



28.07.2021

### Minutes of Board of Studies Meeting

Department of Computer Science & Engineering has conducted the Board of Studies (BOS) Meeting for B.Tech CSE - Cyber Security on 28/07/2021 in online mode from 08.00 PM onwards.

#### Agenda of the BOS Meeting:

1. Discussions and approval of R-21 B.Tech CSE - Cyber Security Program Structure.
2. Discussion on R-21 B.Tech. CSE - CS Course contents.
3. Any other point with the permission of Chair

#### Members attended the Meeting:

S.No.	Name	Designation & Affiliation	Details
1	Dr. VenkatesuluDondeti	Professor & Head, Department of CSE, VFSTR Deemed to be University	BoS Chairman
2	Prof. Dr. G Vara Prasad	Professor, Dept of CSE, BMS College of Engineering, Bangalore (Research)	External Member
3	Dr. C D Jaidhar,	Associate Professor, Dept of IT, NIT Surathkal, Karnataka (Research)	External Member
4	Dr. Venkata Ramana B	Associate Professor & HOD, CSE, IIT, Tirupati (Academia)	External Member
5	Dr. Ramesh Babu B	Assistant Professor, MNIT, Jaipur, Rajasthan (Academia)	External Member
6	Dr C. Jagadish	Technical architect, Cisco systems, Bangalore (Industry)	External Member
7	Sri. Ravichandran M	Director, Terafast Networks Pvt Ltd, Chennai (Industry)	External Member
8	Dr. Nirupama Bhat M	Professor, Department of CSE, VFSTR Deemed to be University	Internal Member & Coordinator
9	Dr U Sri Lakshmi	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
10	Mr. D S BhupalNaik	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
11	Mrs D Radha Rani	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
12	Mrs G.Parimala	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
13	Dr. K Hemantha Kumar	Professor, Department of CSE, VFSTR Deemed to be University	Special Invitee
14	Dr. S V Phani Kumar	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Special Invitee
15	Mrs. B Jyostna Devi	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Special Invitee

**Members unable to attend the meeting:**

1	Mrs. Amrutha Valli	CEO, Apple purple info systems. New Delhi	External Member
---	--------------------	---	-----------------

**Following points were discussed in the meeting:**

1. Dr. D Venkatesulu, HoD, CSE has invited all the external and internal members and presented the glimpses of R-21 Curriculum. He notified the members that Choice-Based Credit System is followed for this programme.

He explained the process followed in the preparation of R-21 Programme curriculum and Course contents of B.Tech CSE- Cyber Security R 21 Course Structure is attached as Annexure I.

Thereafter, he shared the minutes of Curriculum Design and Monitoring Committee meeting minutes with External members. He also shared feedback of various stakeholders of B.Tech CSE (including Faculty, Alumni, Students, Industry and Students) to the members of the meeting.

He mentioned that the Curriculum is encompassing the courses that enable employability / entrepreneurship / skill development and quoted that the percentage of revision in this regulation is about 21%. List is included as Annexure II.

2. Prof M Nirupama Bhat has initiated the presentation on the R 21 Curriculum. Firstly, she explained the credit distribution of the courses in the curriculum. To improve the logical skills and technical competency, more programming hours were introduced without affecting the credit points. To reach the industry demand, needed changes were suggested on major core course like data structures, Database Systems.
3. Dr Jagadish C suggested to include security aspects of Internet of Things with basic introduction, vulnerabilities and how to overcome them followed by security in Industrial IoT.
4. Sri RaviChandran recommended to include the theory behind evolution and development and Analysis of tools with One theory and Two lab hours. This could be a part of tools and techniques for Ethical Hacking course.  
It is suggested to include tools of Network Security and Digital Forensics. These are implemented in lab components of their respective theory courses.
5. Prof Vara Prasad suggested to offer professional elective courses in stream wise rather than pool. It is also suggested to provide specific orientation to the students during the selection of electives.

6. After the discussions, Dr. Venkatesulu HoD, CSE thanked all the Internal and External members and meeting is adjourned. The Course Structure and Course contents were attached as Annexure.

