Minutes of the Meeting of Board of Studies (BoS) of Computer Engineering Department was held using MS Teams online platform at 10.30 AM on August 28th, 2021.

The following members were present:

1. Dr. Alka Mahajan, Dean, MPSTME, NMIMS University, Mumbai.
2. Dr. Surya Durbha, Professor, IIT Bombay.
3. Dr. Jyoti Joglekar, Professor, KJSCOE, Vidya Vihar, Mumbai.
4. Mr. Manoj Sarode, Senior Consultant, Tata Consultancy Services, Mumbai.
5. Dr. Pravin Shrinath, HoD, Computer Engineering Department, MPSTME, Mumbai.
6. Dr. Dhirendra Mishra, Professor, Computer Engineering Department, MPSTME.

Leave of absence was granted to the following member:

1. Dr. M. Sasikumar, Director, CDAC, Navi Mumbai.
2. Dr. Seema Shah, Director, B.Tech. (Integrated) program, MPSTME.

1. The members of BoS confirmed the minutes of meeting of earlier Board of Studies in Computer Engineering held on 24th April 2021.

A. The members of BoS considered and deliberated upon the revision in the curricula of B Tech and MBA Tech in Computer Engineering for the students admitted in academic year 2021-22 onwards. (Encl. I)

- Revision in the course structure from Sem I to VIII.
- Revision in the Teaching and Examination scheme and syllabus of "Data Structures and Algorithms" course of Semester – II, for the batch admitted in academic year 2021-22 onwards. (Encl. II)

Members of BoS approved following changes:

i. Syllabus of "Advanced Data Structures" course of semester – III (Topics on Trees and Graphs) is merged with the syllabus of "Data Structures and Algorithms" course of Semester – II.

Action taken: The suggestions are incorporated in Syllabus of the course of Semester – III of B Tech and MBA Tech Computer Engineering program.

B. The revision in the Course Structure is proposed for the students admitted in academic year 2020-21. (Encl. III)

- The revision in the Teaching & Examination Scheme and Syllabus of following course of semester - IV (Encl. IV)

The members of BoS suggested following changes:

   i.   Web Programming: Introduced topic on introduction to HTML, XML and JSON in Unit 1.

   ii.   Integral Transforms: syllabus of this course was an information item, since it was approved in the BoS of BSH department.

Action taken: The suggestions are incorporated in Syllabus of the course of Semester – IV of B Tech and MBA Tech program.

C. The revision in the Teaching & Examination Scheme and syllabus of Project Phase – II of Semester – VIII for the batch admitted in AY 2018 – 19 onwards. (**Encl. V**)

2. **To consider and deliberate upon the revision in the curricula of B Tech (Computer Science and Business Systems), Semester – VI. They approved the following:**

   A. Revision in the list of "Elective – II" by introducing following new courses with their syllabi for the batch admitted in AY 2019-20 onwards. (**Encl. VI**)

      i.   Modern Day Robotics and Its Industrial Applications

      ii.   Modern Web Applications

3. **To consider and deliberate upon the revision in the curricula of B Tech in Computer Science. They approved the following:**

   A. The revision in the Course Structure is proposed for the batch admitted in academic year 2021-22 onwards. (**Encl. VII**)

4. **To consider and deliberate upon the revision in the curricula of B Tech (Integrated) in Computer Engineering. They approved the following:**

- New Teaching and Examination Scheme and Syllabi of the following courses of semester - IV for the batch admitted in 2020-21 onwards. (**Encl. VIII**)
- Introduced following courses and members of BoS suggested following changes:

   i. **Multimedia and Virtual Reality:**

      1. Change in the title of "Multimedia and Animation" course to "Multimedia and Virtual Reality".

      2. Remove Unit - 2 on "Compression and Decompression" and include Unit on "Introduction to Augmented Reality".

   ii. **System Programming:** Accepted without change.

   iii. **Introduction to Open Source Software:**

      1. Change in the title of "Free and Open Source Softwares" course to "Introduction to Open Source Software"

      2. Remove a topic on "Python programming" from Unit 3, it was introduced as Programming Tools and Techniques.

Action taken: The suggestions are incorporated in Syllabus of the courses of Semester – IV of B Tech (Integrated) Computer Engineering program.

