TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)
(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated by JNTUH, Accredited by NBA & NAAC with 'A' Grade)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MINUTES OF BOS MEETING

The 5th Meeting of the **Board of Studies (BoS)** of the department of Computer Science and Engineering was held on **21-11-2020**.

MEMBERS OF BOS:

S. No	Member	Designation	Position in the BOS	Signature
1	Dr M Narender	Professor, Dept. of CSE, TKRCET	Chairman, BOS	
2	Dr.A Suresh Rao	Professor, Dean Academics & Vice Principal, TKRCET	HOD-CSE	21/11/20
3	Dr. G Venkata Rami Reddy	Professor, SIT JNTUH, Hyderabad	JNTUH Nominee	
4	Prof.R.B.V. Subramaanyam	Professor, Dept. of CSE, NIT Warangal	External Subject Expert-I	
5	Dr. M.A. Hameed,	Professor, Dept. of CSE, OU Hyderabad	External Subject Expert-II	
6	Dr.V. Sree Kumar	Principal Investigator Infosys Pvt. Ltd.	Industry Expert	
7	Dr V Krishna	Professor, Dept. of CSE, TKRCET	Internal Subject Expert-I	
8	Dr B Sunil Srinivas	Professor, Dept. of CSE, TKRCET	Internal Subject Expert-II	
9	Dr. Ch B N Lakshmi - Professor	Professor, Dept. of CSE, TKRCET	Internal Subject Expert-III	

Agenda Points:

1. Approval of Academic Regulations R20
2. Approval of Course Structure for I,II,III,IV years of R20
3. Approval of Detailed Syllabus for I & II year
4. Approval of Continuous Internal Evaluation and External Evaluation
5. Identification of Value Added Courses
6. Substitute subjects for Readmitted students
7. Action taken report and Approval of DAC minutes
8. Identification of Workshops and guest lectures
9. Approval of teaching methods
10. Approval of tools used in teaching and learning process to assess course outcomes
11. Approval of Mandatory Courses
12. Approval of M.Tech detailing of syllabus-R21
13. Other Points if any

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Agenda 1: Approval of Academic Regulations R20

Resolution:

The Board reviewed and discussed the Academic Regulations R20 in detail. After careful examination, the Board unanimously **approved the Academic Regulations R20** for implementation in all relevant programs, effective from the academic year 2020–21.

Discussion:

The BOS-Chairman presented the following points for discussion and approval

Credit Courses

All subjects/courses are to be registered by the student in a semester to earn credits which are assigned to each subject/course in an L: T: P: C (lecture periods: tutorial periods: practical periods: credits) structure which is on the following general pattern.

- One credit for one Period/hour/week/semester for theory/lecture (L) courses.
- Half credit for one Period/hour/week/semester for laboratory/practical (P).

Attendance requirements:

A student shall be eligible to appear for the semester end examinations, if the student acquires a minimum of 75% of attendance in aggregate in all the subjects/courses including days of internal examinations (excluding attendance in mandatory courses:- Environmental Science, Professional Ethics, Gender Sensitization Lab, NCC and NSS, subjects related to social context) for that semester.

For Mandatory Courses a 'Satisfactory Participation' Report shall be issued to those students from the authorities concerned only after securing ≥ 65% attendance in such a course.
Shortage of attendance in aggregate up to 10% (65% and above, and below 75%) in each semester may be condoned by the college academic committee on valid grounds, like natural calamity, medical emergency, any sudden demise of close family members based on the students representation with supporting evidence/certificates.

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A stipulated fee shall be paid for condonement of shortage of attendance.

Shortage of attendance below 65% in aggregate shall, in no case be condoned.

Academic Requirements:

A student shall be deemed to have satisfied the minimum academic requirements if he/she has earned the credits allotted to each subject/course, and has secured not less than 35% marks (24 out of 70) in the semester end examination, and a minimum of 40% of marks in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together; in terms of letter grades. This implies securing 'C' grade or above in that subject/course.

Grading Procedure:

Marks will be awarded to the student to indicate the performance in each theory subject, laboratory/practical's, seminar, project Part A and project Part B. Based on the percentage of marks obtained (Continuous Internal Evaluation plus Semester End Examination, both taken together) as specified in item no. 8 above, a corresponding letter grade shall be given.

As measure of the performance of a student, a 10-point absolute grading system using the following letter grades (as per UGC/AICTE/JNTUH guidelines) and corresponding percentage of marks shall be followed.

Transitory Regulations

A student, who has discontinued for any reason, is liable to completely pay his balance annual fees, from the discontinued year to completion of the four-year course.

A student who is detained due to lack of credits or lack of attendance has to follow the existing regulations of the year in which he/she is re-admitted, with additional/substitute subjects if Necessary.

Students Transfers

There shall be no transfers from one college/stream to another within the constituent colleges and units of the affiliating university (JNTUH).

The students seeking transfer under the ceiling admission category to this college from any of the JNTUH affiliated Autonomous colleges or from various other Universities/institutions

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(National Importance, Autonomous) have to pass the failed subjects which are equivalent to the subjects of TKRCET and also pass the subjects of TKRCET which the students have not studied at the earlier institution/university. Further, though the students have passed some of the subjects at the earlier institution/university, if the same subjects are being offered in different semesters of TKRCET, the students have to study those subjects in TKRCET in spite of the fact that those subjects are repeated.

The students transferred from other Universities/institutions to TKRCET, shall be provided a chance of writing online internal examination for the failed subjects/and or subjects not studied as per the clearance (equivalence) letter issued by the university/institution, at the end of the semester as per the prescribed schedule by the college examination cell.