Signatures:

<i>Dr. Venkatesulu</i>		
	<i>[Signature]</i>	<i>Dr. [Signature]</i> <i>U. Nilakrishna</i>
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
<i>Dr. [Signature]</i> <i>X Hey</i>	<i>S. Rika</i>	<i>B. Jyoti</i>

Copy to

1. Dean, Academics.
2. All BOS Members.
3. File.

**VIGNAN'S**

Foundation for Science, Technology &amp; Research

(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

**Department of Computer Science and Engineering**

Annexure I

**R21 B.Tech CSE – Cyber Security Programme Structure****I Year I Semester**

Course Title	L	T	P	C
Engineering Mathematics I(C)	3	1	-	4
Basics of Electrical and Electronics Engineering	3	-	2	4
Engineering Physics (A)	3	-	2	4
Workshop	1	-	2	2
Programming for Problem Solving -I	3	-	4	5
Basics of Computer & Internet	1	-	2	2
Physical fitness, Sports & Games-I	-	-	3	1
Constitution of India	1	-	-	1
Total	15	1	15	23

**I Year II Semester**

Course Title	L	T	P	C
Probability and Statistics	4	-	-	4
Mathematical Foundation for Cyber Security	3	-	-	3
Programming for Problem Solving-II	3	-	4	5
English Proficiency and Communication Skills	-	-	2	1
Introduction to Security	3	-	-	3
Engineering Graphics and Design	1	-	2	2
Technical English Communication	2	-	2	3
Physical Fitness, Sports & Games-II	-	-	3	1
Total	16	-	13	22

**II Year I Semester**

Course Title	L	T	P	C
Digital Logic and Computer Organization	3	-	-	3
Introduction to Cryptography	2	-	2	3
OOPs through JAVA	2	-	4	4
Data Structures	3	-	2	4
Database Management Systems	3	-	2	4
Environmental Studies	1	-	-	1
Life Skills - I	-	-	2	-
Technical Seminar-I	-	-	2	1
Intra-disciplinary Projects-I	-	-	2	1
Physical Fitness, Sports & Games-III	-	-	2	1
Total	14	-	18	22

**II Year II Semester**

Course Title	L	T	P	C
Design & Analysis of Algorithms	3	-	2	4
Python Programming	2	-	2	3
Computer Networks	3	-	2	4
Operating Systems	3	-	2	4
Web Technologies	2	-	2	3
Principles of Management & Organizational Behaviour	3	-	-	3
Life Skills - II	-	-	2	1
Technical Seminar-II	-	-	2	1
Intra-disciplinary Projects-II	-	-	2	1
Total	16	-	16	24

### III Year I Semester

Course Title	L	T	P	C
Software Engineering	3	-	2	4
Network Security	3	-	2	4
Cyber security and Cyber laws	3	-	-	3
Wireless Networks	3	-	2	4
Soft-skills Laboratory	1	-	-	1
Department Elective-I	3	-	2	4
Open Elective-I	3	-	-	3
Employability skills-I	-	-	2	-
Inter-departmental Projects-I	-	-	4	2
Modular Course	-	-	-	1
Total	19	-	14	26

### III Year II Semester

Course Title	L	T	P	C
Internet of Things	2	-	2	3
Digital forensics	3	-	2	4
Machine learning	3	-	2	4
Competitive Coding	-	-	2	1
Professional Communication Laboratory	-	-	2	1
Human Values, Professional Ethics & Gender Equity	2	-	-	2
Department Elective-II	3	-	-	3
Open Elective-II	3	-	-	3
Employability skills-II	-	-	2	1
Inter-departmental Projects-II	-	-	4	2
Total	16	-	16	24

#### IV Year I Semester

Course Title	L	T	P	C
Block-chain Technology	3	-	2	4
Department Elective III	3	-	-	3
Department Elective IV	3	-	2	4
Open Elective III	3	-	-	3
Societal-Centric and Industry Related Projects	-	-	6	3
Total	12	-	10	17

#### IV Year II Semester

Course Title	L	T	P	C
Internship / Project work	-	-	24	12
Total	-	-	24	12

#### DEPARTMENT ELECTIVE COURSES

Course Title	L	T	P	C
Tools and Techniques for ethical hacking	3	-	2	4
Mobile and Wireless security	3	-	2	4
Advanced Cryptography	3	-	-	4
Secure Coding and Software Security	3	-	2	4
Web and Database Security	3	-	2	4
Cloud computing	3	-	2	4
Cryptanalysis and Cyber Defense	3	1	-	4
Security Audit and Risk assessment	3	1	-	4
Biometrics	3	1	-	4
Intrusion Detection and Prevention system	3	1	-	3
Social Networks	3	-	-	3
Secure Computation-I	3	-	-	3
Secure Computation-II	3	-	-	3
Secure Systems Engineering	3	-	-	3

