

ANNEXURE1.1.1

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B.S. Abdur Rahman
Crescent
Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956

*Regulations 2021
Curriculum and
Syllabi (I – IV semesters)
(Amendments updated upto February 2022)*

*B.Tech.
(Civil Engineering)*



REGULATIONS 2021

CURRICULUM AND SYLLABI (I – IV Semesters)

(Amendments updated upto February 2022)

B.TECH. CIVIL ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

VISION AND MISSION

Vision

- To be a leading department for Education, Training and Research in Civil Engineering for a better future and over-all Socio-Economic progress of the Country in a sustainable manner.

Mission

- To offer world class undergraduate, postgraduate and research programs of industrial and societal relevance in civil engineering.
- To nurture ethically strong civil engineers to address global challenges through quality education and application oriented research.
- To educate our students on design, construction, maintenance and advancements in civil engineering for providing solutions to the betterment of the society.
- To prepare competitive and responsible citizens with good communication, leadership and managerial skills.
- To enrich and enhance the knowledge base for the best practices in various areas of Civil & allied Engineering through collaborations with Global Institutions of Excellence, Industries and Research Organizations.
- To provide a healthy ambience for teaching, research, consultancy and extension activities.

PROGRAMME EDUCATIONAL OBJECTIVES

- To provide fundamental knowledge in science and mathematics to understand civil engineering concepts.
- To equip with knowledge to plan, design, analyze, construct, maintain and manage civil engineering systems.
- To provide understanding of various codes and standards in the field of design and construction.
- To impart knowledge in theory and skills in practice on structural, geo-technical, geo-informatics, water resources, environmental and transportation engineering in solving civil engineering problems.
- To inculcate knowledge of sustainability in various aspects of civil engineering.
- To provide broad exposure on managerial, economic and ethical issues.

PROGRAMME OUTCOMES

On successful completion of the programme, the graduates will be able to

- Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- Identify, formulate, research literature, and analyses complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- Use research –based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.

- Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

PROGRAMME SPECIFIC OUTCOMES

- Identify suitable construction materials, techniques and practices for Civil Engineering construction.
- Plan, analyze, design and estimate civil engineering structures using relevant software and appropriate codal provisions.
- Characterize water & wastewater and design sustainable water supply & sanitation schemes.

CED 2104	WATER AND WASTEWATER	L	T	P	C
SDG: 6	ENGINEERING	3	0	2	4

COURSE OBJECTIVES:

The objectives of the course are to impart knowledge on

COB1: The population forecasting, water sources, intake structures, water quality and its treatment

COB2: The advanced water treatment methods, water storage facilities and distribution network

COB3: The sewerage systems, estimation of wastewater flows & storm runoff, wastewater characterization and its primary treatment

COB4: The secondary treatment of wastewater

COB5: The methods for wastewater disposal & sludge handling.

MODULE I WATER TREATMENT 9

Design Period - Population forecasting - Types of water demand -Sources of water - Intakes - Characteristics of water - Standards for drinking water - Principle, function and design of water treatment units - sedimentation, coagulation & flocculation, Filtration – theory & principle of disinfection methods.

MODULE II ADVANCED WATER TREATMENT, STORAGE & DISTRIBUTION 9

Water softening – Iron, Manganese and Phosphorus removal, Defluoridation – Desalination - Membrane filtration - Water storage facilities – Distribution networks & analysis.

MODULE III PRIMARY TREATMENT OF WASTEWATER 9

Sewerage systems - Sewage flow estimation - Storm runoff estimation - Sewer materials - Hydraulics of flow in sewer - Sewer appurtenances – Characteristics of sewage - Unit operations and processes - Primary treatment – Principles, functions and design of sewage treatment units – Screens – Grit chamber.

MODULE IV SECONDARY TREATMENT OF WASTEWATER 9

Introduction to Aerobic and Anaerobic treatment process - Functions and design of Activated sludge process and trickling filter – Principles and functions of Membrane Bioreactor, Sequential batch reactor, Waste stabilisation pond, UASB reactor - Onsite sanitation - septic tanks

MODULE V WASTEWATER DISPOSAL & SLUDGE 9
TREATMENT

Standards for disposal into water bodies – Self-purification of river - Oxygen sag curve – Sewage farming and methods - Sludge thickening & Digestion – Biogas recovery – Sludge conditioning and Dewatering – Sludge drying bed.

PRACTICALS

List of experiments

1. Determination of pH and Turbidity
2. Determination of Dissolved oxygen
3. Determination of Solids (Total, Suspended and Dissolved solids)
4. Determination of Conductivity
5. Determination of Sodium, Potassium and Calcium
6. Determination of Biochemical Oxygen Demand (BOD)
7. Determination of Chemical Oxygen Demand (COD)
8. Determination of Hardness
9. Determination of Chlorides and Residual Chlorine
10. Determination of Optimum Coagulant Dosage by Jar Test
11. Determination of Alkalinity
12. Determination of Nitrate
13. Determination of Phosphate
14. Heavy metals determination using AAS (Demo)

L – 45; P – 30; Total Hours – 75

TEXT BOOKS:

1. GargSK, "Water Supply Engineering", Khanna Publications, 27th Edition, 2015
2. Mackenzie L. Davis, Ph.D., P.E., BCEE. Water and Wastewater Engineering: Design Principles and Practice, Second Edition (McGraw-Hill Education: New York, 2020.
3. Metcalf and Eddy, "Wastewater Engineering Treatment, Disposal and Reuse", Tata McGraw Hill, 2007.
4. Modi.P.N., "Sewage Treatment and Disposal and Wastewater Engineering", Standard Book House, New Delhi, 2008

REFERENCES:

1. APHA., "Standard methods for the examination of Water and Waste Water", American Public Health Association, United States, 2013.
2. Bureau of Indian Standards, "Indian Standard Drinking water — Specification- IS10500: 2012, New Delhi.
3. Water and Wastewater analysis – Manual, Central Pollution Control Board, New Delhi, 2011.

COURSE OUTCOMES:

At the end of the course the student will be able to

CO1: forecast population, estimate quantity of water demand, characterize water quality and design treatment units

CO2: describe advanced treatments for water, water storage facilities and analyze distribution network

CO3: explain the sewerage systems, estimate wastewater flows & storm runoff, characterize quality of wastewater and design the primary wastewater treatment units

CO4: describe the secondary treatment of wastewater

CO5: describe the methods for wastewater disposal & sludge handling.

Board of Studies (BoS) :

16th BoS of Civil held on 05.01.2022.

Academic Council:

18th Academic Council held on
24.02.2022

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
CO1	-	-	M	-	-	L	H	L	M	M	-	M	L	-	H
CO2	-	-	L	-	-	-	H	L	M	M	-	M	L	-	H
CO3	-	-	M	-	-	L	H	L	M	M	-	M	L	-	H
CO4	-	-	M	-	-	-	H	L	M	M	-	M	L	-	H
CO5	-	-	L	-	-	M	H	L	M	M	-	M	L	-	H

Note: L - Low Correlation M -Medium Correlation H - High Correlation

SDG No.6 : Clean Water and Sanitation

The understanding of water and wastewater treatment leads to the development of sustainable technologies for treatment and management of water and wastewater.



