



# ADITYA ENGINEERING COLLEGE

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Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakinada, E.G.Dt., Ph:99498 76662

Program Name : B.Tech. in Electrical and Electronics Engineering

## Syllabus Revision for the Academic Year 2020-2021

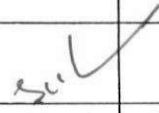
S.No	Semester	Course Code	Course Name	% of content revised for the existing year
1	I	201HS1T01	Communicative English	0
2	I	201BS1T01	Differential equations and Linear algebra	0
3	I	201BS1T03	Applied Physics	0
4	I	201ES1T02	Programming for Problem Solving using C	0
5	I	201ES1I01	Engineering Graphics and Design	40
6	I	201HS1L01	Communicative English Lab	0
7	I	201BS1L02	Applied Physics Lab	0
8	I	201ES1L02	Programming for Problem Solving using C Lab	0
9	I	201MC1T01	Environmental Science	0
10	II	201BS2T05	Partial Differential Equations and Vector Calculus	0
11	II	201BS2T06	Transform Techniques	0
12	II	201ES2T07	Data Structures through C	15
13	II	201ES2T09	Basic Electrical Circuits	5
14	II	201ES2T13	Basic Civil and Mechanical Engineering	0
15	II	201ES2L06	Data Structures through C Lab	100
16	II	201ES2L09	Electrical Engineering Workshop	5
17	II	201ES2L11	Basic Civil and Mechanical Engineering Lab	5
18	II	201MC2L01	Professional Communications Skills Lab	

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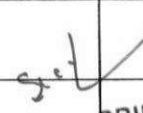
S.No	Semester	Course Code	Course Name	% of content revised for the existing year
19	II	201MC2T02	Constitution of India	0
20	III	191BS3T12	Transform Techniques	60
21	III	191EE3T02	Analog Electronic Circuits	0
22	III	191ES3T11	Python programming	100
23	III	191EE3T03	Electrical Circuit Analysis-II	0
24	III	191EE3T04	Electrical Machines-I	0
25	III	191EE3T05	Electromagnetic Fields	0
26	III	191EE3L01	Electrical Circuits Lab	15
27	III	191ES3L15	Python programming Lab	100
28	III	191MC3A03	Employability Skills-I	50
29	III	191MC3A04	Essence of Indian Traditional Knowledge	100
30	IV	191BS4T17	Numerical methods & Complex Variables	100
31	IV	191EE4T06	Digital Circuits & Logic Design	0
32	IV	191EE4T07	Electrical Machines-II	0
33	IV	191EE4T08	Control Systems	0
34	IV	191EE4T09	Power Systems-I	0
35	IV	191ES4T15	Internet of Things	0
36	IV	191EE4L02	Electrical Machines –I Lab	0
37	IV	191EE4L03	Analog Electronic Circuits Lab	0
38	IV	191MC4A05	Employability Skills –II	80
39	IV	191MC4A06	Biology for Engineers	100
40	V	171EE5T10	Power Systems – II	

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S.No	Semester	Course Code	Course Name	% of content revised for the existing year
41	V	171EE5T11	Power Electronics	0
42	V	171EE5T12	Pulse and Digital Circuits	0
43	V	171EE5T13	Signals and Systems	0
44	V	171EE5E01	Renewable Energy Sources	0
45	V	171EE5E02	Modeling and Analysis of Electrical Machines	0
46	V	171EE5E03	Electrical Safety	0
47	V	171HS5T08	Intellectual Property Rights and Patents	0
48	V	171HS5T06	Employability Skills - III	0
49	V	171EE5L04	Electrical Measurements Lab	0
50	V	171EE5L05	Electrical Machines - II Lab	0
51	V	171EE5L06	Control Systems Lab	0
52	V	171EE5S01	MOOCs - I	0
53	VI	171EE6T14	Power Electronic Controllers and Drives	0
54	VI	171EE6T15	Power System Analysis	0
55	VI	171EE6T16	Micro Processor and Micro Controllers	0
56	VI	171EE6T17	Data Structures	0
57	VI	171EE6E04	Computer Architecture	0
58	VI	171EE6E05	Electrical Distribution Systems	0
59	VI	171EE6E06	Distributed Generation and Microgrid	0
60	VI	171EE6E07	Advanced Control Systems	0
61	VI	171EE6E08	PLC and Applications	0
62	VI	171EE6E09	Instrumentation	0