} NPTEL Courses



Chairman, BoS

CSE



**VIGNAN'S**

Foundation for Science, Technology & Research

(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

**Department of Computer Science and Engineering  
R21 B.Tech CSE – Cyber Security**

**List of new courses**

- Mathematical Foundation for Cyber Security
- Introduction to Security
- Introduction to Cryptography
- Network Security
- Cyber security and Cyber laws
- Wireless Networks
- Internet of Things
- Digital forensics
- Block-chain Technology
- Tools and Techniques for ethical hacking
- Mobile and Wireless security
- Advanced Cryptography
- Secure Coding and Software Security
- Web and Database Security
- Cloud computing
- Cryptanalysis and Cyber Defense
- Security Audit and Risk assessment
- Biometrics
- Intrusion Detection and Prevention system
- Social Networks
- Secure Computation-I
- Secure Computation-II
- Secure Systems Engineering

**Chairman, BoS**

**CSE**



**VIGNAN'S**

Foundation for Science, Technology &amp; Research

(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

**Department of Computer Science and Engineering**  
**R21 B.Tech CSE – Cyber Security**  
**Course Categorization**

Course Title	Course Category
Engineering Mathematics I(C)	Skill Development
Basics of Electrical and Electronics Engineering	Skill Development
Engineering Physics (A)	Skill Development
Workshop	Skill Development
Programming for Problem Solving -I	Employability
Basics of Computer & Internet	Skill Development
Physical fitness, Sports & Games-I	Skill Development
Constitution of India	Skill Development
Probability and Statistics	Skill Development
Mathematical Foundation for Cyber Security	Skill Development
Programming for Problem Solving-II	Employability
English Proficiency and Communication Skills	Skill Development
Introduction to Security	Skill Development
Engineering Graphics and Design	Skill Development
Technical English Communication	Skill Development
Physical Fitness, Sports & Games-II	Skill Development
Digital Logic and Computer Organization	Skill Development
Introduction to Cryptography	Skill Development
OOPs through JAVA	Employability
Data Structures	Skill Development
Database Management Systems	Skill Development
Environmental Studies	Skill Development

Life Skills - I	Skill Development
Technical Seminar-I	Skill Development
Intra-disciplinary Projects-I	Skill Development
Physical Fitness, Sports & Games-III	Skill Development
Design & Analysis of Algorithms	Employability
Python Programming	Employability
Computer Networks	Skill Development
Operating Systems	Skill Development
Web Technologies	Employability
Principles of Management & Organizational Behaviour	Entrepreneurship
Life Skills - II	Skill Development
Technical Seminar-II	Skill Development
Intra-disciplinary Projects-II	Skill Development
Software Engineering	Skill Development
Network Security	Employability
Cyber security and Cyber laws	Employability
Wireless Networks	Skill Development
Soft-skills Laboratory	Skill Development
Employability skills-I	Skill Development
Inter-departmental Projects-I	Skill Development
Modular Course	Employability
Internet of Things	Employability
Digital forensics	Employability
Machine learning	Employability
Competitive Coding	Skill Development
Professional Communication Laboratory	Entrepreneurship
Human Values, Professional Ethics & Gender Equity	Skill Development

Employability skills-II	Employability
Inter-departmental Projects-II	Employability
Block-chain Technology	Skill Development
Societal-Centric and Industry Related Projects	Skill Development
Internship / Project work	Employability
Tools and Techniques for ethical hacking	Employability
Mobile and Wireless security	Employability
Advanced Cryptography	Employability
Secure Coding and Software Security	Employability
Web and Database Security	Employability
Cloud computing	Employability
Cryptanalysis and Cyber Defense	Employability
Security Audit and Risk assessment	Employability
Biometrics	Employability
Intrusion Detection and Prevention system	Employability
Social Networks	Skill Development
Secure Computation-I	Skill Development
Secure Computation-II	Skill Development
Secure Systems Engineering	Skill Development



**Chairman, BoS**


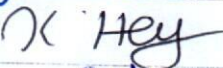
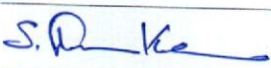
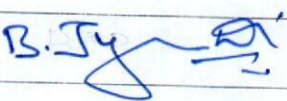

**CSE**

He explained the process followed in the preparation of R-21 Course Contents, CBCS has followed in this R 21 Programme Curriculum also. R 21 Course Structure is attached as Annexure I.

He also mentioned that the Curriculum is encompassing the courses that enable employability or entrepreneurship or skill development. List is included as Annexure II.