Minutes of the

**Eighteenth meeting of the Academic Council
of**

B.S. Abdur Rahman Crescent Institute of Science and Technology

held on

February 24, 2022

Online Meeting

- The Practical Examinations for all UG and PG Programmes were/ (are to be) conducted through physical mode in the Institution by following the COVID guidelines.
- The question paper patterns used for CAT-1 and CAT-2 in both Online Mode and Offline Mode (Physical Mode) are the same. The question paper pattern used for Semester End Examinations, in online mode and offline mode followed the formats as already approved in the 16th meeting of Academic Council. In Programmes viz. B.A Public Policy, MBA, have their own approved question paper pattern in some courses to meet the requirements and to maintain the uniqueness of their evaluation system.

The Academic Council may consider and note the same.

Resolution:

After deliberations, the agenda item was noted and approved.

ITEMS MOVED BY CHAIRMAN, BOARD OF STUDIES

SCHOOL OF INFRASTRUCTURE

DEPARTMENT OF CIVIL ENGINEERING

Item 18.6

To consider and approve the recommendations of the Board of Studies of the Department of Civil Engineering.

Item 18.6.1

To consider and approve the syllabi (III & IV semester) of B.Tech. Civil Engineering under Regulations 2021.

Note on Agenda:

The major revisions in curriculum of B.Tech. Civil Engineering under Regulations 2021 and syllabi of I & II Semester courses were approved in the 17th meeting of Academic Council and accordingly implemented from the year AY 2021-2022.

In the 16th meeting of Board of Studies of Civil Engineering Department, which was held on 05th January 2022, the syllabi of III & IV semester courses were deliberated. After deliberations, the Board has recommended the same for approval in the Academic council.

The Salient features of B.Tech. Civil Engineering curriculum under R-2021 with respect to “Introduction of New courses” and “Courses with Syllabus revisions” are as follows:

I. Semester I & II (AY 2021-2022)

a) New courses introduced.

Course Code	Course Title	Credits
PHD 1183	Mechanics of Solids	4
CED 1201	Building Construction and Practices	3
CED 1202	Surveying	4

b) Courses with Syllabus revisions:

Course Code	Course Title	Credits	Revision (%)
CED 1203	Civil Engineering Drawing	1	25 %

II. Semester III & IV (AY 2022-2023)

a) New courses proposed:

Course Code	Course Title	Credits
CED 2101	Mechanics of Structures	3
CED 2104	Water and Waste Water Engineering	4
CED 2105	Transportation Engineering	3
CED 2201	Mechanics of Soils	4
CED 2203	Structural Concrete Design	4
CED 2205	Water Resources Engineering	3
CEDX 31	Engineering Geology	3
CEDX 51	Water Distribution Systems	3
CEDX 71	GPS& Drone Surveying	3
CEDX 72	Principles of Architecture	3
CEDX 73	Vastu Sastra and Architectural Design	3

b) Courses with syllabus revisions (proposed):

Course Code	Course Title	Credits	Revision (%)
CED 2102	Mechanics of Fluids	3	20 %
CED 2103	Concrete Technology	3	25 %
CED 2202	Structural Analysis I	3	20 %
CED 2204	Estimation and Costing of Infrastructure	3	30 %

	Projects		
CEDX 16	Advanced Concrete Technology	3	25 %
CEDX 41	Air and Noise Pollution Control	3	20 %
CEDX 42	Solid Waste Management	3	20 %

The Curriculum and syllabi of the courses (III & IV Semester) of B.Tech., Civil Engineering under R 2021 are given in [Annexure 18.6.1](#). The Academic Council may consider and approve the same for implementation from the academic year 2022-2023.

Resolution:

After deliberations, the agenda item was approved.

Item 18.6.2

To consider and approve the revision in the curriculum and syllabi of B.Tech Civil Engineering under Regulations 2017.

Note on Agenda:

Based on the feedback from faculty members and students, the course 'CEC 4107 - Water Resources Engineering' is introduced as a core course in the VII Semester of B.Tech. Civil Engineering under Regulations 2017.

This was discussed in the 16th meeting of Board of Studies of the Department of Civil Engineering and the board has recommended the same for approval. The revised curriculum and syllabus of the course 'CEC 4107 - Water Resources Engineering' of B.Tech Civil Engineering under Regulations 2017 are given in [Annexure 18.6.2](#).

The Academic Council may consider and approve the same.

Resolution:

After deliberations, the agenda item was approved.

SCHOOL OF MECHANICAL SCIENCES

DEPARTMENT OF MECHANICAL ENGINEERING

Item 18.7

To consider and approve the recommendations of the Board of Studies of the Department of Mechanical Engineering

Item 18.7.1

To consider and approve the syllabi of (III & IV semester core courses and the elective courses) of B.Tech. Mechanical Engineering under Regulations 2021.

Note on Agenda:

The major revision in the curriculum of B.Tech. Mechanical Engineering under R 2021 & Syllabi of I & II Semester courses were approved in the 17th meeting of the Academic Council and accordingly implemented from the year AY 2021-2022.

In the 19th meeting of the Board of Studies of Mechanical Engineering Department which was held on 21.12.2021, the syllabi of III & IV Semester Core Courses and the elective courses were deliberated. After deliberations, the board has recommended the same for approval in the Academic Council.

The salient features of the B.Tech. Mechanical Engineering curriculum under R 2021 with respect to 'Introduction of New Courses' and 'Courses with Syllabus Revision' are as follows:

I. Semester I & II (AY 2021-22)

a) New Course introduced:

Course Code	Course Title	Credits
MED 1211	Engineering Materials	3

b) Courses with Syllabus revision:

Course Code	Course Title	Credits	Revision (%)
GED 1101	Engineering Graphics	3	25%
GED 1102	Engineering Design	2	25%
GED 1103	Manufacturing Practices Laboratory	1	20%
GED 1201	Engineering Mechanics	4	20%
MED 1212	Design Appreciation Laboratory	1	20%

II. Semester III and IV (AY 2022-23)

a) New Courses Proposed:

Course Code	Course Title	Credits
MED 2105	Machine Drawing Laboratory	1
MED 2214	Materials Engineering and Technology	3
MED 2215	Machine Tools and Metrology	4
MEDX61	Advanced Welding Processes	3
MEDX62	Advanced Casting and Forming Process	3
MEDX 81	Powder Metallurgy	3

MEDX 89	Materials for Energy Technologies	2
MEDX 92	Physical Metallurgy	1

b) Courses with syllabus revision (Proposed):