  
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S.No	Semester	Course Code	Course Name	% of content revised for the existing year
64	VI	171HS6T07	Employability Skills - IV	0
65	VI	171EE6L07	Data Structures Lab	0
66	VI	171EE6L08	Power Electronics Lab	0
67	VI	171EE6S02	MOOCs - II	0
68	VII	171EE7T18	Utilization of Electrical Energy	5
69	VII	171EE7T19	Linear and Digital IC Applications	10
70	VII	171EE7T20	Power System Operation and Control	15
71	VII	171EE7T21	Switch Gear and Protection	10
72	VII	171EE7E11	Optimization Techniques	10
73	VII	171EE7E12	Digital Signal Processing	100
74	VII	171EE7E13	Special Electrical Machines	5
75	VII	171EE7E14	High Voltage Engineering	0
76	VII	171EE7E15	Electric Power Quality	5
77	VII	171EE7E16	EHVAC Transmission	100
78	VII	171EE7L09	Power Systems Simulation Lab	15
79	VII	171EE7L10	Micro Processor and Micro Controllers Lab	0
80	VII	171EE7P01	Industry Oriented (Internship) Minor Project	0
81	VIII	171EE8E17	HVDC Transmission	10
82	VIII	171EE8E18	Flexible AC Transmission Systems	10
83	VIII	171EE8E19	Power System Reforms	10
84	VIII	171EE8E20	Digital Control Systems	15
85	VIII	171EE8O01	Energy Audit, Conservation and Management	

  
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S.No	Semester	Course Code	Course Name	% of content revised for the existing year
87	VIII	171EE8O03	Unix and Shell Programming	0
88	VIII	171EE8O04	Neural Networks And Fuzzy Logic	0
89	VIII	171EE8O05	Robotics	0
90	VIII	171EE8O06	Vehicular Electric Power Systems	100
91	VIII	171EE8O07	Internet of Things	100
92	VIII	171EE8O08	Cyber Security	100
93	VIII	171EE8P02	Major Project	0
Total number of courses in the academic year 2020-2021				= 93
Number of courses having revision in syllabus content $\geq 20\%$ in the academic year 2020-2021				= 16
Percentage of syllabus revision carried out in the academic year 2020-2021 = $(16/93)*100$				= 17.20%

Program Coordinator

Head of the Department

Head of The Department  
Dept: Of Electrical & Electronics Engineering  
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## Department of Electrical and Electronics Engineering

Date: 15-10-2020

### Minutes of the VI meeting of BOS scheduled on 10-10-2020

The VI meeting of the BOS of EEE was held virtually on 10<sup>th</sup> October 2020 at 10.00 AM through Microsoft Teams. Dr. V. Srinivasa Rao, Chairperson presided over the meeting.

#### Agenda 6.1: Welcome address by Chairperson

Dr. V. Srinivasa Rao, BOS Chairperson invited the distinguished members of BOS to the VI BOS Meeting.

#### Agenda 6.2: Ratification of minutes of the previous Board of Studies meeting

The BOS members have ratified the points discussed in the previous Board of Studies meeting held on 19/11/2019.

#### Agenda 6.3: Discussion and ratification of the Vision and Mission of the department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Programs under the Department.

Members of BOS ratified the Vision and Mission of the department, PEOs, POs and PSOs of the Programs under the Department.

#### Agenda 6.4: Discussion on proposed AR19 B.Tech (EEE) program IV & V Semesters syllabus and ratification of the same.

The members of BOS ratified the AR 19 IV & V Semesters B.Tech syllabus after incorporating the following changes:

- BOS members suggested that in the Power Systems-I course the first course related to Power Systems, power generation principles and types of power generation can be add in Unit-I. The thermal and nuclear content may be reduced if time not sufficient to cover the syllabus.
- BOS members suggested that in the Electrical Machines-I Lab, the in augmented experiments, the transient analysis, step voltage change simulation experiments can be performed rather than the conventional experiments in simulation.
- BOS members suggested that in the Renewable energy resources course, the BOS members suggested changing the Maximum Power Point Techniques as Maximum Power Point tracing techniques/ methods.

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**Agenda 6.5: Discussion on proposed AR20 B. Tech (EEE) First Year Program structure and ratification of the same.**

The members of BOS ratified the AR20 B. Tech (EEE) First Year Program structure.

