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

Department of

Computer Science & Engineering

Minutes of
Board of Studies Meeting

30.03.2019

Department of Computer Science & Engineering has conducted the Board of Studies (BOS) Meeting on 30th March, 2019 at Vice-Chancellor's Conference Hall, A-Block, Vignan's Foundation for Science, Technology and Research, Vadlamudi.

Agenda of the BOS Meeting:

1. Discussions and approval of R-19 B.Tech. CSE Program Course Structure.
2. Discussions and approval of R-19 B.Tech. CSE course contents.
3. Approval for B.Tech. CSE Program Programme Educational Objectives
4. Any point with the permission of Chair.

Members attended the Meeting:

S. No.	Name of the Member	Designation & Affiliation	Details
1	Dr. Venkatesulu Dondeti	Professor & Head, Department of CSE, VFSTR Deemed to be University	BoS Chairman
2	Dr. Rajeev Wankar	Professor, SCIS University of Hyderabad,	External Member
3	Dr. Nagesh Bhattu Sristy	Assistant Professor NIT Tadepalli gudem, AP.	External Member
4	Dr. V Radha	Associate Professor IDRBT, Masab Tank, Hyderabad	External Member
5	Dr. N Gnaneswara Rao	Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
6	Dr. K Hemantha Kumar	Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
7	Dr. T Maruthi Padmaja	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
8	Dr. Nirupama Bhat	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
9	Dr. M Shanmugam	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
10	Dr. Victer Paul	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member

11	Dr. S V Phani Kumar	Assoc. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member & Coordinator
12	Dr. Fathima Bi	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
13	Mr. S V Rama Krishna	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
14	Mr. D S Bhupal Naik	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member
15	Mrs. B Jyostna Devi	Asst. Professor, Department of CSE, VFSTR Deemed to be University	Internal Member

Members unable to attend the meeting:

Name of the Member	Affiliation & Designation	Details
Dr. M V N K Prasad	Associate Professor IDRBT, Masab Tank, Hyderabad	External Member
Sri. RamaKrishnan Krishnan	Senior Director, Cognizant Technologies, Chennai, Tamil Nadu	External Member
Sri. K Lakshmi Kumaran	Senior Manager, Symantec Software & Services India, Chennai, Tamil Nadu	External Member

Following points were discussed in the meeting:

1. Dr. D Venkatesulu, Head, CSE has invited all the external and internal members and presented the glimpses of R-19 Curriculum.

   He also shared the procedures followed in the preparation of R-19 Course Contents and also mentioned as like previous curriculum, CBCS followed in this R 19 Course Curriculum also.

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

   List of new courses and percentage of revision in each course is included as Annexure I. Major restructuring has taken place in the curriculum which is oriented towards Project based learning with inclusion of Intra-disciplinary projects, Inter-departmental projects and Societal centric and industry related projects.

   He also mentioned that the Curriculum is encompassing the courses that enable employability or entrepreneurship or skill development.

2. Dr. Rajeev Wankar and Dr. Nagesh Bhattu have suggested to reduce the credits from 170 to 160 and also shared that the no. of credits under professional department elective category has to be improved.

Dr. Rajeev has suggested publicizing the pre-requisite courses information in the course contents itself. He suggested that the students' will not be allowed to register for an elective course if he had not passed the required pre-requisite courses.

3. Dr. Rajeev Wanker suggested to give 0.5 credit for sports and games per semester instead of 1 credit. He also stressed that there is no need to give credit for Employability and Life skills.

   Dr. Venkatesulu said that these Credits are offered at the Institution-level.

4. Dr. V Radha has discussed about evaluation of life skills and sports courses. She specifically quoted that not to include the performance of these courses in the computation of SGPA. Dr. Radha V suggested to move Open Elective from II-II to III-I.

   Further, Dr. D Venkatesulu presented the details of elective courses and then, Dr. Radha has suggested to include laboratory part for Image Processing, Wireless Sensor Networks and Network Programming courses.

5. Dr. R V Subramanyam suggested to offer Machine learning and Mobile Computing as core courses in the place of Web Technologies and Data Mining Techniques.

6. Dr. Bhat has suggested to include Tutorial hours for the courses such as Discrete Mathematical Structures, Formal Languages and Automata Theory and Design and Analysis of Algorithms courses. Thereafter based on the credit-wise restriction he suggested to reduce the lecture-part credits if required.

7. Dr. Rajeev Wankar has suggested to include advanced courses such as Mobile Application Development, Advanced Data Mining, Gaming Theory and Data Analytics & Visualization as elective courses.