Course Code	Course Name	Credits	Revision (%)
MED 2101	Solid Mechanics	3	20%
MED 2102	Engineering Thermodynamics	3	20%
MED 2103	Theory of Machines	4	35%
MED 2104	Basic Manufacturing Processes	3	20%
MED 2106	Mechanics Laboratory	1	20%
MED 2211	Thermal Engineering	4	20%
MED 2212	Fluid Mechanics and Machinery	4	20%
MED2213	Design of Machine Elements	4	20%
MEDX 02	Design of Hydraulics and Pneumatics	3	20%
MEDX03	Noise, Vibration and Harshness	3	20%
MEDX 33	Nuclear Engineering	3	20%
MEDX 43	Combustion of Fuels	2	20%
MEDX 44	Alternate Fuels	1	20%

The curriculum and syllabi of III & IV semester core and elective courses of B.Tech. Mechanical Engineering under R 2021 are given in [Annexure 18.7.1](#). The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

Item 18.7.2

To consider and approve the syllabi of Ph.D. courses offered to Ph.D. Scholars of Mechanical Engineering Department.

Note on Agenda:

In the 19th meeting of the Board of Studies of Mechanical Engineering Department, which was held on 21.12.2021, the syllabi of the following courses offered to Ph.D. scholars were deliberated. After deliberations, the board has recommended the same for approval in the Academic Council.

Course Code	Course Name	Credit
MEZ 931	Formulation and Characterization of Friction	3

	Materials	
MEZ 932	Surface Engineering and Coating Technology	4

The syllabi of the courses 'MEZ 931 - Formulation and Characterization of Friction Materials' and 'MEZ 932 - Surface Engineering and Coating Technology' are given in [Annexure 18.7.2.](#)

The Academic Council may consider and approve the same.

Resolution:

After deliberations, the agenda item was approved.

DEPARTMENT OF AEROSPACE ENGINEERING

Item 18.8

To consider and approve the recommendations of the Board of Studies of the Department of Aerospace Engineering.

Item 18.8.1

To consider and approve the syllabi (III & IV semester) of B.Tech Aeronautical Engineering under Regulations 2021.

Note on Agenda:

The major revision in curriculum of B.Tech. Aeronautical Engineering under R 2021 & Syllabi of I & II Semester courses was approved in the 17th meeting of Academic Council and accordingly implemented from the year AY 2021-2022.

In the 15th meeting of Board of Studies of Aerospace Engineering Department which was held on 11th December 2021, the syllabi of III and IV Semester Courses were deliberated. After deliberations, the board has recommended the same for approval in the Academic Council.

The salient features of the B.Tech. Aeronautical Engineering curriculum under R 2021 with respect to 'Introduction of New Courses' and 'Courses with Syllabus Revision' are as follows:

I. Semester I & II (AY 2021-22)

a) New Courses introduced:

Course Code	Course Title	Credits
AED 1211	Basics of Aeronautical Engineering	3

II. Semester III and IV (AY 2022-23)

a) New Courses Proposed:

Course Code	Course Title	Credits
AED 2014	Aircraft Material and Manufacturing Processes	3
AED 2213	Propulsion I	3
AED 2215	Experimental Aerodynamics	4
AEDX 08	Space Mechanics	3
AEDX 16	Machine Design	3
AEDX 25	Aviation Rules and Regulation	3

b) Courses with syllabus revision (Proposed):

Course Code	Course Name	Credits	Revision (%)
AED2102	Engineering Thermodynamics	4	25%
AED2103	Fluid Mechanics	4	25%
AED2105	Aircraft Component and Assembly Drawing Laboratory	1	30%
AED2214	Aircraft Systems and Instruments	4	25%

The curriculum and syllabi of the courses (III and IV Semester) of B.Tech Aeronautical Engineering under R 2021 are given in [Annexure 18.8.1](#).

The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

DEPARTMENT OF AUTOMOBILE ENGINEERING

Item 18.9

To consider and approve the recommendations of the Board of Studies of the Department of Automobile Engineering

Item 18.9.1

To consider and approve the syllabi (III & IV semester) of B.Tech (Automobile Engineering) under Regulations 2021.

Note on Agenda:

The major revision in curriculum of B.Tech. (Automobile Engineering) under R 2021 & Syllabi of I & II Semester courses was approved in the 17th meeting of Academic Council and accordingly implemented from the year AY 2021-2022.

In the 13th meeting of Board of Studies of Automobile Engineering Department, which was held on 15th December 2021 the syllabi of III & IV Semester courses were deliberated. After deliberations, the board has recommended the same for approval in the Academic Council.

The salient features of the B.Tech. (Automobile Engineering) curriculum under R 2021 with respect to 'Introduction of New Courses' and 'Courses with Syllabus Revision' are as follows:

I. Semester III & IV (AY 2022-23)

a) New Courses Proposed:

Course Code	Course Name	Credits
AUD 2101	Engineering Thermodynamics	4
AUD 2103	Manufacturing Processes	3
AUD 2104	Automotive Engines	4
AUD 2211	Two and Three Wheelers Technology	3
AUD 2213	Automotive Transmission	4
AUDX01	Alternative Fuels and Energy Systems	3
AUDX03	Combustion Thermodynamics	3
AUDX05	Heat and Mass Transfer	3

b) Courses with syllabus revision (Proposed):

Course Code	Course Name	Credits	Revision (%)
AUD 2102	Strength of Materials	4	25%
AUD 2105	Automotive Component Modelling Laboratory	1	20%
AUD 2212	Automotive Materials and Metallurgy	3	25%
AUD 2214	Mechanics of Machinery	4	20%
AUD 2215	Automotive Chassis	3	30%

Course Code	Course Name	Credits	Revision (%)
AUD 2216	Automotive Chassis Lab	1	30%
AUDX02	Simulation of I.C. Engine Processes	3	20%
AUDX04	Power Plant Engineering	3	20%
AUDX06	Fuel Cell Technology	3	20%

The curriculum and syllabi of the courses (III and IV Semester) of B.Tech (Automobile Engineering) under R 2021 are given in [Annexure 18.9.1](#).

The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

DEPARTMENT OF POLYMER ENGINEERING

Item 18.10

To consider and approve the recommendations of the Board of Studies of the Department of Polymer Engineering.

Item 18.10.1

To consider and approve the syllabi (III and IV semester) of B.Tech (Polymer Engineering) under Regulations 2021.

Note on Agenda:

The major revision in curriculum of B.Tech (Polymer Engineering) under R 2021 and Syllabi of I & II Semester courses was approved in the 17th meeting of Academic Council and accordingly implemented from the year AY 2021-2022.

In the 14th meeting of Board of Studies of Polymer Engineering Department which was held on 15th December 2021, the syllabi of III and IV semester courses were deliberated. After deliberations, the board has recommended the same for approval in the Academic Council.

