ACADEMIC YEAR 2019-20

Analysis on Feedback from Employees: Action Taken Report

Date: 04.12.2020

I. Feedback received through Institution website and Feedback received from faculty members through department level faculty meetings was collected during the academic year 2019-20 and were thoroughly analysed.

II.   The important points taken for further action taken are:

A1: Starting of new programmes based on industry need.

A2: Facilitating more MOOC courses / compulsory industry internship / enrolment in value added courses etc. in the M.Tech. Regulations.

A3: Revision in curriculum & syllabi considering the industry trend and emerging areas.

A4: Introduction of new courses in the curriculum of minor degree to increase employability.

III.   Action Taken

➢ A1 was considered as agenda item 15.1.4 of 15th meeting of Academic Council held on 25.06.20 (Page no. 14 of 15th minutes of the meeting)

➢ A2 was considered as agenda item 15.2.8 of 15th meeting of Academic Council held on 25.06.20 (Page no. 31 of 15th minutes of the meeting) with respect to increasing percentage of credit transfer in courses upto 20% in every semester (except project semester) as per AICTE guidelines.

➢ A3 was considered as agenda item 15.13.5, 15.14.1, 15.16.2, 15.17.2 15.18.1, 15.25.1 of 15th meeting of Academic Council held on 25.06.20 (Page no. 59, 60,65 , 68 , 69 and 81 of 15th minutes of the meeting)

➢ A4 was considered as agenda item 15.10.3,15.14.3,15.15.1, 15.16.4 of 15th meeting of Academic Council held on 25.06.20 (Page no. 52, 61,62 and 66 of 15th minutes of the meeting) with respect to introduction of new courses under 13 minor degree programmes offered by the institution from the academic year 2020-21.

Annexure :   Highlighted pages of Minutes of 15th Academic Council meeting minutes.

04/12/2020

Dean, Academic Affairs

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Vandalur, Chennai - 600 048, India

The perspective plan 2020-30 was already deliberated in the 7th meeting of Planning and Monitoring Board held on 10.03.2020 and 16th meeting of Board of Management held on 04.06.2020 and was endorsed.

The Perspective Plan of the Institution is enclosed in **Annexure 15.1.3.**

The Academic Council may consider and note the same.

Discussion:

Prof. C. Thangamuthu suggested that the future expansion of branch campuses in proposed locations can be included in the Perspective plan.

Resolution:

The agenda item was noted and approved.

Item 15.1.4

To consider and note the introduction of new programmes to be offered from the academic year 2020-21.

Note on Agenda:

In order to meet the changing industry demand, the following Under Graduate Programmes in emerging areas are to be introduced from the academic year 2020-21:

1. B.Tech. Artificial Intelligence and Data Science
2. B.Tech. CSE (Cyber Security)
3. B.Tech. CSE (Internet of Things)

In order to cater to the needs of the student community, industry and society the following Post Graduate programmes are to be introduced from the academic year 2020-21:

1. MBA (Strategy) *
2. M.Com.

* Awaiting approval from AICTE

Note : MCA (Two year programme) is offered from the academic year 2020-21 in lieu of MCA (3 year programmes) as per the guidelines of AICTE.

The Academic Council may consider and note the same.

Discussion:

Dr. B. Suresh appreciated the introduction of the new programme MBA (Strategy) considering the significance and also mentioned it as a unique programme not offered in many institutions. He expressed his concern about offering new UG

programmes in different nomenclatures such as B.Tech. Artificial Intelligence and Data Science, by citing patronage from the industry in future.

Dr. V. Jagadeesh Kumar also expressed his view on the difficulties faced by the students in the job market due to pursuing of programmes with different nomenclatures.

Resolution:

After discussions, the agenda item was noted and approved.

Item 15.1.5

To consider and note the closure of the two year PGDM Programme from the Academic Year 2020-21; and withdrawal of the programmes viz. BBA Entrepreneurship & Family Business and M.Tech. Communication Systems for the academic year 2020 – 21.