   Dr. T Maruthi Padmaja and Dr. Fathima Bi have accepted the suggestion.

8. To realize the practical exposure by the students in cloud computing, Dr. Bhat has suggested to include at least 3 to 4 experiments on AWS or Microsoft Azure as activities.

9. After thorough discussions, the committee approved the B.Tech. CSE Revised Programme Educational Objectives:

   PEO 1: Graduates acquire extensive technical knowledge and related skills required to demonstrate themselves as professionals or pursue higher education.

   PEO 2: Graduates adapt to upskilling and excel in their careers despite future technological changes, and demonstrate research aptitude to generate innovative engineering solutions.

   PEO 3: Graduates acquire the potential to contribute for the field of computing as well as for the societal development by demonstrating professional, social and ethical practices

10. In addition, they have suggested revising course contents of the following courses.

a) Computer Organization - include Concepts of Assembly language Programming.

b) Operating Systems - Suggested to include UNIX/LINUX utilities in laboratory part.

c) Web Technologies - introduce LAMP/WAMP Stack

d) Python programming - suggested to include important python libraries like numpy, scipy, pandas and matplotlib in laboratory.

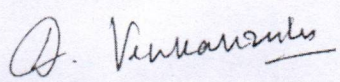
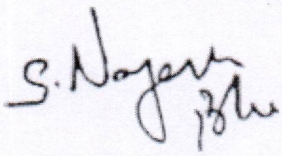
e) R programming - include few casestudies for practicing in laboratory and visualization concepts

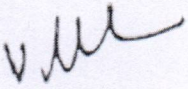
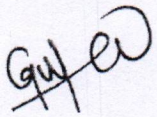
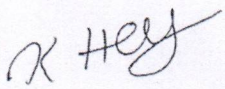
f) Artificial Intelligence - introduce LISP, Prolog and Haskel.

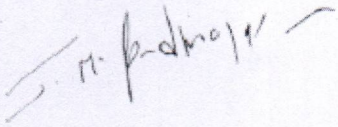
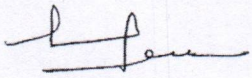
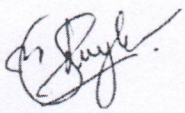
g) Internet of Things - include MCA protocol concepts and basic sensors

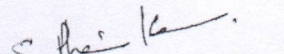
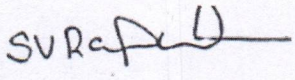
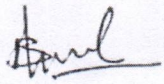
11. After the brain storming session, all the external and internal members have approved the course structure and course contents. The approved Course Structure and Course contents were attached as Annexure.

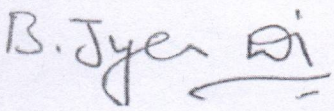
Signatures of the Members

1  2  3 

4  5  6 

7  8  9 

10  11  12 

13 

Copy to

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

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R19 Course Structure

B.Tech. Computer Science and Engineering

Annexure I

I Year I Semester

Course Title	L	T	P	C
Engineering Chemistry (A)	3	-	2	4
English Proficiency and Communication Skills	-	-	2	1
Programming for Problem Solving -I	2	-	2	3
Numerical Methods	3	-	2	4
Basics of Electrical & Electronics Engineering	3	-	2	4
Engineering Mathematics I(C)	3	-	2	4
Workshop	1	-	2	2
Physical fitness, Sports & Games-I	-	-	3	1
Total	**15**	**-**	**17**	**23**

I Year II Semester

Course Title	L	T	P	C
Discrete Mathematical Structures	4	-	-	4
Programming for Problem Solving-II	2	-	2	3
Constitution of India	1	-	-	1
Engineering Mathematics II(C)	3	-	2	4
Engineering Graphics and Design	1	-	2	2
Engineering Physics (A)	3	-	2	4
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
Probability & Statistics	4	-	-	4
OOPs through JAVA	2	-	4	4

Data Structures	3	-	2	4
Database Management Systems	3	-	2	4
Digital Logic Design	3	-	-	3
Environmental Studies	2	-	-	2
Life Skills – I	-	-	2	-
Technical Seminar-I	-	-	2	1
Intra-disciplinary Projects-I	-	-	2	1
Physical Fitness, Sports & Games-III	-	-	2	1
Total	17	-	16	**24**