5. **To consider and deliberate upon the revision in the curricula of Master of Computer Application (MCA). They approved the following:**

A. The revision in the "Teaching and Examination Scheme" is proposed for the students admitted in academic year 2020-21 onwards. **(Encl. IX)**

   i. Change in the nomenclature of "Industry Internship and Project" course, to "Major Project", Semester – IV.

Dean, MPSTME
Chairperson, Board of Studies

Agenda Item No. 2

Mukesh Patel School of Technology Management & Engineering

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

  a) Introduction in the curricula of B Tech (Computer Engineering) and MBA Tech (Computer Engineering) for the students admitted in academic year 2021-22 onwards.
  - Introduction of Syllabus of 'Data Cleaning and Loading' course of Semester III.
  - The syllabi of subject 'Probability and Statistics' of Semester III are same as the preapproved of BSH Department.

  b) Introduction of Teaching and Examination Scheme and Syllabi of Semester III and IV of B. Tech (Computer Science) for the students admitted in academic year 2021-22 onwards.

  c) Introduction of Teaching and Examination Scheme and Syllabi of Semester VII and VIII of B. Tech CSBS for the students admitted in academic year 2019-20 onwards.

  d) Revision of Teaching and Examination Scheme and Syllabi of Semester IX and X of B Tech Integrated (Computer Engineering) for the students admitted in academic year 2018-19 and 2019-20.

  e) Revision of Teaching and Examination Scheme and Syllabi of Semester V and VI of B Tech Integrated (Computer Engineering) for the students admitted in academic year 2020-21 onwards.

B. To consider and approve the recommendation of Board of Studies of Department of Artificial Intelligence

  a) Revision in the curricula of B Tech (Artificial Intelligence), MBA Tech (Artificial Intelligence) and B Tech (Artificial Intelligence and Machine Learning) for the batch admitted in academic year 2021-22 onwards and direct second year students admitted in the academic year 2022-23 onwards.
  - Revision in Course structure.
  - Introduction of following coursers in Semester III
    1. Fundamentals of Database Systems
    2. Programming for AI - only for B Tech and MBA Tech (Artificial Intelligence)
    3. Computer Architecture - only for B Tech and MBA Tech (Artificial Intelligence)
    4. Programming Language - only for B Tech (Artificial Intelligence and Machine Learning)

  b) Introduction of Teaching and Examination Scheme of Semester IV of MBA Tech (Artificial Intelligence) and B Tech (Artificial Intelligence and Machine

Learning) for the batch admitted in academic year 2021-22 onwards and direct second year students admitted in the academic year 2022-23 onwards. The syllabi of all the courses are same as the preapproved of B Tech (Artificial Intelligence) programme.

C. To consider and approve the recommendation of Board of Studies of Department of Electronics and Telecommunication Engineering
   a) Revision in the curricula of B Tech Integrated (Electronics and Telecommunication Engineering) for the batch admitted in academic year 2018-19 onwards.
      - Introduction of following coursers in Semester IX and X
        1. Sensors, Semester IX
        2. Embedded Systems, Semester IX
        3. IoT System Architecture, Semester IX
        4. Principles of Cryptography, Semester IX
        5. Wireless Security, Semester IX
        6. Mobile and Ad-Hoc Network, Semester IX
        7. IoT Communication Technology, Semester X
        8. Artificial Intelligence and Machine Learning, Semester X
        9. Cloud Computing, Semester X
        10. Software Security, Semester X
        11. Mobile Computing Security, Semester X

      - Revision in the syllabus of following courses
        1. Sensors, Semester IX
        2. IoT System Architecture, Semester IX
        3. IoT Communication Technology, Semester X

      - Change in name of the course, "Software Protection" to "Software Security" in semester X.