Note on Agenda:

Due to the poor patronage of students, the programmes viz., BBA Entrepreneurship & Family Business and M.Tech. Communication Systems were not offered for the year Academic Year 2020 – 21.

The Programme PGDM was closed from the Academic Year 2020-21 following the guidelines of AICTE.

The Academic Council may consider and note the same.

Discussion:

Prof. C. Thangamuthu suggested that the starting of elite programmes in the disciplines viz., Biomedical, Dental, Medical can be explored to expand the multi disciplinary facets of the institution. He emphasized starting of new programmes in arts and science which are not coming under the ambit of AICTE.

He also suggested the need for bolstering the Basic Science departments to increase publication and consultancy.

Resolution:

After discussions, the agenda item was noted and approved.

Item 15.1.6

To consider and note the establishment of various centres in the Institution.

Note on Agenda:

Item 15.2.8

To consider and approve the amendment in Clause 18.2 of B.Tech Regulations 2017, Clause 18.3 of B. Tech. Regulations 2013, Clause 3.4 of M.Tech. / MCA / M.Sc. Regulations, 2019, Clause 13.6 of M.Tech. / MCA / M.Sc. Regulations, 2016 and Clause of 17.2 of B.Des. Regulations 2017.

Note on Agenda:

The AICTE mandates (Letter from Chairman, AICTE dated 15.05.2020) that the students shall be facilitated to undergo online courses through SWAYAM platform and can apply for credit transfer up to 20 % of credits of courses offered in a semester.

This necessitated amendment to the existing Clause 18.2 of B.Tech Regulations 2017, Clause18.3. of B.Tech. Regulations 2013, Clause 3.4 of M.Tech. / MCA / M.Sc. Regulations, 2019, Clause 13.6 of M.Tech. / MCA / M.Sc. Regulations, 2016 and Clause of 17.2 of B.Des. Regulations 2017.

The amendments to the above clauses are presented in the **Annexure 15.2.8.**

The Academic Council may consider and approve the same.

Discussion:

Prof. C. Thangamuthu remarked that courses offered through other online platforms on cutting edge areas can also be considered in addition to courses offered by SWAYAM platform.

Resolution:

After deliberations the agenda item was approved.

Item 15.2.9

To consider and approve the inclusion of the Clause 24 in the B.Tech. Regulations 2017 with respect to Minor Degree programmes offered by the Institution.

Note on Agenda:

- ❖ Introduction of minor degree programmes across engineering disciplines necessitates inclusion of new clause in the B.Tech Regulations, 2017.
- ❖ The minor degree programme facilitates students of a particular branch of study to earn a minor degree offered by other departments by following the well defined prerequisite conditions proposed by the Institution.
- ❖ This new clause 24 in B.Tech. Regulations 2017 is given in the **Annexure 15.2.9**

The Academic Council may consider and approve the same.

Discussion:

Prof. C. Thangamuthu suggested offering of minor degree courses for students of all streams including arts and science programmes.

Dr. B. Suresh expressed that the curriculum for minor degree programmes shall be designed to enable students to appreciate the knowledge and fulfill the objective of undergoing the programme. He also suggested exploring the possibility of offering dual degree programme in Engineering discipline.

Resolution:

After deliberations the agenda item was approved.

Item 15.2.10

To consider and approve the amendment to the clause 11.1 of MBA Regulations 2018.

Note on Agenda:

- ❖ As per clause 11.1 of MBA Regulations 2018, the students were given a maximum relaxation up to 20% in attendance for genuine reasons like absence due to medical grounds, representing the Institution in approved events etc.

- ❖ It is proposed to give a maximum relaxation up to 25% in attendance for valid reasons in line with all the other programmes offered under different regulations of the Institution.

This necessitates amendment to the clause 11.1 of MBA Regulations 2018 and is given in the **Annexure 15.2.10**.

The Academic Council may consider and approve the same.

Resolution:

After deliberations the agenda item was approved.

Item 15.2.11

To consider and approve the amendment to the clause 11 of BBA LLB (Hons.) R 2017, B.Com LLB (Hons.) R 2017, BBA LLB (Hons.) R 2019 and BA LLB (Hons.) under Regulations 2019.