Agenda – 2: Approval of Course Structure for I, II, III, IV years of R20

Resolution:

The Board carefully reviewed the proposed course structure for I, II, III, and IV years of the R20 regulations. After thorough discussion and consideration of academic requirements and industry relevance, the Board unanimously approved the Course Structure for all four years of B.Tech programs under R20 regulations, effective from the academic year 2020–21.

Discussion:

BOS-Chairman discussed the reasons for revising the course structure.

Revision of Course Structure / Reason for change in Course structure:

1. Alignment with AICTE Model Curriculum & NEP 2020
   - R20 reduces overloaded credits and emphasizes flexibility, electives, and skill-based Courses.
   - Promotes holistic education with physical (Sports, Yoga), cultural, and social responsibility Components.

2. Industry & Employability Focus
   - Introduction of MOOCs, internships, technical events, and certification-oriented courses Ensures students are industry-ready.
   - New electives in AI, ML, Blockchain, IoT, Cyber Security, Quantum Computing match Current industry demands.

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3. Stronger Foundation in Programming & CS Core
- Core subjects (OS, DBMS, DS, COA, SE, DAA, CN, Compiler Design) moved to earlier Semesters to strengthen the core computer science base before specialization.

4. Project-Based Learning (PBL)
- R20 introduces projects from Sem V itself (rather than only final year in R18).
- Encourages innovation, teamwork, entrepreneurship, and research aptitude early.

5. Focus on Life Skills & Holistic Development
- Mandatory courses like Sports, Yoga, Cultural Activity, Social Message Videos build Confidence, communication, ethics, and social awareness.

6. Flexibility & Choice-Based Learning
- Open Electives offered from Sem V onwards in R20 (earlier only from Sem VI in R18).
- Students can explore interdisciplinary domains earlier.

7. Global Competitiveness
- Competitive Exam preparation (GATE, GRE, TOEFL, etc.) embedded as Mandatory Course.
- Encourages students to pursue higher studies, global certifications, and research careers.

Proposed course structure:

The proposed course structure has been derived from the regulations framed by AICTE,UGC and the affiliating University(JNTUH) guidelines. The Course structure is framed to cater the needs of the industry and to prepare the engineering graduates to get globally competent to meet the requirements. The R20 curriculum has been broadly divided into four classifications, comprising: the humanities and basic sciences component, which is about 21.25%; in the engineering sciences which is about 11.25% is maintained;

In the professional core engineering and professional and electives which is about 60% is maintained; In the interdisciplinary courses like open electives, which is about 7.5%, this increment is made to cater the needs of new job markets. In the R20 regulation, a required

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increment is proposed in the Basic Sciences component in view of enhancing the applications of emerging technologies to cater to the needs of the new sector of employment opportunities. There a reasonable Engineering Sciences component is maintained is to focus on skill development. A reasonable emphasis on the professional core-engineering component is maintained; the graduates are expected to be well versed with core engineering concepts, have sufficient engineering sciences knowledge, and have reasonably sufficient interdisciplinary engineering knowledge of their choice. Since the choice-based credit system is implemented, the students are given the freedom to establish their portfolios by choosing professional electives and open electives of their choice. However, mandatory credit free courses are offered to contribute to the overall development of the engineering graduate. Beyond these value-added courses, mandatory courses were also offered to contribute to new skill set.

The total courses of the program are categorized and distributed across eight semesters, is classified based on the following composition:

HSC	Humanities and Sciences Courses
BSC	Basic Sciences Courses
ESC	Engineering Science Courses
PCC	Professional Core Courses
PW	Project Work
PEC	Professional Elective Courses
OEC	Open Elective Courses

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Weightage of HSC, BSC, ESC, PCC, PEC, OEC & PW

S.No.	Classification		Course Work-Subject Area	Range of Total Credits (%)		
	AICTE	UGC		Min	Max	Adopted
1	HS		Humanities and Social Sciences Courses	5	10	21.5
2	BS		Basic Sciences Courses (BSC) including Mathematics, Physics, Chemistry, Biology;	15	20	23
3	ES		Engineering Sciences Courses (ES),including Materials, Workshop, Drawing, Basics of Electrical/ Electronics/Mechanical/Computer Engineering	15	20	11.5
4	PC	Core Courses	Professional Core Courses(PCC),relevant to the Chosen specialization/branch;(May be split into Hard(no choice) and Soft(with choice),if required	30	40	59
5	PW		Project Work, Seminar and/or Internship in Industry or elsewhere.	10	15	15
6	PE	Elective Courses	Professional Electives Courses(PEC) relevant to The chosen specialization/branch;	10	15	18
7	OE		Open Electives Courses(OEC),from other technical and/or emerging areas	5	10	12

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Semester-I

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
1	BS	CBSM2	Linear Algebra & Graph Theory	3	0	0	3	30	70	100
2	HS	CHSE1	English	2	0	0	2	30	70	100
3	BS	CBSC7	Chemistry	3	1	0	4	30	70	100
4	ES	CESEG1	Engineering Graphics	1	0	4	3	30	70	100
5	ES	CESCP1	C Programming for Problem Solving	2	1	0	3	30	70	100
6	HS	CHSE2	English Language & Communication Skills Lab	0	0	2	1	30	70	100
7	BS	CBSC8	Chemistry Lab	0	0	3	1.5	30	70	100
8	ES	CESCP2	C Programming for Problem Solving Lab	0	0	3	1.5	30	70	100
9	MC	MC001	Sports	0	0	0	Satisfactory			
		Total Credits		**11**	**02**	**12**	**19**	**240**	**560**	**800**

Mandatory Course: SPORTS

The Students need to participate in any physical activity such as sports, marathon, conducted by any College or any organization, students should produce participation certificate for clearing this course.