D. To consider and approve the recommendation of Board of Studies of Department of Mechanical Engineering
   a. Revision in the syllabus of the course "Additive Manufacturing" in Semester X of B Tech Integrated (Mechanical Engineering) for the batch admitted in academic year 2017-18.

Mukesh Patel School of Technology Management & Engineering

Discussion Agenda Items 53rd Academic Council Meeting

A. To consider and approve the recommendation of Board of Studies of Department of **Computer Engineering**

   a. Introduction in the curricula of B Tech (Computer Engineering) and MBA Tech (Computer Engineering) for the students admitted in academic year 2021-22 onwards.
      - Introduction of Syllabus of 'Data Cleaning and Loading' course of Semester III.
      - The syllabi of subject 'Probability and Statistics' of Semester III are same as the preapproved of BSH Department.
   b. Introduction of Teaching and Examination Scheme and Syllabi of Semester III and IV of B. Tech (Computer Science) for the students admitted in academic year 2021-22 onwards.
   c. Introduction of Teaching and Examination Scheme and Syllabi of Semester VII and VIII of B. Tech CSBS for the students admitted in academic year 2019-20 onwards.
   d. Revision of Teaching and Examination Scheme and Syllabi of Semester IX and X of B Tech Integrated (Computer Engineering) for the students admitted in academic year 2018-19 and 2019-20.
   e. Revision of Teaching and Examination Scheme and Syllabi of Semester V and VI of B Tech Integrated (Computer Engineering) for the students admitted in academic year 2020-21 onwards.

B. To consider and approve the recommendation of Board of Studies of Department of **Artificial Intelligence**

   a. Revision in the curricula of B Tech (Artificial Intelligence), MBA Tech (Artificial Intelligence) and B Tech (Artificial Intelligence and Machine Learning) for the batch admitted in academic year 2021-22 onwards and direct second year students admitted in the academic year 2022-23 onwards.
      - Revision in Course structure.
      - Introduction of following coursers in Semester III
        1. Fundamentals of Database Systems
        2. Programming for AI - only for B Tech and MBA Tech (Artificial Intelligence)
        3. Computer Architecture - only for B Tech and MBA Tech (Artificial Intelligence)
        4. Programming Language - only for B Tech (Artificial Intelligence and Machine Learning)
   b. Introduction of Teaching and Examination Scheme of Semester IV of MBA Tech (Artificial Intelligence) and B Tech (Artificial Intelligence and Machine Learning) for the batch admitted in academic year 2021-22 onwards and direct second year students admitted in the academic year 2022-23 onwards. The syllabi of all the courses are same as the preapproved of B Tech (Artificial Intelligence) programme.

C. To consider and approve the recommendation of Board of Studies of Department of **Electronics and Telecommunication Engineering**

a. Revision in the curricula of B Tech Integrated (Electronics and Telecommunication Engineering) for the batch admitted in academic year 2018-19 onwards.

- Introduction of following coursers in Semester IX and X
    1. Sensors, Semester IX
    2. Embedded Systems, Semester IX
    3. IoT System Architecture, Semester IX
    4. Principles of Cryptography, Semester IX
    5. Wireless Security, Semester IX
    6. Mobile and Ad-Hoc Network, Semester IX
    7. IoT Communication Technology, Semester X
    8. Artificial Intelligence and Machine Learning, Semester X
    9. Cloud Computing, Semester X
    10. Software Security, Semester X
    11. Mobile Computing Security, Semester X

- Revision in the syllabus of following courses

    1. Sensors, Semester IX
    2. IoT System Architecture, Semester IX
    3. IoT Communication Technology, Semester X

- Change in name of the course, "Software Protection" to "Software Security" in semester X.