The salient features of the B.Tech (Polymer Engineering) curriculum under R 2021 with respect to 'Introduction of New Courses' and 'Courses with Syllabus Revision' are as follows:

I. Semester I & II (AY 2021-22)

a) New Courses introduced:

Course Code	Course Title	Credits
PED 1201	Basics of Machining	2
PED1202	Principles of Chemical Engineering	3

II. Semester III and IV (AY 2022-23)

a) New Courses (Proposed):

Course Code	Course Title	Credits
PED2103	Thermoset Materials Technology	3
PED2105	Biodegradable Polymers	3
PED2201	Thermoplastics	3
PED2203	Rubber Processing Technology	3
PEDX04	Nanoscience and Technology	3
PEDX07	Fibre Technology	3

b) Courses with syllabus revision (Proposed):

Course Code	Course Name	Credits	Revision (%)
PED2101	Polymer Chemistry	3	25%
PED2102	Polymer Physics	3	40%
PED2104	Science and Technology of Rubbers	3	25%
PED2202	Polymer Compounding Technology	3	25%
PED2203	Rubber Processing Technology	3	25%
PED2204	Analysis and Characterization of Polymers	3	40%

The syllabi of the courses (III and IV Semester) of B.Tech. (Polymer Engineering) under R 2021 are given in [Annexure 18.10.1](#).

The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

SCHOOL OF ELECTRICAL AND COMMUNICATION SCIENCES

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Item 18.11

To consider and approve the recommendations of the Board of Studies of the Department of Electrical and Electronics Engineering.

Item 18.11.1

To consider and approve the syllabi (III & IV semester) of B.Tech. EEE under Regulations 2021.

Note on Agenda:

The major revision in curriculum of B. Tech EEE under R 2021 & Syllabi of I & II Semester courses was approved in the 17th meeting of Academic Council and accordingly implemented from the year AY 2021-2022.

In the 16th meeting of Board of Studies of EEE Department, which was held on 13th December 2021 the syllabi of III and IV semester courses including the professional elective courses were deliberated. After deliberations the board has recommended the same for approval in the Academic Council.

The salient features of the B. Tech. EEE curriculum under R 2021 with respect to 'Introduction of New Courses' and 'Courses with Syllabus Revision' are as follows:

I. Semester I & II (AY 2021-22)

a) New Courses introduced:

Course Code	Course Title	Credits
GED 1202	Basic Electrical and Electronics Engineering	4
GED 1204	Basic Electrical and Instrumentation Engineering	4
GED 1203	Basic Electrical Engineering	4
EED 1202	Signals and Systems	3
EED 1201	Electric and Magnetic Circuits	3

b) Courses with Syllabus revision:

Course Code	Course Name	Credits	Revision (%)
GED 1103	Manufacturing Practices Laboratory	1	20%
EED 1203	Electric Circuits Laboratory	1	60%

II. Semester III and IV (AY 2022-23)

a) New Courses Proposed:

Course Code	Course Title	Credits
EED 2104	Transmission and Distribution	3
EED 2205	Python for Electrical Engineers	3
EEDX62	Solar Energy Technology	3

b) Courses with syllabus revision (Proposed):

Course Code	Course Name	Credits	Revision (%)
EED 2101	Electronic Devices	3	25%
EED 2102	Electro Magnetic Theory	3	25%
EED 2103	Electromechanical Energy Conversion	3	50%
EED 2105	Electronic Devices Laboratory	1	30%
EED 2106	Electromechanical Energy Conversion Laboratory	1	20%
EED 2201	AC Machines	3	25%
EED 2202	Digital Electronics	3	25%
EED 2203	Electrical Measurement and Instrumentation	3	40%
EED 2204	Power System Protection	3	25%
EED 2206	AC Machines Laboratory	1	20%
EED 2207	Digital Electronics Laboratory	1	20%
EEDX02	Electric Energy Generation, Utilization and Conservation	3	20%
EEDX 12	Network Analysis and Synthesis	3	20%

The curriculum and syllabi of the courses (III & IV semester) of B. Tech. EEE under R 2021 are given in [Annexure 18.11.1](#). The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

Item 18.11.2

To consider and ratify the revision in the curriculum & syllabi of M.Tech Power Systems Engineering under R 2019.

Note on Agenda:

The course EEDY 040 - 'Electric Vehicle and Power Management' was included as an elective course in the curriculum of M.Tech. (Power Systems Engineering) under Regulations 2019. This revision was deliberated in the 16th Meeting of Board of Studies of the Department of Electrical and Electronics Engineering and the board has recommended the same for ratification with effect from AY 2021-22.

The ratified curriculum of M.Tech PSE under R 2019 & syllabus of the course EEDY 040 -'Electric Vehicle and Power Management' are given in [Annexure 18.11.2](#).

The Academic Council may consider and ratify the same for implementation from academic year 2021-22.

Resolution:

The agenda item was ratified with effect from the academic year 2021-22.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Item 18.12

To consider and approve the recommendations of the Board of Studies of the Department of Electronics and Communication Engineering.

Item 18.12.1

To consider and approve the syllabi of III & IV semester (Core and Professional elective courses) of B.Tech. ECE under Regulations 2021.

Note on Agenda:

The major revision in curriculum of B.Tech. ECE programme under R 2021 & Syllabi of I & II semester courses was approved in the 17th meeting of Academic Council and accordingly implemented from the year AY 2021-2022.

In the 22nd meeting of Board of Studies of B.Tech. ECE Department which was held on 14-12-2021, the syllabi of III & IV Semester Courses including professional elective courses of B.Tech. ECE programme under R 2021 were deliberated. After deliberations, the board has recommended the same for approval in the Academic Council.

The salient features of the B.Tech. ECE curriculum under R 2021 with respect to

'Introduction of New Courses' and 'Courses with Syllabus Revision' are as follows:

I. Semester I & II (AY 2021-22)

a) Courses with Syllabus revision:

Course Code	Course Title	Credits	Revision (%)
ECD1201	Electron Devices	3	30%
ECD1202	Circuit and Network Analysis	3	20%
ECD1203	Electron Devices Laboratory	1	20%

II. Semester III and IV (AY 2022-23)

a) New Courses Proposed:

Course Code	Course Title	Credits
ECDX 003	Data structure and its algorithms	3
ECDX 004	Sensors and Actuators	3

b) Courses with syllabus revision (Proposed):

Course Code	Course Title	Credits	Revision (%)
ECD 2101	Analog Electronic Circuits	3	20%
ECD 2102	Digital Electronics	3	20%
ECD 2103	Electromagnetics and Transmission Line Theory	3	20%
ECD 2202	Linear Integrated Circuits*	3	40%
ECD 2104	Signals and Systems*	4	20%
ECD 2105	Analog Electronic Circuits Laboratory	1	30%
ECD 2106	Digital Electronics Laboratory	1	20%
ECD 2203	VLSI Design	3	40%
ECD 2204	Digital Signal Processing	4	40%
ECD 2205	Microcontroller Architecture and Programming	3	30%
ECD 2206	Microcontroller Programming Laboratory	1	20%
ECD 2207	VLSI Design Laboratory	1	40%
ECD 2208	Digital Signal Processing Laboratory	1	20%
ECDX 001	Computer Architecture	3	30%
ECDX 002	Control Systems	3	20%

The curriculum and syllabi of the courses (III & IV Semester) of B.Tech ECE programme under R 2021 are given in [Annexure 18.12.1](#). The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

Item 18.12.2

To consider and approve the syllabi of IV & V Semester professional elective courses offered by the ECE department to the B.Tech. EEE programme under Regulations 2021.