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Semester-II

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
1	BS	CBSM1	Ordinary Differential Equations & Vector Calculus	3	0	0	3	30	70	100
2	BS	CBSP1	Applied Physics	3	1	0	4	30	70	100
3	ES	CESSD1	Semi-Conductor Devices & Circuits	3	0	0	3	30	70	100
4	ES	CESBE2	Basic Electrical Engineering	3	0	0	3	30	70	100
5	BS	CBSP2	Applied Physics Lab	0	0	3	1.5	30	70	100
6	ES	CESSD2	Semi-Conductor Devices & Circuits Lab	0	0	3	1.5	30	70	100
7	ES	CESBE4	Basic Electrical & Simulation Lab	0	0	3	1.5	30	70	100
8	ES	CESIT1	IT Workshop	0	0	3	1.5	30	70	100
9	MC	MC002	Yoga	0	0	0	Satisfactory			
		Total Credits		**12**	**01**	**12**	**19**	**240**	**560**	**800**

Mandatory Course: YOGA

The student should undergo yoga meditation course offered by any organization or conducted by any college. Student should produce the completion certificate for clearing this course.

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Semester-III

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
1	HS	CHSM1	Business Economics and Financial Analysis	3	0	0	3	30	70	100
2	BS	CBSM4	Mathematical Foundations of Computer Science	3	0	0	3	30	70	100
3	ES	CESLC1	Logic Circuits Design	3	0	0	3	30	70	100
4	PC	C53PC1	Database Management Systems	3	0	0	3	30	70	100
5	PC	C53PC2	Data Structures	3	0	0	3	30	70	100
6	PC	C53PC3	Operating Systems	3	0	0	3	30	70	100
7	ES	CESLC2	Logic Circuits Design Lab	0	0	2	1	30	70	100
8	PC	C53PC4	Database Management Systems Lab	0	0	2	1	30	70	100
9	PC	C53PC5	Data Structures Lab	0	0	2	1	30	70	100
		Total Credits		**18**	**0**	**06**	21	**270**	**630**	**900**

Mandatory Course: Cultural Activity
The student should participate in culture activity (Music/Dance/Singing/etc.) conducted by the College, student Should produce the participation certificate for clearing this course.

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Semester-IV

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
1	BS	CBSM3	Probability & Statistics	3	0	0	3	30	70	100
2	PC	C54PC1	Computer Organization & Architecture	3	0	0	3	30	70	100
3	PC	C54PC2	Software Engineering	3	0	0	3	30	70	100
4	PC	C54PC3	Design and Analysis of Algorithms	3	0	0	3	30	70	100
5	PC	C54PC4	Formal Languages & Automata Theory	3	0	0	3	30	70	100
6	PC	C54PC5	Object Oriented Programming through Java	3	0	0	3	30	70	100
7	PC	C54PC6	Object Oriented Programming through Java Lab	0	0	2	1	30	70	100
8	PC	C54PC7	Computer Organization & Architecture Lab	0	0	2	1	30	70	100
9	PC	C54PC8	Design and Analysis of Algorithms Lab	0	0	2	1	30	70	100
10	MC	MC004	Video with Social Messages	0	0	0	Satisfactory			
		Total Credits		**18**	**0**	**06**	**21**	**270**	**630**	**900**

Mandatory Course: Video with Social Messages

Student should make video with social messages. This has to be uploaded in the youtube.com, by maintaining the terms and conditions of youtube.com. Student should produce youtube.com link with screen shot for clearing this mandatory course.

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Semester – V

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
01	PCC	C55PC1	Object Oriented Analysis and Design	03	00	00	03	30	70	100
02	PCC	C55PC2	Python Programming	03	00	00	03	30	70	100
03	PCC	C55PC3	Computer Networks	03	00	00	03	30	70	100
04	PCC	C55PC4	Compiler Design	03	00	00	03	30	70	100
05	PEC	C55PE1A	Distributed Databases	03	00	00	03	30	70	100
		C55PE1B	Distributed Computing							
		C55PE1C	Network Protocols							
		C55PE1D	Information Theory & Coding							
		C55PE1E	Software Process & Project Management							
		C55PE1F	Artificial Intelligence							
06	OEC	C55OE1	**OPEN ELECTIVE1**	03	00	00	03	30	70	100
07	PCC	C55PC5	Object Oriented Analysis And Design Lab	00	00	02	01	30	70	100
08	PCC	C55PC6	Python Programming Lab	00	00	02	01	30	70	100
09	PW	C55PW1	Project-I	00	00	02	01	50	--	50
10	MC	MC05	MOOCs/ONLINE COURSE	00	00	00	S			
			Total Credits	**18**	**0**	**06**	**21**	**290**	**560**	**850**

Project-I:

Student should develop back end database tables for any chosen database application. It can be extension of Project work carried out in VI semester with back end connections. The table developed should be more than a Six-table database. Students can form a minimum of two and maximum of 4 in a group. The allocated teachers should guide in framing the problem, teach the back end technologies like Oracle during the lab hours allotted to Hem. The departmental academic committee based on the rubrics framed will do the evaluation of the project.

Mandatory course: MOOCs/Online Course

The student should register for any one of the MOOCs course offered by NPTEL, COURSERA, UDEMY, student should submit the completion certificate to clear this course.