II Year II Semester

Course Title	**L**	**T**	**P**	**C**
Formal Languages & Automata Theory	3	-	-	3
Computer Organization & Architecture	3	-	-	3
Design & Analysis of Algorithms	3	-	2	4
Principles of Management & Organizational Behavior	3	-	-	3
Web Technologies	2	-	2	3
Python Programming	2	-	2	3
Technical Seminar-II	-	-	2	1
Life Skills – II	-	-	2	1
Intra-disciplinary Projects-II	-	-	2	1
Total	**16**	**-**	**12**	**22**

III Year I Semester

Course Title	**L**	**T**	**P**	**C**
Operating Systems	2	-	2	3
Data Mining Techniques	3	-	2	4
Software Engineering	3	-	2	4
Computer Networks	3	-	2	4
Soft skills Lab	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	**18**	**-**	**16**	**26**

III Year II Semester

Course Title	L	T	P	C
Cryptography & Network Security	3	-	-	3
Mobile Computing	2	-	2	3
Artificial Intelligence	3	-	2	4
Competitive Coding	-	-	2	1
Professional Communication Laboratory	-	-	2	1
Human Values, Professional Ethics & Gender Equity	2	-	-	2
Department Elective-II	3	-	2	4
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
Machine Learning	3	1	-	4
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**	**1**	**8**	**17**

IV Year II Semester

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

DEPARTMENT ELECTIVE COURSES

Course Title	L	T	P	C
Compiler Design	3	2	-	4
Embedded Systems	3	-	2	4
Open Source Web Technologies	3	-	2	4
Fundamentals of Image Processing	3	-	2	4
R Programming	3	-	2	4
Network Programming	3	-	2	4

Cloud Computing	3	-	2	4
Advanced Data Mining	3	-	2	4
Internet of Things	2	-	2	3
Mobile Ad- hoc Networks	3	-	2	4
Big Data & Analytics	3	-	2	4
Deep Learning	3	-	-	3
Parallel Processing	3	-	-	3
Game Theory	3	-	-	3
High Performance Computing	3	-	-	3
Artificial Neural Networks	3	-	-	3
Distributed Systems	3	-	-	3
Wireless Sensor Networks	3	-	-	3

OPEN ELECTIVE COURSES

Course Title	L	T	P	C
Python Programming	3	-	-	3
R Programming	3	-	-	3
Data Structures	3	-	-	3
Database Management Systems	3	-	-	3
Operating Systems	3	-	-	3

A. Vinaya Babu

BoS, Chairman

Annexure II

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B.Tech COMPUTER SCIENCE AND ENGINEERING

R19 List of New Courses

- ✓ Engineering Mathematics 1C Linear Algebra & Ordinary Differential Equations
- ✓ Engineering Physics 1(A)
- ✓ Basics of Electrical & Electronics Engineering
- ✓ Engineering Graphics & Design
- ✓ Programming for Problem Solving - I
- ✓ Numerical Methods
- ✓ Physical fitness, Sports & Games-1
- ✓ Engineering Mathematics 2 C Calculus & Numerical Methods
- ✓ Discrete Mathematical Structures
- ✓ Engineering Chemistry
- ✓ Programming for Problem Solving-II
- ✓ English Proficiency and communication skills
- ✓ Constitution of India
- ✓ Workshop
- ✓ Technical English Communication
- ✓ Physical fitness, Sports & Games-2
- ✓ Probability and Statistics
- ✓ Object Oriented Programming using JAVA
- ✓ Data Structures
- ✓ Database Management Systems
- ✓ Digital Logic Design
- ✓ Environmental Studies
- ✓ Life Skills - I
- ✓ Technical Seminar-I
- ✓ Intra-disciplinary Projects-I
- ✓ Physical Fitness, Sports & Games-III
- ✓ Operating Systems
- ✓ Formal Languages & Automata Theory
- ✓ Design & Analysis of Algorithms
- ✓ Computer Organization & Architecture
- ✓ Web Technologies
- ✓ Principles of Management & Organizational Behaviour
- ✓ Life Skills – II
- ✓ Technical Seminar-II
- ✓ Intra-disciplinary Projects-II
- ✓ Data Mining Techniques
- ✓ Software Engineering
- ✓ Python Programming
- ✓ Computer Networks