D. To consider and approve the recommendation of Board of Studies of Department of **Mechanical Engineering**

a. Revision in the syllabus of the course "Additive Manufacturing" in Semester X of B Tech Integrated (Mechanical Engineering) for the batch admitted in academic year 2017-18.

18·1. 2022

Dean, MPSTME

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Computer Engineering Department

Minutes of the Meeting of Board of Studies (BoS) of Computer Engineering Department was held using MS Teams online platform at 10.00 AM on 23rd April 2022.
The following members were present:

1. Mr. Jayant Dani, Chief Architect: CCIL, NGM INDIA, TCS
2. Mr. Amit Moondra, Alumni, Technical Lead (Jan 2020 - Present) - Equity Data Science IPL)
3. Dr. Seema Shah, HoD, Computer Engineering Department, MPSTME
4. Dr. Kamal Mehta, Associate Dean, Professor, Computer Engineering Department, MPSTME, Shirpur
5. Dr. Pravin Shrinath, Associate Professor, Computer Engineering Department, MPSTME, Mumbai

Leave of absence is granted to the following members:

1. Dr. Alka Mahajan, Dean, MPSTME, Mumbai.
2. Dr. Uday Khedker, Professor, Department of CSE, IIT Bombay
3. Dr. Aaquil Bunglowala, Associate Dean, STME, Indore

Item 1: The members confirmed the minutes of the earlier meeting held on November 27, 2021

Item 2: The members considered and deliberated upon the revision in the curricula of B Tech & MBA Tech Program in Computer Engineering. They approved the following:

A. Minor revision of Curricula of B Tech and MBA Tech in Computer Engineering by way of:
   I. a) The course structure of B Tech Computer Engineering and MBA Tech Computer Engineering for the students admitted in AY 2022-23 and direct second year students admitted in AY 2023-24 onwards (Encl. - Ia)
   - Renaming the course "Data Cleaning and Loading" to "Data Extraction and Processing" in Semester III
   - Introducing the course "Python Programming" in Semester III
   - Introduction of course 'Employability Skills' in semester VI
   - Renaming the course "Minor Project" to "Capstone Project" with increase in credits from 2 to 4 in B Tech Semester VII
   - Renaming the course "Major Project" to "Project based Internship" with reduction in credits from 12 to 10 in B Tech Semester VIII
   - Merging the course "Project I" and "Project II" to "Major Project" in MBA Tech Semester VIII
   - Increasing the credits to 4 for "Technical Internship" in MBA Tech Semester VII

   b) Minor revision of Teaching and Examination Schemes and Syllabi of Semester I & II for B Tech Computer Engineering and MBA Tech Computer Engineering for the students admitted in AY 2022-23 onwards (Encl. - II)
   - Increasing the practical hours from 2 to 4 and credits from 3 to 4 for the course on "Programming for Problem Solving" in Semester I. Syllabus will be common with B Tech and MBA Tech (All programs except CSBS, CSDS)
   - Increasing the theory hours from 2 to 3 and the credits from 3 to 4 for the course on "Data Structures and Algorithms" in Semester II. Syllabus will be common with B Tech and MBA Tech All programs except B Tech Civil, Mechanical and CSDS.
   - Introduction of the course "Digital Manufacturing Laboratory" and "Electrical and Electronics Workshop" in place of "Workshop Practice" in Semester II for B Tech

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Computer Engineering and Semester I for MBA Tech Computer Engineering. Syllabus is approved in BoS of Mechanical & EXTC department

- Splitting the course of "English Communication" for B. Tech Computer Engineering and MBA Tech Computer Engineering into three courses of 1 credit each. Syllabus is approved in BoS of BSH department
  - i. "English Communication" in MBA Tech Semester I and B Tech Semester II.
  - ii. "Technical Communication" in Semester III
  - iii. "Employability Skills" in Semester VI
- Shifting the course "Environmental Science" from Semester III to I for B. Tech and MBA Tech Computer Engineering and syllabus is already approved by Civil department.