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Semester - VI

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
01	PCC	C56PC1	Data warehousing and Data Mining	03	00	00	03	30	70	100
02	PCC	C56PC2	Web Technologies	03	00	00	03	30	70	100
03	PEC	C56PE1A	Advanced Databases	03	00	00	03	30	70	100
		C56PE1B	Mobile Computing							
		C56PE1C	Wireless Networks							
		C56PE1D	Cryptography							
		C56PE1E	Software Requirements Estimation							
		C56PE1F	Machine Learning							
04	PEC	C56PE2A	Introduction to Analytics	03	00	00	03	30	70	100
		C56PE2B	Cloud Computing							
		C56PE2C	Mobile Ad hoc Networks							
		C56PE2D	Network Security							
		C56PE2E	Design Patterns							
		C56PE2F	Deep Learning							
05	HSC	CHSM2	Fundamentals of Management	03	00	00	03	30	70	100
06	PCC	C56PC3	Data warehousing and Data Mining Lab	00	00	02	01	30	70	100
07	PCC	C56PC4	Web Technologies Lab	00	00	02	01	30	70	100
08	HSC	CHSE3	Advance Communication Skills Lab	00	00	04	02	30	70	100
09	PW	C56PW2	Project-II*	00	00	02	01	50	--	50
10	MC	MC06*	Personality Development/ Skill Development/ Technical Events/Internships	00	00	00	S			
			Total Credits	**15**	**0**	**10**	**20**	**290**	**560**	**850**

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*Project-II: This project is extension of project work carried out in V semester with back end connections. Front end should be developed with .NET, Python, or Java framework. The departmental academic committee based on the rubrics framed will do the evaluation of the project.

* MC06:

1. The satisfactory report should be submitted either for 1 or for 2 given below.
2. Personality Development/Skill Development: Student should participate in personality development/communication skills programme, student should submit the completion certificate for Clearing this course.

The student should participate in any technical event organized by the College/Organization/Industry and submit the participation certificate for clearing this course

Semester- VII

S.No.	Course Classification	Course Code	Name of the subject	L	T	P	C	I	E	Total
01	PCC	C57PC1	Linux Programming	03	00	00	03	30	70	100
02	PCC	C57PC2	Information Security	03	00	00	03	30	70	100
03	PEC	C57PE1A	Big Data Analytics	03	00	00	03	30	70	100
		C57PE1B	Soft Computing							
		C57PE1C	Storage Area Networks							
		C57PE1D	Cyber Security							
		C57PE1E	Software Quality Assurance							
		C57PE1F	Mobile Application Development							
04	PEC	C57PE2A	Predictive Analytics	03	00	00	03	30	70	100
		C57PE2B	Pervasive Computing							
		C57PE2C	Semantic Web							
		C57PE2D	Computer Forensics							
		C57PE2E	Software Testing Methodologies							
		C57PE2F	Internet of Things							
05	OEC	C57OE1	Open Elective-II	03	00	00	03	30	70	100
06	PCC	C57PC3	Linux Programming Lab	00	00	02	01	30	70	100
07	PCC	C57PC4	Information Security Lab	00	00	02	01	30	70	100
08	PW	C57PW3	Major Project Phase-I*	00	00	04	02	100	--	100
10	MC	MC07*	Competitive Exams	00	00	00	S			
			Total Credits	**15**	**0**	**08**	**19**	**310**	**490**	**800**

Chairman BOS
Dr M Narender
Signature:

HOD CSE
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University Nominee
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Signature:

External Subject Expert-I
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Industry Expert
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Signature:

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Signature:

Internal Subject Expert-II
Dr B Sunil Srinivas
Signature:

Internal Subject Expert-III
Dr. Ch B N Lakshmi
Signature:

***Major Project Phase I**: Students can form a group of minimum of two or maximum of four under the allocated guide, students group should choose a project title, for the chosen project title carryout a detailed literature Survey, problem formulation, planning higher-level design. The PRC Committee as Continuous Internal Evaluation will make the project evaluation. The PRC committee consists of Head, Project Coordinator, One Senior Professor, One Associate Professor, and guide.

***MC07 Competitive Exams**

Mandatory Course: for completion of this course the student can submit the proof of appearing the competitive Exams like, GATE, IELTES, GRE, TOEFL, CDAC, CDS, CAT, or any examination organized by NATIONAL TESTING AGENCY (NTA), or college in the level of NTA.

or

The student should request for the provision of conducting Technical seminar by the department. The topic of seminar should be the current technology of computer science. The Departmental Academic Committee (DAC) based on rubrics framed will do the evaluation.

Semester-VIII

S.No.		Course Code	Name of the subject	L	T	P	C	I	E	Total
01	PEC	C58PE1A	Data Science	03	00	00	03	30	70	100
		C58PE1B	Quantum Computing							
		C58PE1C	Social Networks							
		C58PE1D	Blockchain Technology							
		C58PE1E	Agile Software Development							
		C58PE1F	Stack Technologies							
02	OEC	C58OE2	Open Elective III	03	00	00	03	30	70	100
03	OEC	C58OE3	Open Elective IV	03	00	00	03	30	70	100
04	PW	C58PW3	*Major Project Phase II	00	00	20	10	–	100	100
			Total Credits	**09**	**00**	**20**	**19**	**90**	**310**	**400**

***Major Project Phase II:** The approved project in Major Project Phase 1 should be implemented, student should Submit the progress of his implementation work in 2 phases, to the PRC (Project Review Committee). The PRC Consists of Head, Project Coordinator, One Senior Professor, One Associate Professor, and guide. Upon approval In both the phases, the student is eligible to submit the final project report by completing proper documentation to The external viva voce.