**Agenda 6.6: Discussion on proposed AR20 B. Tech (EEE) Program – I & II semesters syllabus and ratification of the same.**

- The members of BOS ratified the AR20 B. Tech (EEE) Program – I & II semesters syllabus
- BOS members have discussed the syllabus of Constitution of India course to be offered in II semester.

**Agenda 6.7: Discussion on proposed AR19 M. Tech (PED) Program – III & IV semesters syllabus and ratification of the same.**

The members of BOS ratified the AR19 M. Tech (PED) Program – III & IV semesters syllabus.

**Agenda 6.8: Discussion on the courses having focus on employability/ entrepreneurship/ skill development in the programs of B. Tech (EEE) and M. Tech (PED) and ratification of the same.**

The members of BOS ratified the courses having focus on employability/entrepreneurship/skill development in the B. Tech (EEE) and M. Tech (PED) programs.

**Agenda 6.9: Discussion on the new courses offered in the B. Tech (EEE) and M. Tech (PED) programs and ratification of the same.**

Members of BOS noted the percentage of new courses offered for the academic year 20-21 in the B. Tech (EEE) is 12.9% and M. Tech (PED) is 3.12% programs and ratified the same. The list of new courses during the academic year 2020-21 enclosed as Annexure-I.

**Agenda 6.10: Discussion on the B. Tech (EEE) and M. Tech (PED) programs in which Choice Based Credit System (CBCS)/elective course system is being implemented and ratification of the same.**

Members of BOS ratified the choice based credit systems (CBCS)/elective course system that is being implemented in B. Tech (EEE) and M. Tech (PED) programs.

**Agenda 6.11: Discussion on the value-added courses offered for students and ratification of the same.**

Members of BOS ratified the value- added courses identified for the students to be offered and suggested to include topics related to thrust areas.

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**Agenda 6.12: Discussion on the percentage of syllabus revision done in the B. Tech (EEE) and M. Tech (PED) programs and ratification of the same.**

The syllabus revision were done in B. Tech (EEE) and M. Tech (PED) based on the stakeholders feedback on curriculum. The BOS members have approved all the syllabus revisions for the academic year 2020-2021 in B. Tech (EEE) is 17.2% and M. Tech (PED) is 46.87%. The list of courses revised is enclosed as Annexure-II.

**Agenda 6.13: Discussion on Analysis of Results**

The BOS Chairperson presented the odd and even semesters pass percentage for the A.Y.2019-2020. The BOS members noted the same.

**Agenda 6.14: Analysis of Students Feedback & Action Taken Report**

BOS Chairperson expressed that the student feedback & action taken report process initiated at the end of each semester. The BOS members noted the same.

**Agenda 6.15: Analysis of Stakeholder's Feedback on Curriculum.**

The BOS Chairperson presented the analysis report of Stakeholder's feedback on curriculum. The BOS members noted the same and the Action Taken Report is enclosed as Annexure-III.

**Agenda 6.16: Any other item/s.**


BOS members expressed that in the next course structure revision, keep one more power electronics course as the power electronics gained as major research in electrical engineering.

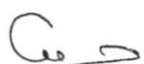
**Agenda 6.17: Scheduling of next Board of Studies meeting.**

The next BOS meeting is tentatively scheduled in the month of September 2021.

**Agenda 6.18: Vote of Thanks**

Dr. V. Srinivasa Rao, BOS Chairperson presented the Vote of Thanks.

  
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**BOS Chairperson**  
Head of The Department  
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## Department of Electrical and Electronics Engineering

### Annexure-I

#### List of New Courses in the Academic Year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (EEE)	II	201ES2L06	Data Structures through C Lab
2	B. Tech (EEE)	III	191ES3T11	Python programming
3	B. Tech (EEE)	III	191ES3L15	Python programming Lab
4	B. Tech (EEE)	III	191MC3A04	Essence of Indian Traditional Knowledge
5	B. Tech (EEE)	IV	191BS4T17	Numerical methods & Complex Variables
6	B. Tech (EEE)	IV	191MC4A06	Biology for Engineers
7	B. Tech (EEE)	VII	171EE7E12	Digital Signal Processing
8	B. Tech (EEE)	VII	171EE7E16	EHVAC Transmission
9	B. Tech (EEE)	VIII	171EE8O01	Energy Audit, Conservation and Management
10	B. Tech (EEE)	VIII	171EE8O06	Vehicular Electric Power Systems
11	B. Tech (EEE)	VIII	171EE8O07	Internet of Things
12	B. Tech (EEE)	VIII	171EE8O08	Cyber Security
13	M. Tech (PED)	III	192PD3E13	Digital Signal Processing Controlled Drives
14	M. Tech (PED)	III	192PD3E15	Modeling & Simulation of Power Electronic Systems