Note on Agenda:

- ❖ The clause 11 of BBA LLB (Hons.) R 2017, B.Com LLB (Hons.) R 2017, BBA LLB (Hons.) R 2019 and BA LLB (Hons.) under Regulations 2019 emphasized

Resolution:

The agenda item was approved after deliberations.

<mark>**Item 15.10.3**</mark>

<mark>**To consider and approve the curriculum and syllabi of minor degree programmes viz., Sensor Technology, Data Science, Augmented Reality & Virtual Reality, Cyber security, Artificial Intelligence and Machine Learning and Block Chain Technology under B.Tech. Regulations 2017.**</mark>

Note on Agenda:

The department of Computer Science and Engineering is proposed to offer the following six minor degree programmes from the academic year 2020 -21

1. Sensor Technology
2. Data Science
3. Augmented Reality and Virtual Reality
4. Cyber security
5. Artificial Intelligence and Machine Learning
6. Block Chain Technology

The following new courses were introduced under these programmes:

Sensor Technology

- Introduction to sensors
- Smart Sensors and Internet of Things
- IoT and Sensor Networks
- Sensor Technology using Python
- Advanced Sensor Technologies
- Sensor Circuit Design (Project)

Data Science

- Data Mining and Analysis
- Data Mining Lab
- R Programming
- Model Training
- Data Science with Python
- Machine Learning Techniques

Augmented Reality and Virtual Reality

- Introduction to Augmented Reality and Virtual Reality

- Environment Modeling and Interaction Techniques

- User Experience (UX) Design for VR

- AR & VR – LAB

- Game Development using AR/VR

- Game Development using AR/VR - Lab

Cyber security

- Security in Computing

- Ethical Hacking

- Foundation to Cyber Security

- Linux Programming Lab

- Cyber Forensics

- Programming in Python

Artificial Intelligence and Machine Learning

- Artificial Neural Networks

- Pattern Recognition

- Machine Learning Techniques

- Introduction to Artificial Intelligence

- Python Programming

Block Chain Technology

- Information Security and Cryptography

- Introduction to Blockchain

- Python Programming in Blockchain

- Distributed Computing & Ledger Technologies

- Blockchain Development with Corda

The curricula and syllabi of the minor degree programmes were discussed in the Board of Studies of the Department of Computer Science and Engineering and the board has recommended the same for approval.

The curricula and the detailed syllabi of the minor degree programmes viz., Sensor Technology, Data Science, Augmented Reality & Virtual Reality, Cyber security, Artificial Intelligence and Machine Learning and Block Chain Technology under B.Tech. Regulations 2017 are given in **Annexure 15.10.3.**

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Most automobile companies have decided to switch to electric, a cleaner, and sustainable alternative. Due to migration of automobile sector towards electric and hybrid vehicles, the industry is facing a shortage of talented and skilled engineers with knowledge in e-mobility. To fill the gap, it is proposed to offer minor degree programme on "Electric Vehicles" by the Department of Electrical and Electronics Engineering for other Engineering branch students.

The following courses are newly introduced as a part of the curriculum

- Fundamental of Electric and Hybrid Vehicles
- Energy devices for electric vehicles
- Electrical & Electronics for Automotive system
- Automotive transmission & communication
- HEV / xEV Motor drives and controllers
- Electric Mobility Laboratory

The Board of Studies of the Department of Electrical and Electronics Engineering has recommended the same for approval.

These courses will be offered from the Academic Year 2020-21 onwards.

The curriculum and detailed syllabi of the courses are given in **Annexure 15.13.4**

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.13.5

To consider and approve the inclusion of elective courses in B.Tech. Electrical and Electronics Engineering under Regulations 2017.

Note on Agenda:

As per the feedback of faculty members and students, the following elective courses were included in the B.Tech. Electrical and Electronics Engineering, Regulations 2017.