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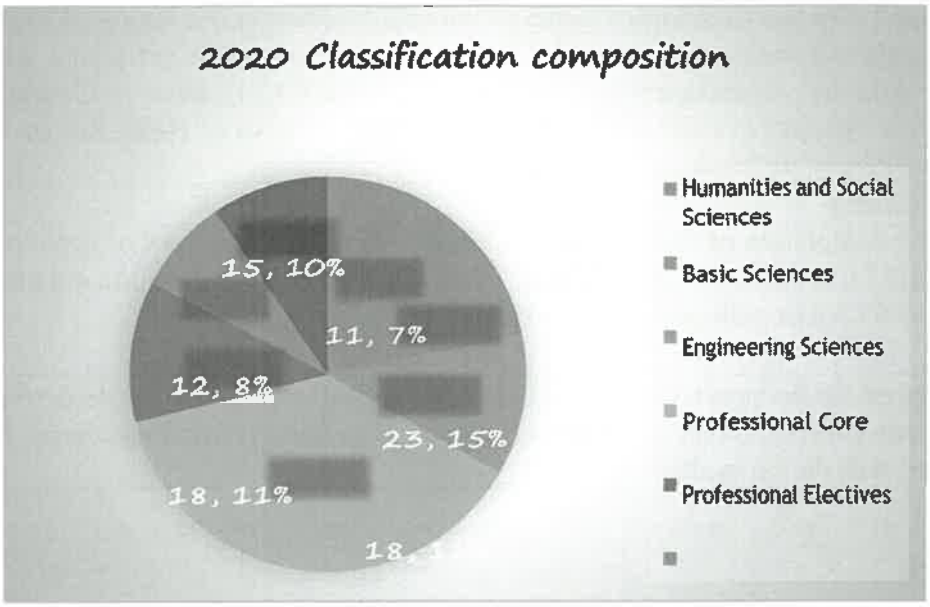
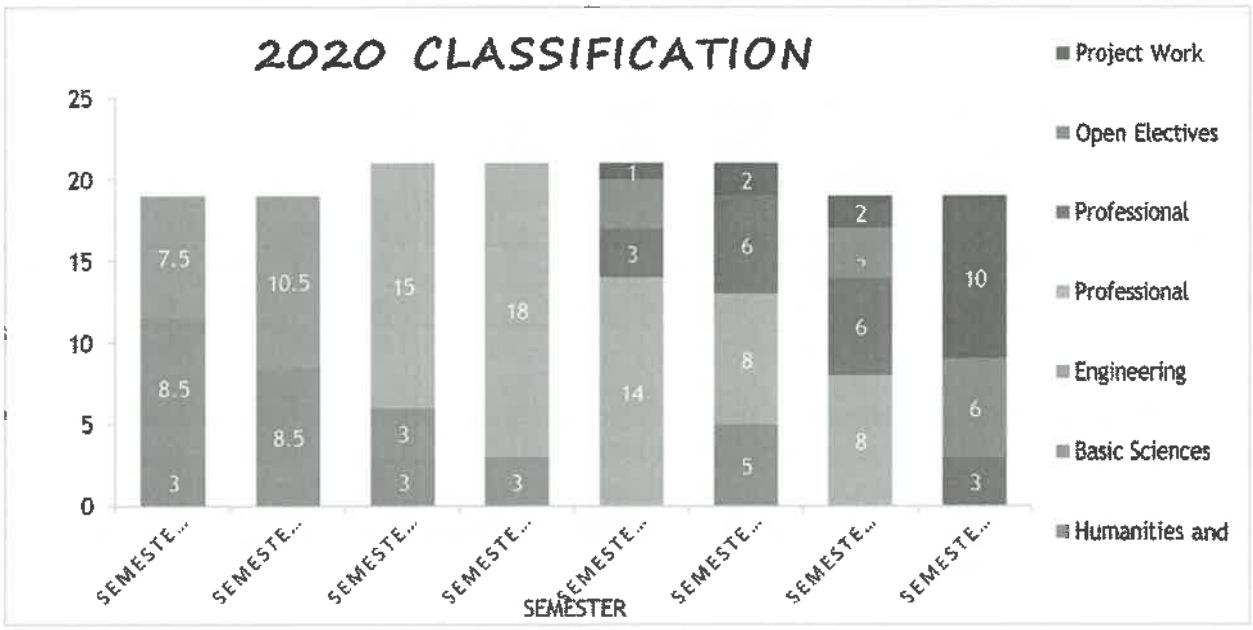


Pie chart for course structure based on classification composition.



Chairman BOS
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Dr A. Suresh Rao
Signature: 24/11/20

University Nominee
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Signature:

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Signature:

Internal Subject Expert-II
Dr B Sunil Srinivas
Signature:

Internal Subject Expert-III
Dr. Ch B N Lakshmi
Signature:

Syllabus changes from R18 to R20:

Change in Titles and Revision of Syllabus:

R18 Course Title	R20 Course Title	Change/Remark
Data Structures	Data Structures using C	Title updated to specify language
Software Engineering	Software Engineering & Project Management	Expanded scope
Computer Networks	Computer Networks & Security	Security component added
Operating Systems	Operating Systems	No change
—	Artificial Intelligence	Newly introduced
Cloud Computing	—	Removed
Database Management Systems	Database Management Systems	No change
Web Technologies	Web Application Development	Title modernized
	Formal Languages and Automata Theory	introduced

Agenda 4: Approval of Detailed Syllabus for I & II year

Resolution:

The Board examined the proposed detailed syllabus for I and II year courses under the R20 regulations. After a comprehensive review and discussion, the Board unanimously approved the Detailed Syllabus for all courses of I and II year B.Tech programs under R20 regulations, to be implemented from the academic year 2020–21.

