Committee: Board of Studies

Minutes of the meeting held on 15/08/2020 (Saturday) at 11.00 am on Google meet online platform.

Members present:

1. Dr. H. Pradeepa- Chairman
   Associate Professor & Head, Dept. of EEE, NIE, Mysuru

2. Dr. Udaya Kumar- External Member
   Professor, Department of Electrical Engg. IIsc, Bengaluru

3. Dr. K N Shubhanga- External Member
   Professor & Head, Dept. of EEE, NITK, Surathkal

4. Dr. Hariram Sathish- Industry
   Principal Scientist, ABB, Bengaluru

5. Dr. Mohan N- Distinguished PG Alumnus
   Assistant Professor, Department of EEE, SJCE, Mysuru

6. Smt. R. Radha- Member Secretary
   Associate Professor, Dept. of EEE, NIE, Mysuru

7. Dr. R. Chidanandappa- Member
   Associate Professor, Dept. of EEE, NIE, Mysuru

8. Dr. Shankar Nalinakshan- Member
   Assistant Professor, Dept. of EEE, NIE, Mysuru

9. Ms. Sonaxi Bhagawan Raikar- Member
   Assistant Professor, Dept. of EEE, NIE, Mysuru

Member not joined the meet:

1. Dr. Ashok S- VTU Nominee
   Professor, Department of Electrical Engg, NIT, Calicut
Agenda and Resolution:

1. To welcome the members of Board of Studies.
2. To read and record the meeting notice.
3. To read and confirm the 12th BoS meeting held on 4th May 2019.
4. To consider and approve:
   a) Blown up syllabiof Basic Electrical Engineering and Introduction to Engineering Design for the academic year 2020-21.
   b) Blown up syllabi of 3rd & 4th semesters of B.E program for the academic year 2020-21 [2019-23 batch of students].
   c) Blown upsyllabi of 5th & 6th semesters of B.E program for the academic year 2020-21 [2018-22 batch of students].
   d) Blown upsyllabi of 7th & 8th semesters of B.E program for the academic year 2020-21 [2017-21 batch of students].
   f) Curriculum structure and blown up syllabi of the M.Tech. (Computer Application in Industrial Drives) program for 2020-22 batch of students.
5. Any other academic issues.

Minutes:

1. The chairman of BoS Dr. H. Pradeepa welcomed the honourable members.
2. The meeting notice was read and recorded.
3. Read and confirmed the 12th BoS meeting held on 4th May 2019.

UG Programme

1. Dr. H Pradeepa presented the blown-up syllabi for UG program for the year 2019-20 [all batches]. The syllabus was approved with a few suggestions.
2. Following suggestions were given by the BoS members:
   a) By Dr. Udaya Kumar
      - For FEM an elective subject for UG, more focus to be on tools available for magnetic analysis of machines rather than simply theoretical concepts
      - For elective subject Insulation of HV equipment, a sufficient background concept is required on ageing of insulators.
      - The word “Advanced” in the subject title should be properly justified if not the word can be removed.
      - Machine Learning elective subject should be application oriented.
      - Appreciated the topics special electrical machines, electrical safety in Basic Electrical Engineering Subject.
      - Include Electric traction in Electric Drives Course.
THE NATIONAL INSTITUTE OF ENGINEERING
(An Autonomous College, affiliated to VTU)
Manandavadi Road, Mysuru - 571 008
Phone: 0821-248475, 2481220, 404190, Fax: 0821-2485802, E-mail: principal@nie.ac.in, Website: www.nie.ac.in

Department of Electrical and Electronics Engineering

- Include an elective on Python programming along with Artificial Intelligence.
- Include industrial application in High voltage course.
- Elaborate the Faraday’s law of induction and its implication with extended conductors in Field Theory subject. Topic on Transmission lines is of no use.
- Include topics on Real Time simulators.
- Include course on digital control system

b) By Dr. K N Shubhanga
- The syllabus content of all the subjects is satisfactory and focus should be more on fundamentals.
- Inclusion of Electrical appliances lab will help the students.
- Offer a pool of elective rather than grouping it.

c) By Dr. Hariram Sathish
- A course on Industrial automation is necessary for UG students.
- Subject title Electronic communication can be modified as Principles of Digital Communication.

d) By Dr. Mohan N
- The syllabus content is good.
- Include topics on Energy economics, energy market, and trading in Power system analysis.
- Include topics on E-mobility, charging infrastructure.