Note on Agenda:

The syllabi of the following professional electives which are offered to B.Tech EEE programme under Regulations 2021 by the ECE department were deliberated in the 22nd meeting of board of studies. After deliberations the board has recommended the same for approval in the Academic Council.

Course Code	Course Title	Credits
ECDX 011	ARM architecture and Programming	3
ECDX 081	Communication Engineering	3
ECDX 082	Digital Signal Processing	3
ECDX 086	Computer Communication Networks	3

The syllabi of the professional elective courses of B.Tech. EEE programme under R 2021 offered by the ECE are given in [Annexure 18.12.2](#).

The Academic Council may consider and approve the same for implementation from the academic year 2022-23.

Resolution:

After deliberations, the agenda item was approved.

Item 18.12.3

To consider and approve the syllabus of Vth Semester core course offered by the ECE department to the B.Tech. EIE programme under Regulations 2021.

Note on Agenda:

The syllabus of the core course “ECD3182 Communication Engineering” which is offered by the ECE department to the B.Tech EIE programme under Regulations 2021 was

School of Computer, Information and Mathematical Sciences

Department of Computer Applications

27.12.2021

Minutes of Sixteenth Board of Studies Meeting

The sixteenth board of studies meeting of Department of Computer Applications was held at 10.30 am on 23.12.2021 through online Google meet. The following members were present.

S.No.	Name	Internal / External Member
1	Dr. S. PakkirMohideen, Professor and Head	Chairman
2	Dr. VenkatesanSelvam, Dean (SCIMS)	Internal
3	Dr. S. Swamynathan, Professor, Department of Information Science and Technology, Anna University, Chennai.	External
4	Mr. S. Gopinath, Senior Technical Director, National Informatics Centre, Ministry of Electronics and Information Technology, Govt. of India.	External
5	Mr. B. Kirthivasan (Alumni), Head – Global Delivery, Cloud Kinetics, Chennai.	External
6	Dr. P. Sheik AbdukKhader, Senior Professor / CA	Internal
7	Dr. A. Jaya, Professor / CA	Internal
8	Dr. GufranAhamed Ansari, Professor / CA	Internal
9	Dr. N. Ayyanathan, Associate Professor / CA	Internal
10	Dr. Syed Masood, Associate Professor / CA	Internal
11	Dr. S. ShaharBanu, Associate Professor / CA	Internal

12	Dr. K. JavubarSathick, Associate Professor / CA	Internal
13	Dr. A. Abdul Azeez Khan, Associate Professor / CA	Internal
14	Dr. G. Shreedevi, Assistant Professor (Sl.Gr) / CA	Internal
15	Ms. P. Padmavathy, Assistant Professor (Sr.Gr) / CA	Internal
16	Mr. A. Salman Ayaz, Assistant Professor (Sr.Gr) / CA	Internal
17	Dr. A.K. Reshmy, Assistant Professor / CA	Internal

The Chairman welcomed all the members of the Board of Studies and special invitees. The Chairman briefed the agenda items and is taken up for discussion by the members.

16.1: Confirmation of minutes of the Fifteenth Meeting of Board of Studies.

The BoS Chairman, presented the overview of minutes of 15th meeting of board of studies. The BoS Chairman recalled that the syllabi for the 3rd and 4th semesters were approved for MCA 2 year degree programme and revamping of the UG curriculum and syllabus for the 1st and 2nd semester of BCA and B.Sc. Programme, Regulations – 2021 was also approved in the 15th meeting of BoS.

The minutes of 15th meeting of board of studies is enclosed in **Annexure 16.1**

16.2: To approve the Syllabi for 3rd and 4th semester of BCA(CTIS), BCA(DS), BCA(MWAD) and B.Sc.(CS) programme under Regulations 2021.

Dr. Swamynathan, Anna University, shared his concern on the following courses:

Design and Analysis of Algorithm:

- To implement algorithms in the laboratory, can introduce one more session as tutorial.

Relational Database Management System:

- More emphasis can be given to the SQL part.
- Basic SQL can be extended and be mentioned explicitly.

Computer Networks:

- IPv6 can be introduced as the students will be focussed towards latest technology as the existing syllabus is conventional.

Programming in Java:

- Module 4 can be expanded to include all the kinds of streams.
- Instead of AWT packages, it can be given as UI design.
- Swings can be added.
- Database connectivity have to be included.

Relational Database Management Systems Laboratory:

- Students can be given a mini project on other DBMS like Postgres, DB2, MySql.

Programming in Java Laboratory:

- Database connectivity program have to be added.

Python Programming:

- Various packages can be introduced.
- NLP or machine learning related packages can be incorporated.
- One more unit can be added to include various packages and its scope.

Web Design and Development:

- HTML 5 have to be stressed.
- Text formatting, Link Tag, List Tag are not necessary
- Form creation, Client side validation have to be incorporated.
- Linux, Apache, MySql and PHP have to be introduced and the hosting of web application in a cloud have to be incorporated as industry is looking for these concepts.

- The usage of visual studio has to be stressed upon for creating HTML and CSS file.

Data Mining and Data Warehousing:

- Warehousing concept to be dealt first and hence title to be changed as Data Warehousing and Data Mining.
- ETL Tools have to be introduced in order to build warehouse.
- Simple standard books by Indian authors can be given as reference books.

Web Design Laboratory

- Popular frameworks have to be introduced.

E-Commerce

- Popular e-commerce sites can be considered and emphasis can be on the development and deployment, its management along with the security issues and threats.
- Can include the concept of building mobile application based commerce.

Information Retrieval:

- Integration of Python with NLP toolkit can be included.

Social Media Analysis:

- Analysis can be restricted to two units and can focus on applications.

Introduction to Cloud Technology

- Creation of AWS account and EC2 instance in cloud, concepts have to be included.

Introduction to Scripting Languages

- VB Script, Java Script can be replaced with NodeJS

- Can give importance to NoSQL, MongoDB, AngularJS

Web Technology

- Advanced Server side technology have to be included

General Suggestions

- In Data Science Programme, Data visualization course have to be included as core paper.
- In Cloud Technology Programme, VMWare creation can be given importance.