Discussion:

BOS chairman, presented the detailed syllabus of each first and second year subject and BOS members given few suggestions to update the syllabus.
BoS members recommend PPS subject credits into 4.5 (theory and lab)

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Dr. Ch B N Lakshmi
Signature:

Members suggested Memory allocation functions related experiments to be included in C Programming language lab.
Members suggested to frame the elective courses based on thrust areas.
NoSQL concept need to include in DBMS.
Members suggested that 2D plotting experiments to be included in SCI laboratory course.
Members suggested that concepts related to sorting and searching need to be included in the proposed subject object oriented programming and data structures using java both theory course and laboratory course.
Members suggested that more practical oriented teaching need to be incorporated.

Agenda 5: Approval of Continuous Internal Evaluation and External Evaluation

Resolution:

The Board reviewed the proposed framework for Continuous Internal Evaluation (CIE) and End/External Evaluation (EE) under the R20 regulations. After careful consideration of assessment methods, weightages, and academic standards, the Board unanimously approved the Continuous Internal Evaluation and External Evaluation schemes for all B.Tech programs under R20 regulations, effective from the academic year 2020–21.

Discussion:

BoS –Chairman discussed the points related to evaluation of internal and external exams.

Distribution and Weightage of marks

A student detained due to lack of credits, shall be promoted to the next academic year only after acquiring the required academic credits. The academic regulations under which the student has been re-admitted shall be applicable to him. Evaluation – Distribution and Weightage of marks The performance of a student in every subject/course (including Practical) will be evaluated for 100 marks each, with 30 marks allotted for CIE (Continuous Internal Evaluation) and 70 marks for SEE (Semester End Examination).

For theory subjects, during a semester there shall be two mid-term and two minor examinations. Each mid-term examination consists of one objective paper and one descriptive paper carrying 15 marks for descriptive and 5 marks for objective paper with the time duration of 1hour 20

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Signature:	Signature:	Signature:
External Subject Expert-I	**External Subject Expert-II**	**Industry Expert**
Prof. R. B.V Subramanyam	Dr M.A. Hameed	Dr V. Sree Kumar
Signature:	Signature:	Signature:
Internal Subject Expert-I	**Internal Subject Expert-II**	**Internal Subject Expert-III**
Dr V Krishna	Dr B Sunil Srinivas	Dr. Ch B N Lakshmi
Signature:	Signature:	Signature:

minutes. Each minor examination consists of an objective paper/assignment with 10 marks with a time duration of 60 minutes/one period. The syllabus for the first minor examination shall be from unit 1 and first mid examination will be 50% of syllabus. The second minor examination will have the partial syllabus from the 3rd unit i.e., (2nd half of portion not covered in mid-1) and 4th unit (i.e., 1st half of portion). The syllabus for the second mid examination will be the remaining 50% of the syllabus. The marks secured by the student in each mid-term examination will be evaluated for 20 marks; subsequently each minor examination will be evaluated for 10 marks each. The total marks secured by the student for the whole CIE (Continuous Internal Evaluation) will be the average of 2 mid-terms and 2 minor examinations. If any student is absent from / would like to seek improvement in any subject of a mid- term examination, an on-line test will be conducted for him by the examination branch of the college, which will be scheduled after completion of both mid-term and minor examinations.

The details of the end semester examination and the pattern of the question paper are as follows:
- The end semester examinations will be conducted for 70 marks consisting of two parts viz.

  i) Part –A for 20 Marks,
  ii) Part –B for 50 marks.

- It is mandatory to answer all questions (which include ten sub-questions) in Part –A.
- Part-B consists of five questions (number from 2 to 6) carrying 10 marks each. Each of these questions is from one unit and may contain sub questions. For each question there will be an "either" "or" choice, which means that there will be two questions from each unit and the student should answer either of the two questions. 8.3 For practical subjects there shall be a continuous internal evaluation during the semester for 30 marks and 70 marks for end semester practical examinations.

The duration for both Internal and External Practical Examination is 3 hours.
For 30 marks of Internal Evaluation of practical subjects, day-to-day evaluation in laboratory is done for 15 marks and internal practical examination will be assessed for 15 marks.
The concerned laboratory subject teacher (Internal Examiner) will conduct the internal practical examination only. The external practical examination will have 2 examiners, one is the external examiner and the other is the internal examiner. The examination branch of the college will appoint the external examiner.

Chairman BOS Dr M Narender Signature:	**HOD CSE** Dr A. Suresh Rao Signature: 21/11/20	**University Nominee** Dr. G Venkata Rami Reddy Signature:
External Subject Expert-I Prof. R. B.V Subramanyam Signature:	**External Subject Expert-II** Dr M.A. Hameed Signature:	**Industry Expert** Dr V. Sree Kumar Signature:
Internal Subject Expert-I Dr V Krishna Signature:	**Internal Subject Expert-II** Dr B Sunil Srinivas Signature:	**Internal Subject Expert-III** Dr. Ch B N Lakshmi Signature:

For the subjects that include design and/or drawing, (such as engineering graphics, engineering drawing, machine drawing and estimation), the distribution shall be 30 marks for continuous internal evaluation (15 marks for day-to-day evaluation and 15 marks for internal examination) and 70 marks for semester end examination. There shall be two internal examinations in a semester and the average of the two shall be considered for the award of marks for internal examinations.

The student has to undergo a comprehensive MCQ TEST/comprehensive Viva/Seminar/Project Work offered to him by their respective departments and subsequently should satisfy the requirements for completion to acquire the required credits.

The student during his VII semester has to register for a UG project, and subsequently get permission for implementing the project by the departmental committee.
The evaluation process of the UG project is done for 100 marks; to be done in VII semester part A of the Project, and the same project should be carried out for VIII semester and be evaluated for 100 marks (External Evaluation) as part B.