II. a) Revision in the course structure of B Tech Computer Engineering and MBA Tech Computer Engineering for the students admitted in AY 2021-22 and direct second year students admitted in AY 2022-23 (Encl. - Ib)
- Introduction of course 'Employability Skills' in semester VI
- Renaming the course "Minor Project" to "Capstone Project" with increase in credits from 2 to 4 in B Tech Semester VII
- Renaming the course "Major Project" to "Project based Internship" with reduction in credits from 12 to 10 in B Tech Semester VIII
- Merging the course "Project I" and "Project II" to "Major Project" in MBA Tech Semester VIII
- Increasing the credits to 5 for "Technical Internship" in MBA Tech Semester VII

b) Minor revision in the teaching and examination scheme and syllabi of semester III for B Tech Computer Engineering and MBA Tech Computer Engineering for the students admitted in AY 2021-22 and direct second year students admitted in AY 2022-23. (Encl. - III)
- Revision in syllabus of "Database Management Systems" (Syllabus is approved in BoS of B Tech AI)
- Revision in syllabus of "Computer Networks" (Syllabus is approved in BoS of B Tech AI)
- Revision in syllabus of "Digital Logic Design" (Syllabus is approved in BoS of B Tech EXTC)
- Introduction of course "Python Programming" (Syllabus is approved in BoS of B Tech AI)
- Renaming the course "Data Cleaning and Loading" to "Data Extraction and Processing"

c) The revision in the syllabus of "Computer Organization and Architecture" for Semester IV of B Tech Computer Engineering and MBA Tech Computer Engineering. Syllabus will be common with B Tech and MBA Tech IT Semester III. (Encl. - IV)

III. a) Revision in the course structure of B Tech Computer Engineering and MBA Tech Computer Engineering for the students admitted in AY 2020-21 and direct second year students admitted in AY 2021-22 (Encl. - Ic)
- Renaming the course "Minor Project" to "Capstone Project" with increase in credits from 2 to 4 in B Tech Semester VII
- Renaming the course "Major Project" to "Project based Internship" with reduction in credits from 12 to 10 in B Tech Semester VIII

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- Merging the course "Project I" and "Project II" to "Major Project" in MBA Tech Semester VIII
- Increasing the credits to 4 for "Technical Internship" in MBA Tech Semester VII

b) Revision in Teaching & Examination Scheme and Syllabi for **Semester V of B Tech and MBA Tech in Computer Engineering** for the students admitted in AY 2020-21 onwards by way of: (Encl. - V)

- Revision in syllabus of the course "Software Engineering" (Syllabus is approved in BoS of B Tech IT)
- Revision in the syllabus of the course "Artificial Intelligence"
- Introduce a new course "Image and Video Processing" (Syllabus is approved in BoS of B Tech EXTC)
- Renaming the course "Operating System" to "Operating Systems" and revision in the syllabus [This course is common with B Tech and MBA Tech AI Semester III, B Tech Artificial Intelligence and Data Science Semester III and B Tech Artificial Intelligence and Machine Learning Semester III]
- Revision in the syllabus of the course "Advanced Web Programming" (Department Elective -I)
- Revision in syllabus of the course "Mobile Application Development" (Department Elective -I) (Syllabus is approved in BoS of B Tech AI)
- Renaming the course "Operation Research" to "Operations Research" and revision in the syllabus (Department Elective -I)

c) Renaming of the course "Human Computer Interface" to "Human Computer Interaction" and revision in the syllabus for **Semester VI of B Tech Computer Engineering and MBA Tech Computer Engineering**. Syllabus will be common with B Tech and MBA Tech IT Semester V. **(Encl. - VI)**

d) Introduction of Teaching and Examination Scheme and Syllabi of open elective courses offered by the Department of Computer Engineering for Semester V and VI. This will be applicable for the students of B Tech and MBA Tech programs except B Tech CSBS and B Tech CSE (DS) admitted in AY 2020-21 and direct second year students admitted in AY 2021-22 onwards. **(Encl.- VII)**

i. Introduction to Blockchain (Except B Tech & MBA Tech IT, CE, DS, AI and B Tech Cyber Security)
ii. Introduction to Virtual Reality and Augmented Reality