Mr. Kirthivasan (Alumni), Cloud Kinetics, given his suggestions on the following courses:

Programming in Java:

- Applets and AWT are outdated and there is no real time applications in industry.
- Data handling packages can be included as industries are looking into these concepts.
- Database connectivity and security concepts can be included.

Web Design and Development:

- Frameworks are available in Python PHP which will give rounded experience, hence framework oriented approach have to be introduced.

Business Intelligence:

- Tools can be introduced.
- Correlation of how to use in cloud can be incorporated.

Mr. Gopinath, National Informatics Centre, suggested the following:

- Design and Analysis of Algorithm syllabus can be reduced.
- Module 5 in Programming in Java course have to be changed.
- In Web Design and Development, HTML and CSS can be combined into one module and can introduce Web UI as new module.

After a detailed discussion, it was resolved to approve **the syllabus of the 3rd and 4th semesters of BCA** [CTIS, MAIS, Data Science], B.Sc. (Computer Science) with course outcomes and objectives.

The syllabus of BCA and B.Sc. programme has been enclosed in **Annexure 16.2.1 and 16.2.2** respectively.

16.3: To revise the syllabus of Web Technology course in BCA(MWAD) curriculum framework.

Multimedia students are exposed to Multimedia Tools and Techniques. It is therefore necessary to update the course content based on the stakeholder's feedback. Thus, the following course name are updated in IV semester BCA(MWAD):

CADX 204 - Web Technology

CADX 208 - Web Technology Laboratory

Instead of

CADX 204 - Web Design and Development and

CADX 208 - Web Design Laboratory

The updated course name and syllabus has been approved after detailed discussion. The revised syllabus is enclosed in **Annexure 16.3**

16.4: To ratify the elective courses in the MCA curriculum framework, under Regulation 2019.

Based on the Alumni, Stakeholders, Parents feedback, the following courses are updated in the elective list of MCA curriculum framework under Regulation 2019. Cyber security has been newly introduced in 2nd semester elective and the syllabus is kept for approval.

Existing Framework:

PROGRAMME ELECTIVES

S.No.	Course Code	Course Title	L	T	P	C
SEMESTER 2						
1	CADY 251	Digital Marketing	3	0	0	3
2	CADY 252	Management Information Systems	3	0	0	3
3	CADY 253	Multimedia Systems and Computer Graphics	3	0	0	3
4	CADY 254	Organizational Behavior	3	0	0	3
5	CADY XX	Cyber Security	3	0	0	3
SEMESTER 3						
Mobile Applications						
1	CADY 351	Mobile Commerce	3	0	0	3
2	CADY 352	Mobile Security	3	0	0	3
3	CADY 353	Mobile and Digital Forensics	3	0	0	3
Cloud Technology						
4	CADY 354	Principles of Virtualization	3	0	0	3
5	CADY 355	Cloud Architectures	3	0	0	3
6	CADY 356	Cloud Storage Infrastructures	3	0	0	3

7	CADY 357	Cloud Security	3	0	0	3
8	CADY 358	Information Storage and Management	3	0	0	3
Web Applications and Development						
9	CADY 359	Semantic Web	3	0	0	3
10	CADY 360	Content Management System	3	0	0	3
11	CADY 361	PHP Programming	3	0	0	3
12	CADY 362	Web Mining	3	0	0	3
IoT & Bigdata						
13	CADY 363	Data Mining and Data Warehousing	3	0	0	3
14	CADY 364	Data Analytics and Visualization	3	0	0	3
15	CADY 365	Social Media analytics	3	0	0	3
16	CADY 366	Health care analytics	3	0	0	3
17	CADY 367	R Programming	3	0	0	3
18	CADY 368	Decision Support System	3	0	0	3
19	CADY 369	Predictive Analysis	3	0	0	3
20	CADY 370	Internet of Things	3	0	0	3

Revised Framework:

PROGRAMME ELECTIVES

S.No.	Course Code	CourseTitle	L	T	P	C
SEMESTER 2						

1	CADY 251	Digital Marketing	3	0	0	3
2	CADY 252	Management Information Systems	3	0	0	3
3	CADY 253	Multimedia Systems and Computer Graphics	3	0	0	3
4	CADY 254	Software Project Management	3	0	0	3
5	CADY 255	Cyber Security	3	0	0	3
SEMESTER 3						
Mobile Applications						
1	CADY 351	Mobile Security	3	0	0	3
2	CADY 352	Mobile and Digital Forensics	3	0	0	3
Cloud Technology						
3	CADY 353	Cloud Security	3	0	0	3
4	CADY 354	Information Storage and Management	3	0	0	3
Web Applications and Development						
5	CADY 355	Content Management System	3	0	0	3
6	CADY 356	PHP Programming	3	0	0	3
7	CADY 357	Full Stack Development	3	0	0	3
Big data						
8	CADY 358	Data Analytics and Visualization	3	0	0	3
9	CADY 359	R Programming	3	0	0	3

After discussion, the revised elective list is ratified and the same is enclosed in **Annexure 16.4**.

16.5: Any other item with permission of the Chairman.

- New specialization courses like BCA(Cyber Security) and BCA(Artificial Intelligence) is proposed and approved.
- Proposed course syllabus of Full stack development, is approved and suggested that it can be offered as either elective course or certification course.




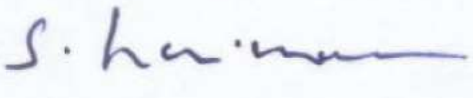

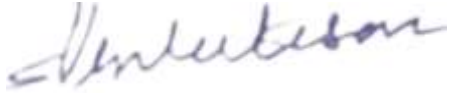



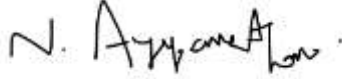


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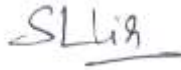


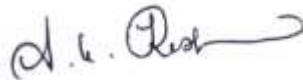
MODULE IV	INPUTSTREAMCLASSES	9
IO Packages, Java Input Stream Classes, Java Output Stream Classes, File Class.		
MODULE V	APPLETS AND AWT PACKAGES	9
Creating an Executable Applet, Applets Life Cycle, AWT and Graphic methods, Fonts, Loading and Viewing Images, Loading and Playing Sound, Event Handling, Layouts.		
		TOTAL HOURS – 45
TEXT BOOKS:		

B.S. Abdur Rahman Crescent Institute of Science and Technology

11:39 AM | 16th BaS - CA Dept - 23rd Dec 2021 @11 am

MODULE IV	HADOOP DISTRIBUTED FILE SYSTEM	9
Components of Hadoop - Difference between Regular File System and HDFS - Common Hadoop Shell Commands - Hadoop Configuration		
MODULE V	CONFIGURING GOOGLE COLAB	9
Introduction - Google Colab - What is Google Colab - First Colab notebook - Saving Your Work - Installing ML Libraries - Using Free GPU - Install and configure Hadoop, set working directory and various processes - Import dataset in Google Colab		
MODULE V	INDUSTRY USE CASES	9
Big Data Use Cases, Real time Big Data Streaming, Big data streaming framework, data streaming process, tools for big data streaming, industry use cases for big data streaming, Capabilities of Big Data - Handling Limitations of Big Data - Technologies Supporting Big Data -		