- GECX 220   Electric Vehicles
- GECX221   Artificial Intelligence and Evolutionary Computing using MATLAB

These revisions were discussed in the Board of Studies of the Department of Electrical and Electronics Engineering and the board has recommended the same for approval. These courses will be offered from the Academic Year 2020-21onwards.

The syllabi of the elective courses are given in the **Annexure 15.13.5**

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Item 15.14

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

Item 15.14.1

To consider and approve the revision in professional elective streams and courses of B.Tech. Electronics and Communication Engineering, under Regulations 2017.

Note on Agenda:

The existing curriculum of B.Tech. Electronics and Communication Engineering has the following stream of electives

- RF and Communication Stream;
- Signal Processing Stream;
- VLSI & Embedded System Stream.

To fulfill the technology advancements the professional electives were suggested to be revised in the following streams:

- ❖ RF Communication and Signal Processing
- ❖ VLSI and Embedded Systems
- ❖ Artificial Intelligence and Robotics

The following new courses were introduced as per the suggestions of Industry personnel, employer and alumni:

- ECCX23 Data Science
- ECCX24 Machine Learning
- ECCX25 Robotics and its applications
- ECCX27 Deep Learning
- ECCX28 Augmented Reality and Virtual Reality
- ECCX35 GPU Architecture and Programming
- ECCX55 Artificial Intelligence for Robotics
- ECCX39 Robotics and Autonomous systems

The syllabi of the courses were discussed in the Board of Studies of the Department of Electronics and Communication Engineering and the board has recommended the same for approval.

These courses will be offered from the Academic Year 2020-21 onwards.

The syllabi of the newly introduced elective courses are given in **Annexure 15.14.1.**

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.14.2

To consider and ratify the revised syllabi of course ECCX 05 Image processing and ECCX 40 IC Technology for B.Tech ECE, Regulations 2017.

Note on Agenda:

The syllabus of the course "ECCX 05 Image processing" was revised as per the suggestions of Alumni, Mr.Abinesh B.Tech, ECE, (2014-2018) and as a result of feedback given by Mr.E.Manikandan, Assistant professor, ECE, the syllabus of the course "ECCX 40 IC Technology" was revised.

These revisions were discussed in the Board of Studies of the Department of Electronics and Communication Engineering and the board has recommended the same for approval.

These courses will be offered from the Academic Year 2019-20 onwards.

The syllabi of the courses are given in **Annexure 15.14.2**

The Academic Council may consider and ratify the same.

Resolution:

The agenda item was ratified after deliberations.

Item 15.14.3

To consider and approve the Curriculum and Syllabi of minor degree Programme "Internet of Things" offered by Electronics and Communication Engineering department under Regulations 2017.

Note on Agenda:

This digital era has the popularity of a system with interrelated computing devices, mechanical and digital machines provided with unique identifiers which needs

the deeper knowledge in "Internet of Things". This necessitates offering of minor degree in "Internet of Things" for all the disciplines of engineering.

As per the suggestions of Industry personnel, the following courses were newly introduced

- Embedded System for IoT
- IoT Fundamentals and Security
- C and JAVA Programming for IoT
- IoT Applications
- Artificial Intelligence for IoT
- Industrial IoT

The curriculum and syllabi were discussed in the Board of Studies of the Department of Electronics and Communication Engineering and the board has recommended the same for approval.

This programme will be offered from the Academic Year 2020-21 onwards.

The curriculum and detailed syllabi of minor degree Programme "Internet of Things" are given in **Annexure 15.14.3**.

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING

Item 15.15

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

Item 15.15.1

To consider and approve the curriculum and syllabi of minor degree Programme "Industrial Automation" offered by Department of Electronics and Instrumentation Engineering under B.Tech. Regulations 2017.

Note on Agenda:

The industrial world is facing many technological changes which has increased the urgent demand for the premium quality products and services that can only be supplied by a high level of productivity. This requirement needs process engineering systems, automated manufacturing, and industrial automation. Industrial Automation is moving towards exceptional productivity spurred by superior energy efficiency, rigorous

safety standards, and better design. SCADA, DCS, Process Instruments etc have made automation more reliable and powerful.