2. Dr A Chandrasekar Rao suggested to include lab exercises related to query optimization and query planning.
3. Further, discussion was held on the Computer Networks Course and then Dr. S V Phani Kumar has explained the topics and then Mr I Sai Krishna has suggested to include some experiments related to load balancing. After discussions, committee have approved the course contents of Computer Networks and started discussion on Cloud Computing.
4. Dr Karthick Seshadri given the following suggestions (through mail):
  - i) Probability and Random Variables may be changed as "Probability, Statistics and Stochastic Processes" as Stochastic processes are important in creating generative ML models,
  - ii) Technical English Communication to be reworded as "English for Technical Communication".
  - iii) OOPs through Java to be changed as "Object Oriented Programming".
  - iv) Reinforcement Learning is to be introduced as an elective.
  - v) A first-level Core course on Data Mining has to be introduced. Without studying this first-level title, how can a student comprehend Advanced Data Mining in the electives?

After the brain storming session, all the external and internal members have approved the programme structure and course contents. Dr. Venkatesulu adjourned the meeting by thanking all external and internal members of the BOS.

1. 	2.	3.
4. 	5. 	6. 
7. 		

Copy to

1. Dean, Academics.
2. All BOS Members.
3. File.



**Minutes of Board of Studies Meeting**

**28.07.2021**

Department of Computer Science & Engineering has conducted the Board of Studies (BOS) Meeting for the B.Tech Computer Science and Engineering (Artificial Intelligence and Machine Learning) on 28/07/2021 in online mode from 6:00 PM to 8.00 PM.

**Agenda of the BOS Meeting:**

1. Discussions and approval of R-21 B.Tech. CSE (AI&ML) Program Structure.
2. Discussion and approval on R-21 B.Tech. CSE (AI&ML) course contents.
3. Any other point with the permission of Chair.

**Members attended the Meeting:**

S.No.	Name	Designation & Affiliation	Details
1	Dr. Venkatesulu Dondeti	Professor & Head, Department of CSE, VFSTR Deemed to be University	BOS Chairman
2	Dr A Chandrasekar Rao	Assistant Professor, Department of CSE, IIT (ISM), Dhanbadh	External Member
3	Mr I Sai Krishna	Architect, Cargill Incorporation, Bangalore	External Member
4	Dr. K Hemantha Kumar	Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
5	Dr. S V Phani Kumar	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member & Coordinator
6	Mrs. B Jyostna Devi	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
7	Dr. S Bala Krishna	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Special Invitee

**Members unable to attend the meeting:**

S. No.	Name of the Member	Affiliation & Designation	Details
1	Dr Dilip	Associate Professor IIT Mandi, Himachal Pradesh	External Member
2	Dr Karthik Seshadri	Asst. Prof, CSE, NIT Tadepalligudem	External Member
3	Dr M Srinivas	Asst.Prof, CSE, NIT Warangal	External Member
4	Ms Ashika	Scientist-E, DRDO, Bangalore	External Member

**Following points were discussed in the meeting:**

1. Dr. D Venkatesulu, HoD, CSE has invited all the external and internal members and presented the glimpses of R-21 Curriculum.






He explained the process followed in the preparation of R-21 Course Contents, CBCS has followed in this R 21 Program Curriculum also. R 21 Course Structure is attached as Annexure I.

He mentioned that the Curriculum is encompassing the courses that enable employability or entrepreneurship or skill development and he also quoted that the percentage of revision in this regulation is about 22%. List is included as Annexure II.

2. Dr. K Hemantha Kumar has initiated the presentation on the structure of R 21 CSE (AI&ML) Curriculum.
3. Dr A Chandrasekar Rao Suggested 'stream data analysis' to be included in Advanced Data Mining Course.
4. Dr A Chandrasekar Rao Suggested to include Evolutionary Computing in the place of Genetic Algorithms and its applications and Fuzzy Algorithms and its applications. Also informed to offer this course before "Nature Inspired Computing".
5. Dr A Chandrasekar Rao Suggested to offer Robotics: Computational Motion Planning as an open elective course offered by Mechanical Department
6. Mr. I Sai Krishna and Dr A Chandrasekar Rao suggested to include more AI Courses. Based on the suggestion the following courses are included.
  - i) Knowledge Representation and Reasoning is placed as core Course
  - ii) Artificial Intelligence Search Methods for Problem Solving as an elective
  - iii) Artificial Intelligence: Constraint Satisfaction as an elective
7. Dr Karthick Seshadri given the following suggestions (through mail):
  - i) Probability and Random Variables may be changed as "Probability, Statistics and Stochastic Processes" as Stochastic processes are important in creating generative ML models,
  - ii) Technical English Communication to be reworded as "English for Technical Communication".
  - iii) OOPs through Java to be changed as "Object Oriented Programming".
  - iv) Reinforcement Learning is to be introduced as an elective.
  - v) A first-level Core course on Data Mining has to be introduced. Without studying this first-level title, how can a student comprehend Advanced Data Mining in the electives?