M.Tech (Power Systems)

The curriculum structure & detailed syllabi for the 2019-21 M.Tech (Power Systems) batch was presented by Dr. H Pradeepa and approved by the BoS with the following suggestions.

a) By Dr. Udaya Kumar
- Include topics on Real Time simulators and WAMS
- Syllabus content is satisfactory

b) By Dr. K N Shubhanga
- Expressed that the syllabus content of all the subjects is satisfactory.
c) Dr. Hariram Sathish
   • Expressed that the syllabus content is good and suitable for Industry.
   • Include IEC 61850 digital communication protocol for substation and IEEE C 37.118 and series standards communications in smart grid.

d) Dr. Mohan N
   • Include topics on Energy economics, energy market, and trading.

M.Tech (CAID)

The curriculum structure & detailed syllabi for the 2019-21 M.Tech (CAID) batch was presented by Dr. H Pradeepa and approved by the BoS with the following suggestions.

a) By Dr. Udaya Kumar
   • Appreciated the course on special Electrical Machines.
   • FEM can be elective for both UG and PG.
   • CMOS VLSI course can be removed as the course is not relevant to CAID.

b) By Dr. K N Shubhanga
   • The syllabus content of all the subjects is satisfactory and focus should be more on fundamentals.

c) Dr. Hariram Sathish
   • The syllabus content is good and suitable for Industry.

d) Dr. Mohan N
   • Expressed that the syllabus content is good.

Suggestions by Dr. Ashok S through Email.

UG:
• 1st year Module-V - Indian & International Standards-safety, earthing, wiring etc instead of wiring standards
• IVth year- Elective course on EV may be introduced
• III year- Skill development labs shall be introduced - like IOT lab
• where EE students will study on a) Battery b) Electrical power utilisation-lighting /traction, heating etc
PG:
- Theory course for 3rd sem shall be deleted/shifted to 1st year as students shall be sent to industries for doing project.

Dr. H Pradeepa thanked all the members for attending the meeting, taking part in deliberations and giving valuable suggestions. He also assured the members that most of the feasible suggestions will be incorporated in this year and rest will be considered in due time.

Prepared By: [Signature]
(Smt. R. Radha)
Member Secretary

[Signature]
(Dr. H. Pradeepa)
Chairman
New Core Course Introduced 2020-21

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Course Title</th>
<th>Course Code</th>
<th>UG/PG</th>
<th>Reason for Introduction</th>
<th>Remarks, if any</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Engineering Economics</td>
<td></td>
<td>UG</td>
<td>Input from Dean AA</td>
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</table>