S.No.	Name	Signature
1	Dr. S. Swamynathan, Professor, Department of Information Science and Technology, Anna University, Chennai.	 27/12/2021
2	Mr. S. Gopinath, Senior Technical Director, National Informatics Centre, Ministry of Electronics and Information Technology, Govt. of India.	
3	Mr. B. Kirthivasan (Alumni), Head – Global Delivery, Cloud Kinetics, Chennai.	
4	Dr. Venkatesan Selvam, Dean (SCIMS)	
5	Dr. P. Sheik Abdulkhader, Senior Professor / CA	
6	Dr. A. Jaya, Professor / CA	
7	Dr. Gufran Ahamed Ansari, Professor / CA	
8	Dr. N. Ayyanathan, Associate Professor / CA	
9	Dr. Syed Masood, Associate Professor / CA	
10	Dr. S. Shahar Banu, Associate Professor / CA	

11	Dr. K. JavubarSathick, Associate Professor / CA	
12	Dr. A. Abdul Azeez Khan, Associate Professor / CA	
13	Dr. G. Shreedevi, Assistant Professor (Sl.Gr) / CA	
14	Ms. P. Padmavathy, Assistant Professor (Sr.Gr) / CA	
15	Mr. A. Salman Ayaz, Assistant Professor (Sr.Gr) / CA	
16	Dr. A.K. Reshmy, Assistant Professor / CA	



Dr. S. PakkirMohideen
Chairman / BoS

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

MINUTES OF 16TH BOARD OF STUDIES MEETING

Date: 16.12.2021

**Sub: Minutes of the Sixteenth Meeting of the Board of Studies - Department of EEE -
 13.12.2021 – Reg.**

The Sixteenth meeting of the Board of Studies of the Department of EEE was held on 13.12.2021 at 10.30 AM in online mode through google meet.

The following members were present:

01.	Dr. V. Jagadeesh Kumar Professor of Electrical Engineering, Head Central Electronics Centre IIT Madras, Chennai 600036, India.	External Expert Committee Member
02.	Mr.M.Balasubramaniam Engineering Manager Power transmission and Distribution (International Division) Larsen & Toubro Ltd, Chennai	External Expert Committee Member
03.	Dr.Azad,Registrar	Ex-officio
04.	Dr.Mohamed Ismail Prof./ECE & Deputy Dean Academic	Special Invitee
03.	Dr.D.Najmunissa Jamal Dean (School of Electrical and Communication sciences)	Member
04.	Dr. R. Jayashree Professor & Head / EEE	Chairman - BoS / EEE
05.	Dr.Y. Mohamed Shuaib, Assoc.Prof. / EEE	Member
06.	Dr. Belwin J. Brearley, AP(SG)/EEE	Member
07.	Dr.S.Jennathu Beevi, AP(SG) / EEE	Member
08.	Dr.K.Sarmila Har Beagum, AP/EEE	Member
09.	Mr.S.Suresh, AP/EEE	Member
10	Mrs. V. Bharanigha, AP/EEE	Member
11.	Dr.K.Shafeeque Ahamed, AP/EEE	Member
12.	Dr.R.Zahira, AP/EEE	Member

The 15th Meeting of the Board of Studies was conducted on 25.06.2021.

The Agenda for the 15th meeting is as follows:

- 15.1 Approval of the curriculum framework of B.Tech. EEE as per R2021
- 15.2 Approval of the syllabus of programme core courses offered in Semester II of B.Tech. EEE
- 15.3 Approval of the syllabus of the EEE courses offered to other engineering departments
 - 15.3.1 Basic Electrical and Electronics Engineering for All Engineering branches except B.Tech. Bio-Tech., B.Tech. ECE , B.Tech. EIE and B.Tech. EEE
 - 15.3.2 Basic Electrical Engineering for B.Tech. Bio-Technology and B.Tech. Electronics and Instrumentation Engineering.
 - 15.3.3 Basic Electrical and Instrumentation Engineering for B. Tech. Electronics and Communication Engineering
- 15.4 Approval of NPTEL courses taken by students during January – April 2021 session for credit transfer
- 15.5 Approval of the NPTEL courses equivalent to courses available in the curriculum
 - 15.5.1 Approval of the NPTEL courses equivalent to courses available in the curriculum under R2017 for B.Tech. EEE
 - 15.5.2 Approval of the NPTEL courses equivalent to courses available in the curriculum under R2019 for M.Tech. Power Systems Engineering
- 15.6 Inclusion of the elective course Insulation Technology in M.Tech. (Power Systems Engineering) and approval of its syllabus

The chairman/ BoS presented the agenda for the 16th meeting of BoS and explained the agenda items.

- 16.1 Approval of syllabus of the B.Tech. EEE programme core courses offered in Semester III & IV under R2021
- 16.2 Approval of syllabus of B.Tech. EEE programme professional elective courses identified for Semester IV under R2021
- 16.3 Inclusion of the course, "Electric Vehicle and Power Management" in M.Tech (PSE) curriculum as elective course to be offered as directed study course for Ph.D programme and approval of its syllabus.

16.1 Approval of syllabus of the B.Tech. EEE programme core courses offered in Semester III & IV under R2021

Note on agenda:

The curriculum structure under R2021 was presented in the School Level Advisory Committee (SLAC) meeting which was held on 12/06/2021, to get the suggestions from various stake holders viz., students, parents, alumni, experts from academia and industry. The curriculum framework and syllabus of the programme core courses offered in Semester I & II were presented in 15th BoS held on 25.06.2021 and approved by the Board of studies members. The approved curriculum of B.Tech. EEE under R2021 was implemented from the academic year 2021-22.

The syllabus for the programme core courses in Semester III & Semester IV and the professional electives courses which can be offered in Semester IV are presented in 16th BoS for approval.