The laboratory marks, sessional marks, and the end examination marks awarded by the college are subject to scrutiny and scaling, if necessary, by a committee, constituted in this regard, with a university representative/under the guidance of the Director of Evaluation of the affiliating university. The recommendations of the committee are final and binding.

The laboratory records, internal examination scripts and external examination scripts, shall be preserved as per the rules for two consecutive academic years if the respective subjects are cleared, and shall be produced before the committee as and when required, till preserved.

For mandatory courses, the student should participate in activities and submit the proof of attendance, or satisfactory report of participation.

For all non-credit courses and mandatory courses, no marks or letter grade is allotted.
Resolution: Approved.

Agenda 5: Identification of Value-Added Courses (VACs)

Chairman BOS	**HOD CSE**	**University Nominee**
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External Subject Expert-I	**External Subject Expert-II**	**Industry Expert**
Prof. R. B.V Subramanyam	Dr M.A. Hameed	Dr V. Sree Kumar
Signature:	Signature:	Signature:
Internal Subject Expert-I	**Internal Subject Expert-II**	**Internal Subject Expert-III**
Dr V Krishna	Dr B Sunil Srinivas	Dr. Ch B N Lakshmi
Signature:	Signature:	Signature:

Resolution:

The Board discussed and identified Value-Added Courses (VACs) to enhance students' technical knowledge, employability skills, and industry readiness. After careful review of the proposed courses and their relevance to the curriculum, the Board unanimously approved the introduction of identified Value-Added Courses (VACs) under R20 regulations, to be offered alongside the regular curriculum from the academic year 2020–21.

Discussion:

The BOS Chairman presented and discussed the proposed titles of Value-Added Courses (VACs) to enhance students' skills beyond the prescribed curriculum. These VACs aim to bridge the gap between academic learning and industry requirements, improve employability, and provide students with hands-on exposure to emerging technologies and interdisciplinary knowledge.
After deliberations, the following **Value-Added Courses** were identified for implementation:
Robotics & Automation – To equip students with knowledge of robotics concepts, sensors, actuators, and automation systems, fostering expertise in modern industrial applications.

Pedagogical Studies – To develop effective communication, teaching, and presentation skills, preparing students for academic, corporate training, and leadership roles.

Blockchain – To provide in-depth knowledge of blockchain technology, its applications in secure transactions, and its impact on emerging fields like fintech, cybersecurity, and data integrity.

Agenda 6: Substitute subjects for Readmitted students

Resolution:

The Board reviewed the academic records of students readmitted from R17 and R18 regulations into the R20 curriculum. After detailed mapping of completed subjects with the R20 structure, the Board approved the list of substitute subjects for these students to ensure curriculum equivalence and smooth academic progression. It was resolved that students without curriculum changes will continue without substitutes, while those with curriculum variations will follow the approved substitute subject list.

Chairman BOS Dr M Narender Signature:	**HOD CSE** Dr A. Suresh Rao Signature: 24/4/20	**University Nominee** Dr. G Venkata Rami Reddy Signature: G.V.
External Subject Expert-I Prof. R. B.V Subramanyam Signature:	**External Subject Expert-II** Dr M.A. Hameed Signature:	**Industry Expert** Dr V. Sree Kumar Signature:
Internal Subject Expert-I Dr V Krishna Signature:	**Internal Subject Expert-II** Dr B Sunil Srinivas Signature:	**Internal Subject Expert-III** Dr. Ch B N Lakshmi . Signature:

Discussion:

The BOS reviewed the case of the following student who has been readmitted from **Regulation R18 to R20**. After reviewing the curriculum and completed coursework, it was determined that there are no subject changes required for the student, as the academic structure is aligned with the R20 regulation.

S. No.	HT No.	Name of Student	Year/ Semester	Academic Year	Regulation (From–To)	Batch	Substitute Subject
1	18K91A05C4	MD SHOAIB	II-I	2021–22	R18 → R20	2020 Batch	NO SUBSTITUTE

Agenda 7: Action Taken Report and Approval of DAC Minutes

Resolution:

The Board reviewed the Action Taken Report (ATR) on the decisions made in previous meetings and noted satisfactory progress on all points. The Board also examined and discussed the minutes of the Department Academic Committee (DAC) meetings. After careful review, the Board approved the Action Taken Report and ratified the minutes of the DAC meetings, appreciating the efforts made towards continuous improvement of academic and administrative processes.

Discussion:

The Board of Studies reviewed the Action Taken Report (ATR) on the resolutions from the previous BOS meeting. The ATR highlighted the successful implementation of decisions, including curriculum enhancements, value-added courses, and academic process improvements. Additionally, the Department Academic Committee (DAC) minutes were presented to the members for discussion. The Board found the recommendations of the DAC to be aligned with departmental goals and institutional vision.

Agenda 8: Identification of Workshops and guest lectures

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Dr A. Suresh Rao
Signature: 29/11/20

University Nominee
Dr. G Venkata Rami Reddy
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Prof. R. B.V Subramanyam
Signature:

External Subject Expert-II
Dr M.A. Hameed
Signature:

Industry Expert
Dr V. Sree Kumar
Signature:

Internal Subject Expert-I
Dr V Krishna
Signature:

Internal Subject Expert-II
Dr B Sunil Srinivas
Signature:

Internal Subject Expert-III
Dr. Ch B N Lakshmi
Signature:

Resolution:

The BOS approved the organization of department-level workshops and guest lectures each semester. The department shall prepare a schedule of topics and resource persons in consultation with industry and academic experts.