After the brainstorming session, all the external and internal members have approved the program structure and course contents. Dr. Venkatesulu adjourned the meeting by thanking all external and internal members of the BOS.

Signatures:

Copy to

1. Dean, Academics.
2. All BOS Members.
3. File.



**VIGNAN'S**

Foundation for Science, Technology & Research

(Deemed to be University)

Established as per UGC Act 1956

Annexure I

### R21 Course Structure

#### B.Tech. CSE - Artificial Intelligence and Machine Learning

##### I Year I Semester

Course Title	L	T	P	C
Engineering Mathematics I(C)	3	-	2	4
Engineering Physics (A)	3	-	2	4
Basics of Electrical & Electronics Engineering	3	-	2	4
Engineering Graphics and Design	1	-	2	2
<b>Python Programming</b>	3	-	2	4
Discrete Mathematical Structures	3	-	-	3
Physical fitness, Sports & Games-I	-	-	3	1
Constitution of India	1	-	-	1
Total	17	-	13	23

##### I Year II Semester

Course Title	L	T	P	C
Probability and Random Variables	3	1	-	4
Numerical Methods	3	-	-	3
Advanced Engineering Mathematics	3	-	-	3
Statistical Methods and Data Visualization	3	-	2	4
Workshop	1	-	2	2
English Proficiency and Communication Skills	-	-	2	1
Technical English Communication	2	-	2	3
Physical Fitness, Sports & Games-II	-	-	3	1
Total	15	1	11	21

## II Year I Semester

Course Title	L	T	P	C
Computer Organization & Architecture	3	-	-	3
Artificial Intelligence	3	-	2	4
OOPs through JAVA	2	-	4	4
Data Structures	3	-	2	4
Database Management Systems	3	-	2	4
Environmental Studies	1	-	-	1
Life Skills – I	-	-	2	-
Technical Seminar-I	-	-	2	1
Intra-disciplinary Projects-I	-	-	2	1
Physical Fitness, Sports & Games-III	-	-	2	1
Total	15	-	18	23

## II Year II Semester

Course Title	L	T	P	C
Design & Analysis of Algorithms	3	-	2	4
Machine Learning	3	-	2	4
Formal Languages & Automata Theory	3	-	-	3
Computer Vision	3	-	2	4
Web Technologies	2	-	2	3
Principles of Management & Organizational Behaviour	3	-	-	3
Life Skills – II	-	-	2	1
Technical Seminar-II	-	-	2	1
Intra-disciplinary Projects-II	-	-	2	1
Total	17	-	14	24



### III Year I Semester

Course Title	L	T	P	C
Operating Systems	3	-	-	3
Advanced Data Structures	3	-	2	4
Deep Learning	3	-	2	4
Computer Networks	3	-	2	4
Soft-skills Laboratory	1	-	-	1
Department Elective-I	3	-	2	4
Open Elective-I	3	-	-	3
Employability skills-I	-	-	2	-
Inter-departmental Projects-I	-	-	4	2
Modular Course	-	-	-	1
Total	19	-	14	26

### III Year II Semester

Course Title	L	T	P	C
Artificial Intelligence: Knowledge Representation and Reasoning	3	-	2	4
Natural Language Processing	3	-	2	4
Software Engineering	3	-	2	4
Competitive Coding	-	-	2	1
Professional Communication Laboratory	-	-	2	1
Human Values, Professional Ethics & Gender Equity	2	-	-	2
Department Elective-II	3	-	-	3
Open Elective-II	3	-	-	3
Employability skills-II	-	-	2	1
Inter-departmental Projects-II	-	-	4	2
Total	17	-	16	25

IV Year I Semester

Course Title	L	T	P	C
Big Data Analytics	3	-	-	3
Department Elective III	3	-	2	4
Department Elective IV	3	-	-	3
Open Elective III	3	-	-	3
Societal-Centric and Industry Related Projects	-	-	6	3
Total	12	-	8	16