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BOS Chairperson

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## Department of Electrical and Electronics Engineering

### Annexure-II

#### List of Courses Revised in the Academic Year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (EEE)	I	201ES1I01	Engineering Graphics and Design
2	B. Tech (EEE)	III	191BS3T12	Transform Techniques
3	B. Tech (EEE)	III	191MC3A03	Employability Skills-I
4	B. Tech (EEE)	IV	191MC4A05	Employability Skills –II

  
BOS Chairperson

Head of the Dept.  
Dept. Of Electrical & Electronics Engg.  
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## Department of Electrical and Electronics Engineering

### Annexure-III

## Action Taken Report on Stakeholders Feedback in the Academic Year 2020-2021

S. No	Agenda Item No.	Stakeholders Recommended	Action Taken
1.	6.8	More focus is to be given for "employability/entrepreneurship/skill development" programmes and ratification of the same.	Necessary measures will be taken for ratifying the courses having focus on Employability/entrepreneurship/skill development in the AR 20 B.Tech (EEE)
2.	6.9	Application of electrical subjects with software programming is required for the students to get better placement opportunities in core and software domain.	As per the employer feedback, application oriented courses like "IoT Applications of Electrical Engineering and Design of Circuits using Matlab Software" are included in curriculum. Also, value added courses like "Arduino programming and PCB design" are provided to the students.
3.	6.4	Keeping the future in mind, the course "Renewable Energy Sources" is to be modified.	The "Renewable Energy Sources" will be modified by keeping the future energy sources in mind
4.	6.16	Students are encouraged to know the practical appliance of power electronic devices in industry side, so that they can get the jobs easily.	Considering employer feedback, students will be encouraged for the industrial visits, so that they can gain practical knowledge and importance of the power electronic appliances.
5.	6.10	More open elective courses are to be included in the curriculum so that the students can have the vast information exchange	Taking Alumni feedback into consideration, the open electives number has increased from 3 to 4 in AR20 curriculum.
6.	6.4	The experiments of Electrical Machine Lab-1 are to be modified and those are to be made useful for real life applications.	Considering the alumni feedback, necessary arrangements will be made and the experiments of Electrical Machine Lab-1 will be modified.
7.	6.14	Student-centred guest presentations should be encouraged	The department will host guest lectures from renowned institutions and industry sectors in response to input from alumni.


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8.	6.11	Value added courses are to be planned for M.Tech Students in such a way that the concepts of EEE can be designed and developed using software technologies.	Courses like "Electrical Circuits and control block design using MATLAB" will be included in curriculum.
9.	6.4	The course "Power System-I" is vast and the time is not sufficient to complete the whole syllabus in prescribed interval.	Considering Teacher Feedback, the contents such as thermal and nuclear content will be removed from unit-I in "Power System-I".
10.	6.4	Maximum power generation techniques like maximum power point techniques are to be included in the Renewable energy sources.	The course structure "Renewable Energy Sources" will be modified and the suggestions will be implemented.
11.	6.3	The vision and mission of the department are to be revised based on the changes made in the AR 17, AR19 and AR 20 curriculum.	Based on the modifications in the syllabus of AR 17, AR19 and AR 20 curriculum, the vision and mission of the department will be modified and steps are to be taken for ratification.
12.	6.4	Semester III & IV syllabus has to be approved and is to be ratified	Necessary arrangements will be made for the approval and ratification of AR19 M.Tech syllabus for semester III & IV respectively.
13.	6.15	Various teaching and learning methods need to follow to give more insights about each and every course like role play, seminars etc.	In all the possible courses all the types of teaching and learning techniques are introduced, department encourages to teach the students in effective manner via PPT, video demonstrations.
14.	6.12	New courses are to be added in the AR20 B.Tech programme	Necessary plans and steps will be taken for adding the new courses in the AR20 B.Tech programme
15.	6.11	Value added courses with software back ground are to be introduced.	Value added courses like "Electrical Circuits and control block design using MATLAB and Arduino programming" will be planned for AR 19 students.
16.	6.15	Students are motivated for higher education and research backgrounds.	A new subject named "Research Methodology and IPR" will be designed and included in the curriculum in such a way that students can get an idea of carrying research.

  
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