B. Minor revision of Curricula of B Tech Integrated (Computer Engineering) by way of:

I. The course structure of B Tech Integrated (Computer Engineering) for the students admitted in AY 2021-22 onwards **(Encl. - Id)**

II. Minor revision in the Teaching and Examination Scheme of Semester III and syllabi of following new courses of **B Tech Integrated Computer Engineering** for the students admitted in AY 2021-22 **(Encl.- VIII)**

- Introduce a new course "C Programming "
- Introduce a new course "Computer Hardware and Maintenance "

III. The course structure of B Tech Integrated (Computer Engineering) for the students admitted in AY 2020-21. **(Encl. - Id)**

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Minor revision in the Teaching and Examination Scheme of Semester V and syllabi of following new courses **of B Tech Integrated Computer Engineering** for the students admitted in AY 2020-21. **(Encl.- IX)**

- Introducing the course "Object Oriented Programming using C ++" in place of "Programming for Problem Solving". The syllabus is common with B Tech Integrated Mechanical Engineering.

IV. The course structure of B Tech Integrated (Computer Engineering) for the students admitted in AY 2018-19 onwards **(Encl. - Id)**

Introduction of Open Elective courses in the Teaching and Examination Scheme and syllabi in **Semester IX of B Tech Integrated Computer Engineering** for the students admitted in AY 2018-19 onwards, they approved the following: **(Encl.- X)**

- Film Appreciation (Syllabus is already approved in BoS of BSH department)
- Technical Writing (Syllabus is approved in BoS of BSH department)
- Contemporary Short Fiction (Syllabus is approved in BoS of BSH department)
- German (Syllabus is approved in BoS of BSH department)

C. Minor revision of Curricula of B Tech Computer Science by way of:
I. a) The course structure of B Tech Computer Science for the students admitted in AY 2022-23 and direct second year students admitted in AY 2023-24 onwards **(Encl. - Ie)**

- Renaming the course "Introduction to Python Programming" to "Python Programming" with reduction in credits from 2 to 1 and shifted from Semester IV to Semester III
- Renaming the course "Database Management System & Information Retrieval" to "Database Management Systems" in Semester-III
- Introduction of the course "Data Extraction and Processing" in place of "Object Oriented Programming" in Semester III
- Introduction of the course "Technical Communication" in Semester III
- Introduction of Complex Variables and Transforms in place of "Integral Transform" with increase in credit from 3 to 4 in semester IV.
- Renaming the course "Image Processing" to "Image and Video Processing" with increase in credit from 3 to 4 in semester V.
- Introduction of the course "Cyber Security" in place of "Internet and Network Security" in Semester VI
- Introduction of the course "Machine Learning" in place of "Data Mining" in Semester VI
- Introduction of the course "Employability Skills" in Semester VI
- Renaming the course "Data Center and Cloud Computing" to "Cloud Computing" in semester VII.
- Renaming the course "Minor Project" to "Capstone Project" with increase in credits from 2 to 4 in Semester VII.
- Renaming the course "Major Project" to "Project Based Internship" with reduction in credits from 12 to 10 in Semester VIII

b) Minor revision of Teaching and Examination Schemes and Syllabi of **Semester I & II for B Tech Computer Science** for the students admitted in AY 2022-23 onwards **(Encl.- XI)**

- Shuffling of courses, removing of courses and introduction of courses in line with B Tech Computer Engineering program