IV Year II Semester

Course Title	L	T	P	C
Internship / Project work	-	-	24	12
Total	-	-	24	12

DEPARTMENT ELECTIVE COURSES

Course Title	L	T	P	C
Evolutionary Computing	3	-	2	4
Artificial Intelligence Search Methods For Problem Solving	3	-	2	4
Nature Inspired Computing Techniques	3	-	2	4
Advanced Data Mining	3	-	2	4
Internet of Things	3	-	2	4
Optimization Techniques	3	-	-	3
Cloud Computing	3	-	-	3
Cryptography and Network Security	3	-	-	3

*D. Venkatesh*

Chairman, BoS

CSE- AI&ML



**VIGNAN'S**  
Foundation for Science, Technology & Research  
(Deemed to be UNIVERSITY)  
-Estd. u/s 3 of UGC Act 1956

**Department of Computer Science and Engineering**  
**R21 B.Tech CSE – Artificial Intelligence and Machine Learning**

**List of new courses**

- Statistical Methods and Data Visualization
- Computer Organization & Architecture
- Artificial Intelligence
- Machine Learning
- Computer Vision
- Advanced Data Structures
- Deep Learning
- Artificial Intelligence: Knowledge Representation and Reasoning
- Evolutionary Computing
- Artificial Intelligence Search Methods for Problem Solving
- Nature Inspired Computing Techniques
- Advanced Data Mining
- Optimization Techniques
- Natural Language Processing

Chairman, BoS

CSE- AI&ML



**VIGNAN'S**

Foundation for Science, Technology & Research

(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

**Department of Computer Science and Engineering**  
**R21 B.Tech CSE – Cyber Security**  
**Course Categorization**

Course Title	Course Category
Engineering Mathematics I(C)	Skill Development
Engineering Physics (A)	Skill Development
Basics of Electrical & Electronics Engineering	Skill Development
Engineering Graphics and Design	Skill Development
Python Programming	Employability
Discrete Mathematical Structures	Skill Development
Physical fitness, Sports & Games-I	Skill Development
Constitution of India	Skill Development
Probability and Random Variables	Skill Development
Numerical Methods	Skill Development
Advanced Engineering Mathematics	Skill Development
Statistical Methods and Data Visualization	Skill Development
Workshop	Skill Development
English Proficiency and Communication Skills	Skill Development
Technical English Communication	Skill Development
Physical Fitness, Sports & Games-II	Skill Development
Computer Organization & Architecture	Skill Development
Artificial Intelligence	Skill Development
OOPs through JAVA	Skill Development
Data Structures	Skill Development
Database Management Systems	Employability
Environmental Studies	Employability
Life Skills – I	Skill Development
Technical Seminar-I	Skill Development
Intra-disciplinary Projects-I	Skill Development
Physical Fitness, Sports & Games-III	Skill Development
Design & Analysis of Algorithms	Skill Development
Machine Learning	Employability
	Skill Development

Formal Languages & Automata Theory	Skill Development
Computer Vision	Skill Development
Web Technologies	Skill Development
Principles of Management & Organizational Behaviour	Employability
Life Skills – II	Entrepreneurship
Technical Seminar-II	Skill Development
Intra-disciplinary Projects-II	Skill Development
Operating Systems	Skill Development
Advanced Data Structures	Skill Development
Deep Learning	Employability
Computer Networks	Skill Development
Soft-skills Laboratory	Skill Development
Employability skills-I	Employability
Inter-departmental Projects-I	Employability
Modular Course	Employability
Artificial Intelligence: Knowledge Representation and Reasoning	Employability
Natural Language Processing	Skill Development
Software Engineering	Skill Development
Competitive Coding	Skill Development
Professional Communication Laboratory	Employability
Human Values, Professional Ethics & Gender Equity	Skill Development
Employability skills-II	Skill Development
Inter-departmental Projects-II	Employability
Big Data Analytics	Skill Development
Societal-Centric and Industry Related Projects	Skill Development
Internship / Project work	Skill Development
Evolutionary Computing	Employability
Artificial Intelligence Search Methods For Problem Solving	Skill Development
Nature Inspired Computing Techniques	Skill Development
Advanced Data Mining	Skill Development

Internet of Things	Skill Development
Optimization Techniques	Skill Development
Cloud Computing	Skill Development
Cryptography and Network Security	Skill Development



Chairman, BoS

CSE-AI&ML