- ✓ Softskills Lab
- ✓ Employability skills-I
- ✓ Inter-departmental Projects-I
- ✓ Modular Course
- ✓ Cryptography & Network Security
- ✓ Mobile Computing
- ✓ Artificial Intelligence
- ✓ Competitive Coding
- ✓ Professional Communication Laboratory
- ✓ Human Values, Professional Ethics & Gender Equity
- ✓ Employability skills-II
- ✓ Inter-departmental Projects-II
- ✓ Machine Learning
- ✓ Societal-Centric and Industry Related Projects
- ✓ Internship / Project work
- ✓ Python Programming
- ✓ Embedded Systems
- ✓ Open Source Web Technologies
- ✓ Fundamentals of Image Processing
- ✓ R Programming
- ✓ Network Programming
- ✓ Cloud Computing
- ✓ Advanced Data Mining
- ✓ Internet of Things
- ✓ Mobile Ad- hoc Networks
- ✓ Big Data & Analytics
- ✓ Deep Learning
- ✓ Parallel Processing
- ✓ Game Theory
- ✓ High Performance Computing
- ✓ Artificial Neural Networks
- ✓ Distributed Systems
- ✓ Wireless Sensor Networks
- ✓ Python Programming
- ✓ R Programming
- ✓ Data Structures
- ✓ Database Management Systems
- ✓ Operating Systems

A. Venkatesulu
BoS, Chairman

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Annexure III

B.Tech. Computer Science and Engineering

R19 Course Categorization

(Employability/ Skill Oriented/ Entrepreneurship)

Name of the Course	Course Type
Engineering Mathematics 1C Linear Algebra & Ordinary Differential Equations	Skill Oriented
Engineering Physics 1(A)	Skill Oriented
Basics of Electrical & Electronics Engineering	Skill Oriented
Engineering Graphics & Design	Skill Oriented
Programming for Problem Solving - I	Employability
Numerical Methods	Skill Oriented
Physical fitness, Sports & Games-1	Skill Oriented
Engineering Mathematics 2 C	Skill Oriented
Discrete Mathematical Structures	Skill Oriented
Engineering Chemistry	Skill Oriented
Programming for Problem Solving-II	Employability
English Proficiency and communication skills	Skill Oriented
Constitution of India	Skill Oriented
Workshop	Skill Oriented
Technical English Communication	Employability
Physical fitness, Sports & Games-2	Skill Oriented
Probability and Statistics	Skill Oriented
Object Oriented Programming using JAVA	Employability
Data Structures	Employability
Database Management Systems	Employability
Digital Logic Design	Skill Oriented
Environmental Studies	Skill Oriented
Life Skills - I	Skill Oriented
Technical Seminar-I	Skill Oriented
Intra-disciplinary Projects-I	Employability
Physical Fitness, Sports & Games-III	Skill Oriented
Operating Systems	Skill Oriented
Formal Languages & Automata Theory	Skill Oriented

Design & Analysis of Algorithms	Employability
Computer Organization & Architecture	Skill Oriented
Web Technologies	Employability
Principles of Management & Organizational Behavior	Entrepreneurship
Life Skills – II	Skill Oriented
Technical Seminar-II	Skill Oriented
Intra-disciplinary Projects-II	Employability
Data Mining Techniques	Employability
Software Engineering	Employability
Compiler Design	Skill Oriented
Computer Networks	Skill Oriented
Softskills Laboratory	Skill Oriented
Employability skills-I	Skill Oriented
Inter-departmental Projects-I	Employability
Modular Course	Employability
Cryptography & Network Security	Skill Oriented
Mobile Computing	Employability
Artificial Intelligence	Employability
Competitive Coding	Employability
Professional Communication Laboratory	Skill Oriented
Human Values, Professional Ethics & Gender Equity	Skill Oriented
Employability skills-II	Skill Oriented
Inter-departmental Projects-II	Employability
Machine Learning	Skill Oriented
Societal-Centric and Industry Related Projects	Skill Oriented
Internship / Project work	Employability
Python Programming	Employability
Embedded Systems	Skill Oriented
Open Source Web Technologies	Employability
Fundamentals of Image Processing	Skill Oriented
R Programming	Employability
Network Programming	Skill Oriented
Cloud Computing	Employability
Advanced Data Mining	Employability
Internet of Things	Employability
Mobile Ad- hoc Networks	Skill Oriented
Big Data & Analytics	Employability

Deep Learning	Skill Oriented
Parallel Processing	Skill Oriented
Game Theory	Skill Oriented
High Performance Computing	Skill Oriented
Artificial Neural Networks	Skill Oriented
Distributed Systems	Skill Oriented
Wireless Sensor Networks	Skill Oriented
Python Programming	Employability
R Programming	Employability
Data Structures	Employability
Database Management Systems	Employability
Operating Systems	Skill Oriented

BoS, Chairman