Hence the minor degree programme on **Industrial Automation** will help the other disciplines of engineering other than Electronics and Instrumentation to acquire more knowledge in Industrial Automation

As per the suggestions of expert members the following courses were introduced

- Sensors and Transducers
- Control system
- PLC and SCADA
- DCS and Computer Networks
- Piping and Plant Engineering

The curriculum and syllabi were discussed in the Board of Studies of the Department of Electronics and Instrumentation Engineering and the board has recommended the same for approval.

This programme will be offered from the Academic Year 2020-21 onwards.

The curriculum and detailed syllabi of minor degree Programme "Industrial Automation" are given in **Annexure 15.15.1.**

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.15.2

To consider and ratify the revision in curriculum and syllabi of B.Tech. Electronics and Instrumentation, under Regulations 2017

Note on Agenda:

As per the suggestion of faculty members and students, the lab integrated course EIC2211 Thermodynamics and Fluid Mechanics is modified as theory course EIC2216 with 3 credits.

The revised syllabus of the course is given in **Annexure 15.15.2**

The Academic Council may consider and ratify the same with effect from the Academic Year 2019-20.

Resolution:

The agenda item was ratified after deliberations**.**

- The title of the course "CECX23, Construction chemicals for repair works" is revised as "CECX23 Construction Chemicals for Civil Engineering.
- The course CEC 2101 Mechanics of Solids is revised with addition of an experiment on Glass material.

These revisions were discussed in the Board of Studies of the Department of Civil Engineering and the board has recommended the same for approval.

These revisions are to be implemented from the Academic Year 2020-21 onwards.

The revised curriculum and the detailed syllabi of the courses are given in **Annexure 15.16.1.**

The Academic council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.16.2

To consider and approve the inclusion of elective courses in the curriculum of M.Tech. Structural Engineering under Regulations 2019.

Note on Agenda:

The following elective courses on sustainability are to be included in the curriculum of M.Tech. Structural Engineering under Regulations 2019 to cater to the needs of the industry.

- CEDY 232 Energy Efficient Structures
- CEDY 233 Green Concepts in Building Environment

These revisions were discussed in the Board of Studies of the Department of Civil Engineering and the board has recommended the same for approval.

These revisions are to be implemented from the Academic Year 2020-21 onwards.

The revised curriculum and the detailed syllabi of the courses are given in **Annexure 15.16.2.**

The Academic council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.16.3

To consider and approve the revision in curriculum and syllabi of M.Tech. Construction Engineering and Project Management under Regulations 2019.

Note on Agenda:

To cater to the needs of the industry, and as per the suggestions of industry personnel, the following changes were made:

- CED6224.Construction Equipment Management course is introduced as a core course in the second semester with two credits.
- The elective course on CEDY124 Urban Sanitation and Faecal Sludge Management is newly introduced since it's a new technique being adopted in several rural areas.
- The course Building Information Modeling with two credits is changed to one credit course CED 6225.

The board has recommended the same for approval.

These revisions are to be implemented from the Academic Year 2020-21 onwards.

The revised curriculum and the detailed syllabi of the courses are given in **Annexure 15.16.3.**

The Academic council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.16.4

To consider and approve the curriculum and syllabi of the minor degree Programme GIS and Remote Sensing offered by the Department of Civil Engineering under B.Tech. Regulations 2017.

Note on Agenda:

As per the suggestions of faculty members the following courses are newly introduced:

- ☐ Fundamentals of Remote Sensing
- ☐ Satellite Image Processing
- ☐ Geographical Information System
- ☐ Global Navigation Satellite System
- ☐ Application of Remote Sensing and GIS

Resolution:

The agenda item was ratified after deliberations.

Item 15.17.2

To consider and approve the revised syllabi of elective courses of B.Tech. Aeronautical Engineering under Regulations 2017.

