	PW	EE 781	Assigned Project – I	0	0	6	6	4
10	PW	EE 771	Seminar on Industrial Training and Report	0	0	0	0	1

Total of Practical							**11**	**08**
C. SESSIONAL								
11	MC	MC 781	Entrepreneurship Development	0	0	0	2	0 (2 Units)
Total of Theory, Practical and Sessional							**29**	**24**

8th Semester								
Sl. No.	**Category**	**Paper Code**	**Subject**	**Contact Hours/Week**				**Credit Points**
				L	**T**	**P**	**Total**	
A. THEORY								
1	HS	HU 805	Industrial and Financial Management	2	0	0	2	2
2	PE	EE 801	A. HVDC Transmission B. Energy Management and Audit C. Power Plant Engineering	3	0	0	3	3
3	PE	EE 802	A. Sensors and Transducers B. Process Control and Instrumentation C. Electronic Instrumentation and Control	3	1	0	4	4
Total of Theory							**09**	**09**
B. PRACTICAL								
7	PW	EE 881	Project and Thesis	0	0	12	12	6
8	PW	EE 871	Grand Viva	0	0	0	0	3
Total of Practical							**12**	**09**
Total of Theory, Practical and Sessional							**21**	**18**

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EE Curriculum Credit Details

Subject Area	Year wise Break up of credits				Total	Credits in %	AICTE Norms
	1st year	2nd year	3rd year	4th year			
BS	20	12	0	0	32	16	(10-20)%
ES	30	6	0	0	36	18	(15-20)%
HS	4	1	2	4	11	5.5	(5-10)%
PC	0	28	41	5	74	37	(30-40)%
PE	0	0	4	15	19	9.5	(10-15)%
OE	0	0	4	4	8	4	(5-10)%
PW	0	0	6	14	20	10	(10-15)%
Total	**54**	**51**	**53**	**40**	**200**		

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Annexure III

Elective Subjects incorporated in Regulation R16 Curriculum

Sl No	Paper Code	Paper Name	Contact Hours /Week				Credit Points
			L	T	P	Total	
Professional Elective Courses relevant to chosen specialization/Branch (PE)							
1	EE 605A EE 605B EE 605C EE 605D	Non-conventional Energy Sources and Applications Computational Intelligence Introduction to Robotics Mechatronics	3	1	0	4	4
2	EE 702A EE 702B EE 702C	Utilization of Electric Power Advanced Power Electronics Illumination Engineering	3	1	0	4	4
3	EE 703A EE 703B EE 703C	Advanced Power Systems Power Generation and Economics High Voltage Engineering Advanced Electrical Measurement and Instrumentation	3	1	0	4	4
4	EE 801A EE 801B EE 801C	HVDC Transmission Energy Management and Audit Power Plant Engineering	3	0	0	3	3
5	EE 802A EE 802B EE 802C	Sensors and Transducers Process Control and Instrumentation Electronic Instrumentation and Control	3	1	0	4	4
		Total Credit:					**19**

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Open Elective Courses-Electives from other technical and / or emerging subjects (OE):							
1	CS(EE) 606A CS(EE) 606B CS(EE) 606C CS(EE) 606D	Introduction to Programming in JAVA Object Oriented Programming using C++ Computer Architecture and Operating Systems Software Engineering	3	0	0	3	3
2	CS(EE) 696A CS(EE) 696B CS(EE) 696C CS(EE) 696D	Introduction to Programming in JAVA Laboratory Object Oriented Programming using C++ Laboratory Computer Architecture and Operating Systems Laboratory Software Engineering Laboratory	0	0	2	2	1
3	CS(EE) 705A CS(EE) 705B CS(EE) 705C CS(EE) 705D	Artificial Intelligence and Soft Computing Digital Image Processing Computer Networking Data Base Management System	3	0	0	3	3
4	CS(EE) 795A CS(EE) 795B CS(EE) 795C CS(EE) 795D	Artificial Intelligence and Soft Computing Laboratory Digital Image Processing Laboratory Computer Networking Laboratory Data Base Management System Laboratory	0	0	2	2	1
		Total Credit:					**8**

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External Member

Name	Designation	Signature
Dr. Shib Sankar Saha	Professor, EE Dept., Kalyani Govt.Engg. College, Kalyani, Nadia	S. S. Saha
Dr. Shilpi Deb	Associate Professor, EE Dept.,RCCIIT,Kolkata	Shilpi Deb.

Internal Member

Name	Designation	Signature
Dr. Prabal Deb	Head and Chairman	
Dr. Shyamal kumar Ghosh	Professor	S. K. Ghosh.
Dr. Subir Ray	Professor	S. Ray
Mr. Sisir Mazumder	Assistant Professor	
Mr.Kalyan Kumar Chakraborty	AssociateProfessor	K. K. Chakraborty
K.Meena Lochani	Assistant Professor	K M Lochani
Ms. Nitusree Saha	Assistant Professor	N. Saha
Mr. Susovan Dutta	Assistant Professor	Susovan Dutta
Ms. Rikta Majumder	Assistant Professor	
Mr. Shyamal Kumar Roy	Assistant Professor	Shyamal Roy
Mr. Arindam Roy	Assistant Professor	Arindam Roy.

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