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II. a) Revision in the Course Structure for the students admitted in AY 2021-22 onwards and direct second year students admitted in AY 2022-23 onwards: (Encl. - **If**)
- Introduction of new courses in line with B Tech (Computer Engineering)
  - ➢ Complex Variables and Transforms in Semester-IV
  - ➢ Image and Video Processing in Semester-V
  - ➢ Cyber Security in Semester-VI
  - ➢ Machine Learning in Semester-VI
  - ➢ Employability Skills in Semester-VI
  - ➢ Cloud Computing in Semester-VII
- Renaming the course "Minor Project" to "Capstone Project" with increase in credits from 2 to 4 in Semester VII.
- Renaming the course "Major Project" to "Project based Internship" with reduction in credits from 12 to 10 in Semester VIII

b) Minor revision in the teaching and examination scheme and syllabi of **semester III for B Tech Computer Science** for the students admitted in AY 2021-22 and direct second year students admitted in AY 2022-23. (Encl.- **XII**)
- Renaming the course "Introduction to Python Programming" to "Python Programming" with reduction in credits from 2 to 1 and shifted from Semester IV to Semester III (syllabus in line with B Tech Computer Engineering)
- Renaming the course "Database Management System & Information Retrieval" to "Database Management Systems" and Revision in syllabus (syllabus in line with B Tech Computer Engineering)
- Revision in syllabus of "Computer Networks" (syllabus in line with B Tech Computer Engineering)
- Replacing the course "Object Oriented Programming" to "Data Extraction and Processing". Syllabus is already approved by B Tech Computer Engineering.

D. Minor revision of Curricula of B Tech Computer Science and Business Systems by way of:
I. a) Revision in the course structure of B Tech Computer Science and Business Systems for the students admitted in AY 2022-23 and direct second year students admitted in AY 2023-24 onwards (Encl. - **Ig**)
- Renaming the course "Formal Language and Automata Theory to "Theoretical Computer Science "and reducing the credits from 5 to 3 in Semester III.
- Reducing the practical hours from 2 to 0 and credit from 4 to 3 for the course "Computer Organization and Architecture" in Semester III.
- Reducing the theory hours from 3 to 2 and credit from 4 to 3 for the course "Operating Systems" in Semester IV.
- Reducing the theory hours from 3 to 2 and credit from 4 to 3 for the course "Database Management Systems" in Semester IV.
- Reducing the tutorial hours from 1 to 0 and credit from 5 to 4 for the course "Business Communication and Value Science –III "in Semester IV.
- Reducing the theory hours from 3 to 2 and credit from 4 to 3 for the course "Design and Analysis of Algorithms" in Semester V.
- Reducing the practical hours from 2 to 0 and credit from 3 to 0 for the course "Design Thinking" in Semester V.
- Reducing the theory hours from 3 to 2 and credit from 4 to 3 for the course "Computer Networks" in Semester VI.
- Reducing the theory hours from 3 to 2 and credit from 4 to 3 for the course "Artificial Intelligence" in Semester VI
- Reducing the theory hours from 3 to 2 and credit from 3 to 2 for the course "Financial Management" in Semester VII.

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- Reducing the theory hours from 3 to 2 and credit from 4 to 3 for the course "Human Resource Management" in Semester VII.
- Renaming the course "Marketing Research and Marketing Management" to "Marketing Management "and reducing the credits from 3 to 2 in Semester VIII

b) Minor revision of Teaching and Examination Schemes and Syllabi of **Semester I & II for B Tech Computer Science and Business Systems** for the students admitted in AY 2022-23 onwards **(Encl.- XIII)**

- Reduce the theory hours from 3 to 2 & credit from 4 to 3 for the course 'Discrete Mathematics' and revision in syllabus. Syllabus in line with B Tech/ MBA Tech Computer Engineering
- Revision in syllabus of "Fundamentals of Computer Science"
- Revision in syllabus of "Principles of Electrical Engineering"
- Increasing the theory hours from 2 to 3 and credit from 3 to 4 for the course on "Data Structures and Algorithms" in Semester II. Syllabus will be common with B Tech/ MBA Tech Computer Engineering.