Note on Agenda:

Based on the suggestion of faculty members and Industry personnel, the following elective courses were revised:

- ☐ AECX 09 Fatigue and Fracture Mechanics
- ☐ AECX 09 Smart Structures
- ☐ AECX 10 Aircraft Structural testing and Qualification
- ☐ AECX 12 NDT Techniques for Aircraft Structures
- ☐ AECX 24 Aero acoustics
- ☐ AECX 32 Design of Power Plants for Aircraft
- ☐ AECX 35 Product Development and 3D Printing Technologies
- ☐ AECX 36 Advanced Manufacturing Technologies
- ☐ AECX 22 Introduction to CFD

The revisions in these courses were deliberated in the Board of Studies of Department of Aerospace Engineering and the Board recommended the same for approval.

The syllabi will be implemented from the Academic Year 2020-21 onwards.

The revised curriculum and the detailed syllabi are given in **Annexure 15.17.2.**

The Academic Council may consider and approve the same.

Resolution:

The agenda item was approved after deliberations.

Item 15.17.3

To consider and ratify the revision in syllabi of M.Tech. Avionics under Regulations 2019.

The syllabi of courses offered in II semester M.Tech. Avionics were deliberated and revised in the Board of Studies of Department of Aerospace Engineering and the Board recommended the same for approval.

The following courses were revised:

AED 6201 Aerospace Guidance and Control

AED 6202 Navigation Systems

AEDY 106 Fault Tolerant Control

AEDY 111 Soft Computing for Avionics Engineers

AEDY 205 Microwaves and Radar

AEDY 210 Flight Mechanics

The curriculum and the detailed syllabi of the programme are given in **Annexure 15.17.3.**

The Academic Council may consider and ratify the same with effect from the Academic Year 2019-20.

Resolution:

The agenda item was ratified after deliberations.

DEPARTMENT OF AUTOMOBILE ENGINEERING

Item 15.18

To consider and approve the recommendation of the Board of Studies of the Department of Automobile Engineering.

Item 15.18.1

To consider and ratify the revised syllabi of B.Tech., Automobile Engineering under Regulations 2017.

Note on Agenda:

The syllabi of the following courses were revised as per the suggestions of faculty members and experts from Industry:

AUC 2213	Automotive Electrical & Electronics
AUC 2214	Automotive Material & Metallurgy
AUC 2215	Production Process of Automotive Components

These revisions were discussed in the Board of Studies of the Department of Automobile Engineering and the board has recommended the same for approval.

The detailed syllabi are given in **Annexure 15.18.1.**

The Academic Council may consider and ratify the same with effect from Academic Year 2019 -20 onwards.

DEPARTMENT OF MANAGEMENT STUDIES

Item 15.25

To consider and approve the recommendations of the Board of Studies of the Department of Management Studies.

Item 15.25.1

To consider and ratify the syllabi for all elective courses under the new specialization "Business Analytics" in MBA under Regulations 2018.

Note on Agenda:

A new specialization "Business Analytics" is introduced with 4 elective courses :

- MSDY 121 R Programming for Business Research and   Analytics
- MSDY 122 Python   Programming
- MSDY 123 Data Visualization
- MSDY 124 Financial Modelling Using Spreadsheet

The revised curriculum and syllabi of the courses are given in **Annexure 15.25.1.**

The Academic Council may consider and ratify the same with effect from Academic Year 2019-20.

Resolution:

The agenda item was ratified after deliberations.

Item 15.25.2

To consider and approve the syllabi for all new courses in MBA under Regulations 2018 offered to Ph.D. scholars.

Note on Agenda:

The syllabi for following new courses offered to Research Scholars of the department were discussed.

- MSDY 024 Working Capital Management
- GEDY 132 Qualitative Inquiry and Research Design
- GEDY 133 Hospital Operations and Facility Management
- GEDY 134 Patient Care Management
- GEDY 135 Health Care in India: Strategic Perspectives

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The syllabi of the new courses were discussed in the Board of Studies of the Department of Management Studies and the board has recommended for approval. These courses will be offered from the Academic Year 2020-21 onwards.

The syllabi of the above courses are given in **Annexure 15.25.2.**