New Elective Course Introduced 2020-21

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Course Title</th>
<th>Course Code</th>
<th>UG/PG</th>
<th>Reason for Introduction</th>
<th>Remarks, if any</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Digital Control Systems</td>
<td>MPS1EXXX</td>
<td>PG-CAID/PS</td>
<td>The subject is introduced with the suggestion from faculty regarding its necessity during the hardware implementation of power electronic converters</td>
<td></td>
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<tr>
<td>2.</td>
<td>Cyber Security in the power sector</td>
<td>MPS2EXXX</td>
<td>PG-PS</td>
<td>Recommended by DAB members</td>
<td></td>
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<tr>
<td>3.</td>
<td>Finite element method of Electric Machine Analysis</td>
<td>MCD2E3XX</td>
<td>PG-CAID</td>
<td>In the BOS meeting, the introduction of this subject was suggested</td>
<td></td>
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<td>4.</td>
<td>Introduction to Electric Vehicle and Battery Management Systems</td>
<td></td>
<td>UG</td>
<td>Recommended by BoS members</td>
<td></td>
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<tr>
<td>5.</td>
<td>Fundamentals of Digital Communication System</td>
<td></td>
<td>UG</td>
<td>Recommended by BoS members</td>
<td></td>
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<tr>
<td>6.</td>
<td>Machine Learning-Industry Driven Elective by Philips</td>
<td></td>
<td>UG</td>
<td>Input from Faculty</td>
<td></td>
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<td>7.</td>
<td>Design of photovoltaic systems-EE5M05</td>
<td></td>
<td>UG</td>
<td>MOOC Courses</td>
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<td>8.</td>
<td>Introduction to robotics-EE5M06</td>
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<td>UG</td>
<td>MOOC Courses</td>
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<td>9.</td>
<td>Op-Amp Practical</td>
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<td>UG</td>
<td>MOOC Courses</td>
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### Department of Electrical and Electronics Engineering

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<thead>
<tr>
<th>Sl. No</th>
<th>Course Title and Code</th>
<th>Course Code</th>
<th>UG/PG</th>
<th>Reason for Revision</th>
<th>Contents Revised</th>
<th>% of Revision</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Basic Electrical Engineering-EE1C01</td>
<td>UG</td>
<td>Recommended by DAB members</td>
<td>Module 1 is revised by adding contents on introduction to electric power. In module 5 topics on Special Machines, electrical safety are added</td>
<td>30</td>
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<td>2.</td>
<td>Introduction to Engineering Design-EE1C02</td>
<td>UG</td>
<td>Input from Faculty</td>
<td>Module 3 is revised by adding contents on electrical system design. Topics on product design specification, concept evaluation and design management is added in module 2 and 3.</td>
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<td>3.</td>
<td>Power System Analysis-</td>
<td>UG</td>
<td>Input from DAB</td>
<td>Module 6 is revised by</td>
<td>20</td>
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</table>

Syllabus revised Courses for 2020-21
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Details</th>
<th>Credit Hours</th>
<th>Notes</th>
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<tbody>
<tr>
<td>EE5C03</td>
<td>members. adding contents on power system economics and management. Derivation of transmission loss formula is added in module 5.</td>
<td></td>
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<tr>
<td>4. Industrial Instrumentation-EE</td>
<td>UG Input from Faculty Syllabus is completely revised.</td>
<td>100</td>
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<tr>
<td>5. Computer Applications to Power System Studies-EE6C01(2018-22)/EE7C01(2017-21)</td>
<td>UG Input from Faculty Module 4 is revised by adding the contents on Steady state stability. Module 5 (6) is revised by adding the topics on voltage stability.</td>
<td>30</td>
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<tr>
<td>6. Power Electronics-EE6C03</td>
<td>UG Input from Faculty Power MOSFETs and IGBT is added in module-1. DC-DC converter topics are introduced in module-4.</td>
<td>&lt;10</td>
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<tr>
<td>7. Engineering management and Entrepreneurship-EE5C05</td>
<td>UG Input from Faculty Syllabus is completely revised.</td>
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<tr>
<td>8. Design of Control Systems</td>
<td>UG Input from faculty Module 5 is revised by adding topics</td>
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<td></td>
<td>Course Name</td>
<td>Module Code</td>
<td>Input Source</td>
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<td>9</td>
<td>Electric and Hybrid Vehicles</td>
<td>MPS2 E4XX</td>
<td>PG-PS</td>
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<tr>
<td>10</td>
<td>Research Methodology</td>
<td>MPS1 CRM</td>
<td>PG-PS/CAID</td>
</tr>
<tr>
<td>11</td>
<td>Smart Grid Technology and Applications</td>
<td>MPS1 E203</td>
<td>PG-PS</td>
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