SEMESTER III

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	HS		Humanities Elective I	3	0	0	3
2.	BS	MADX03	Probability and Statistics	3	1	0	4
3.	EC	EED 2101	Electronic Devices	3	0	0	3
4.	EC	EED 2102	Electro Magnetic Theory	3	0	0	3
5.	EC	EED 2103	Electromechanical Energy Conversion	3	0	0	3
6.	EC	EED 2104	Transmission and Distribution	3	0	0	3
7.	EC	EED 2105	Electronic Devices Laboratory	0	0	2	1
8.	EC	EED 2106	Electromechanical Energy Conversion Laboratory	0	0	2	1
9.	HS		Soft Skills – I	0	0	2	1
TOTAL CREDITS							22

SEMESTER IV

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	EC	EED 2201	AC Machines	3	0	0	3
2.	EC	EED 2202	Digital Electronics	3	0	0	3
3.	EC	EED 2203	Electrical Measurement and Instrumentation	3	0	0	3
4.	EC	EED 2204	Power System Protection	3	0	0	3
5.	EC	EED 2205	Python for Electrical Engineers	2	0	2	3
6.	EC	EED 2206	AC Machines Laboratory	0	0	0	1
7.	EC	EED 2207	Digital Electronics Laboratory	0	0	2	1
8.	EC	EED 2208	Electrical Measurement and Instrumentation Laboratory	0	0	2	1
9.	PE		Professional Elective Course I	3	0	0	3
10.	HS		Soft skills - II	0	0	2	1
11.	MC		Indian Constitution/ Essence of Indian Traditional Knowledge	2	0	0	0
TOTAL CREDITS							22

“Resolved that the syllabus of the B.Tech. EEE programme core courses offered in Semester III & IV under R2021 be approved with the necessary changes suggested by the members of BoS and recommended to Academic Council, BSACIST for further action.”

The revised syllabi of the courses are given in Annexure 16.1

16.2 Approval of syllabus of B.Tech. EEE programme professional elective courses identified for Semester IV under R2021

Note on Agenda

Four professional elective courses viz.,

- i) EEDX02 Electric Energy Generation, Utilization and Conservation
- ii) EEDX12 Network Analysis and Synthesis
- iii) EEDX62 Solar Energy Technology
- iv) ECDX 082 Digital Signal Processing

are proposed to be offered in the Semester IV of B.Tech. EEE programme as professional elective courses. The syllabi framed by a team of faculty deputed by the Head of the Department was deliberated in several brainstorming sessions at the department level. The prepared syllabi are in alignment with AICTE model syllabus. The final draft of syllabi are presented before the members of BoS for approval.

“Resolved that the syllabus of B.Tech. EEE programme professional elective courses identified for Semester IV under R2021 be approved with the necessary changes suggested by the members of BoS and recommended to Academic Council, BSACIST for further action.”

The revised syllabi of the courses are given in Annexure 16.2

16.3 Inclusion of the course, "Electric Vehicle and Power Management" in M.Tech (PSE) curriculum as elective course to be offered as directed study course for Ph.D programme and approval of its syllabus.

Note on agenda:

One of our research scholar is pursuing Ph.D. in the area of Electric Vehicles. The course work "EEDY 040 Electric Vehicle and Power Management " to be undergone by the scholar was prescribed by the Doctoral Committee. Approval is sought from the BoS to include the course in the professional elective list of M.Tech. (Power Systems Engineering) curriculum under Regulation 2019 and to approve the syllabus of the course.

"Resolved that elective course Electric Vehicle and Power Management in M.Tech. (Power Systems Engineering) be included and the syllabus of the same approved and recommended to Academic Council, BSACIST for further action."

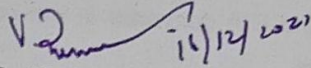
Syllabus of the course EEDY40 Electric Vehicle and Power Management is given in Annexure 16.3.

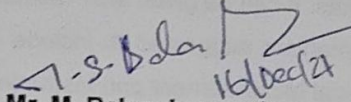
OBSERVATIONS / SUGGESTIONS OFFERED BY MEMBERS OF BOS

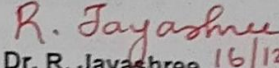
The following observations / suggestions were received from the members of 16th meeting of BoS.

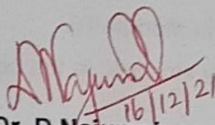
1. Dr.D.Najumnissa Jamal, Dean/SECS suggested to update latest edition of text book and references.
2. Mr.M.Balasubramaniam, the expert member from L&T enquired about traction motors. HOD/EEE informed that traction motor will be covered in elective courses.
3. Dr. V. Jagadeesh Kumar gave the following suggestions for the course EED2203 Electrical Measurement and Instrumentation
 - Conventional analog oscilloscope is obsolete and hence it can be removed.
 - Module II and Module III can be combined and it can be named as “Transducers and Signal Conditioning Circuits”. It can be given after analog and digital instruments.
 - Module IV can be split into two as Analog Instruments and Digital Instruments. It can be given after Module I.
4. Mr.M.Balasubramaniam suggested to include A/D and D/A converter in the course EED2203 Electrical Measurement and Instrumentation
5. Mr.M.Balasubramaniam gave the following suggestions for the course EED2204 Power System Protection.
 - To shift Module II to Module III and vice versa.
 - To include Protection of Capacitor banks and Reactor in Module IV.
6. Mr.M.Balasubramaniam suggested to include topic on Battery storage in the course EEDX62 Solar Energy Technology.
7. HoD presented the syllabi for the Professional Elective courses, (i) EEDX02 Electric Energy Generation, Utilization and Conservation, (ii) EEDX12 Network Analysis and Synthesis, (iii) EEDX62 Solar Energy Technology and (iv) ECDX 082 Digital Signal Processing. The syllabi were approved for the same.
8. HoD presented the agenda item 16.3, the syllabi of the course “EEDY 040 Electric Vehicle and Power Management” in M.Tech (PSE) curriculum as elective course to be offered as directed study course for Ph.D programme. The syllabi were approved for the same.
9. Finally, Dr. R. Jayashree, Chairman/ BoS concluded the meeting by thanking all the expert members for their valuable suggestions.

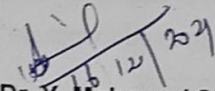
SIGNATURE OF THE MEMBERS OF 16th MEETING OF BOARD OF STUDIES

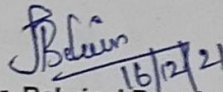

Dr. V. Jagadeesh Kumar
Expert Member

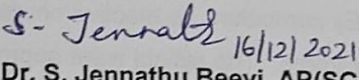

Mr. M. Balasubramaniam
Expert Member

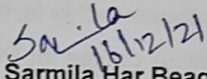

Dr. R. Jayashree 16/12/2021
Chairman - BoS / EEE

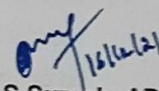

Dr. D. Najumissa Jamal
Dean (SECS)

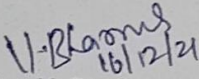

Dr. Y. Mohamed Shuaib
Associate Professor
Internal member

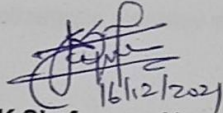

Dr. Belwin J Brearley,
AP(SG)
Internal member

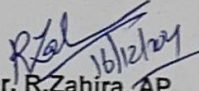

Dr. S. Jennathu Beevi, AP(SG)
Internal member


Dr. K. Sarmila Har Beagam, AP
Internal member


Mr. S. Suresh, AP
Internal member


Mrs. V. Bharanigha, AP
Internal member


Dr. K. Shafeeque Ahmed, AP
Internal member


Dr. R. Zahira, AP
Internal member