II. a) Proposed course structure of B Tech Computer Science and Business Systems for the students admitted in AY 2020-21 onwards (Encl. - Ih)

b) Revision in Teaching and Examination Scheme of **Semester VI** for the course "Modern Web Applications" - **Elective II** for the students admitted in AY 2020-21 onwards **(Encl.- XIV)**

- Term End Examination pattern is changed from University Examination to Non University Examination (NUE)

III. a) Revision in the course structure of B Tech Computer Science and Business Systems for the students admitted in AY 2019-23 onwards (Encl. - Ih)

- Introduction of the course "Technical Internship Program" in Semester VII.

b) Revision in Teaching and Examination Scheme of **Semester VII by** introduction of the course "Technical Internship Program" for the students admitted in AY 2019-20 onwards **(Encl.- XV)**

E. Minor revision of Curricula of Master of Computer Application (MCA) by way of:

I. a) Revision in Course Structure of Master of Computer Application (MCA) for the students admitted in AY 2022-23 **(Encl. - Ii)**

- Introducing the course "Advanced Web Technologies" in Semester II
- Introducing the course "Industrial Economics and Management" in Semester II
- Introducing the course "Professional Ethics for IT "in Semester II
- Introducing the course "Technical Communication" in Semester II
- Reduction in credits of "Probability and Statistics" and "Software Engineering" from 4 to 3 in Semester II
- Increasing credits of "Python Programming" from 2 to 3 in Semester II
- Renaming of the course "Elective I" to "Department Elective I" with reduction in credits from 4 to 3 in Semester II.
- Shifting of the course "Artificial Intelligence" from Semester II to Semester III with reduction of credits from 4 to 3
- Shifting of the course "Introduction of Cloud Computing "from Semester III (Elective III) to Semester III (Compulsory Course)
- Introducing the course "ASP.NET with C#" in Semester III

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- Introducing the course "Employability Skills "in Semester III
- Reduction in credits of "Machine Learning" and "Introduction to Cyber Security" from 4 to 3 in Semester III
- Increasing credits of "Minor Project" from 1 to 2 in Semester III
- Renaming of the course "Elective II" to "Department Elective II" in Semester III
- Renaming of the course "Elective III" to "Department Elective III" with reduction in credits from 4 to 3 in Semester III

b) Minor revision of Teaching and Examination Scheme and Syllabi of following courses of **MCA Semester I** for students admitted in AY 2022-23 onwards. (Encl.- XVI)
- Reducing the theory hours from 3 to 2 & credits from 4 to 3 and revision in the syllabus of the course "Operating Systems". (Syllabus in line with B Tech Computer Engineering)
- Reducing the theory hours from 3 to 2 & credits from 4 to 3 for the course "Database Management Systems". (Syllabus in line with B Tech Computer Engineering)
- Reducing the theory hours from 3 to 2 & credits from 4 to 3 for the course "Computer Networks". (Syllabus in line with B Tech Computer Engineering)
- Shifting of the course "Data Structures and Algorithms" from Semester II to Semester I. (Syllabus in line with B Tech Computer Engineering)
- Shifting of the course "Java Programming" from Semester II (Elective I) to Semester I (Compulsory Course) and revision in the syllabus.
- Shifting of the course "Web Technologies" from Semester III to Semester I and revision in the syllabus.
- Introducing the course "English Communication". (Syllabus in line with B Tech Computer Engineering)
- Introducing the course "Design Thinking". (Syllabus is already approved by BSH Department)
- Removing of the course "Computer Organization and Architecture".
- Removing of the course "Object Oriented Programming "
- Removing of the course "Communication Skills "

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Dean, Board of Studies