Discussion:

The BOS members discussed the need for conducting workshops and guest lectures to strengthen students' practical knowledge, industry exposure, and overall professional development. Emphasis was placed on inviting industry experts, academicians, and researchers to bridge the gap between theoretical concepts and real-world applications. Suggestions were made to include sessions on emerging technologies, programming skills, career development, research trends, and entrepreneurship, ensuring students are well-prepared for placements and higher studies.

Agenda 9: Approval of teaching methods

Resolution:

The BOS approved the proposed teaching methods and recommended their systematic implementation to ensure quality education, better student engagement, and improved Program Outcome (PO) attainment.

Discussion:

The BOS discussed various **innovative teaching and learning methods** to enhance student engagement, improve learning outcomes, and align with Outcome-Based Education (OBE) practices. Members emphasized incorporating:

- **ICT-enabled teaching tools** (smart classrooms, virtual labs, and simulation tools).
- **Active learning strategies** (flipped classrooms, group discussions, peer learning).
- **Industry-oriented teaching approaches** (case studies, mini-projects, real-time problem-Solving).
- **Assessment innovations** (formative assessments, quizzes, project-based evaluations). The committee also highlighted the importance of continuous improvement in pedagogy Through faculty development programs.

Chairman BOS
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Dr A. Suresh Rao
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University Nominee
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Prof. R. B.V Subramanyam
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Dr M.A. Hameed
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Industry Expert
Dr V. Sree Kumar
Signature:

Internal Subject Expert-I
Dr V Krishna
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Internal Subject Expert-II
Dr B Sunil Srinivas
Signature:

Internal Subject Expert-III
Dr. Ch B N Lakshmi
Signature:

Agenda 10: Approval of tools used in teaching and learning process to assess course outcomes

Resolution:

The BOS **approved the proposed tools** for assessing Course Outcomes. Faculty members are encouraged to integrate these tools into their teaching plans and submit outcome attainment reports for each course at the end of every semester.

Discussion:

The BOS deliberated on the importance of systematically using assessment and evaluation tools to measure Course Outcome (CO) attainment in line with Outcome-Based Education (OBE). The members reviewed various tools and techniques to ensure transparency, fairness, and accuracy in evaluating student performance.

The following assessment tools and calculation were discussed:

Direct Assessment Tools: Internal assessments, quizzes, assignments, lab performance, mini-projects, and semester exams.

Indirect Assessment Tools: Student feedback, exit surveys, alumni feedback, employer feedback.

Direct CO attainment calculation:
Direct attainment of CO = (0.2*mid-term+0.1*assignment) *0.8+ (0.7 * semester End Examinations) *0.2

Indirect CO attainment calculation:
Indirect attainment of CO = Average of Course end Survey given by all the students for all the Course Outcomes of each course.
Overall CO attainment = 0.9* Direct attainment of CO + 0.1* Indirect attainment of CO.

Continuous Improvement Assessment Methodology:
In view of Change in classification composition of Course structure and change in Academic Regulations of R20, the Continuous Improvement assessment methodology fixes targets across

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External Subject Expert-I	**External Subject Expert-II**	**Industry Expert**
Prof. R. B.V Subramanyam	Dr M.A. Hameed	Dr V. Sree Kumar
Signature:	Signature:	Signature:
Internal Subject Expert-I	**Internal Subject Expert-II**	**Internal Subject Expert-III**
Dr V Krishna	Dr B Sunil Srinivas	Dr. Ch B N Lakshmi
Signature:	Signature:	Signature:

The course outcomes are as follows, Target: Minimum is 40% of marks (ie,, minimum pass mark) Course Outcome Attainment is given with 3 levels
R20 (20 Batch) (level3 >=60%, level2>=50% and level 1<50%).

For the overall Programme the PO attainment target should be as follows: 80% of Programme Articulation Matrix.

Agenda 11: Approval of Mandatory Courses

Resolution:

The Board reviewed the list of **mandatory courses** proposed under the R20 regulations to ensure students' holistic development and compliance with regulatory requirements. After thorough discussion, the Board approved the inclusion and implementation of the identified mandatory courses, effective from the academic year 2020–21.

Discussion:

The student should register for any one of the MOOCs course offered by NPTEL, COURSERA, UDEMY, student should submit the completion certificate to clear this course.

The satisfactory report should be submitted either for 1 or 2 or 3 given below.

1. Personality Development/Skill Development: Student should participate in personality Development/communication skills programme, student should submit the completion Certificate for clearing this course
2. Technical Events: The student should participate in any technical event organized by any College/Organization/Industry and submit the participation certificate for clearing this course
3. Internships: The Student should submit the completion certificate from the respective Organization. Where he/she performs their internship.

Competitive Exams:

For completion of this course the student can submit the proof of appearing the competitive exams like, GATE, IELTES, GRE, TOEFL, CDAC, CDS, CAT, or any examination organized

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Signature:

Industry Expert
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Signature:

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Signature:

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Signature:

by NATIONAL TESTING AGENCY (NTA), or college in the level of NTA.(or)The student should request for the provision of conducting Technical Seminar by the department. The topic of seminar should be the current technology of respective Engineering Branch. The evaluation will be done by the Departmental Academic Committee (DAC) based on rubrics framed.

Agenda 12: Approval of M.Tech Detailing of Syllabus - R21

Resolution:

After thorough deliberation, the Board of Studies **unanimously approved the M.Tech (CSE) course structure and detailed syllabus** with the following provisions:

1. The syllabus and course structure shall be **implemented from the upcoming academic Session**.

2. Minor modifications suggested during the meeting shall be incorporated by the **Department Academic Committee (DAC)** before final publication.

3. The department shall ensure **continuous review and update of the syllabus** every two years To incorporate emerging trends and industry requirements.

Discussion:

The Board of Studies (BOS) reviewed the proposed M.Tech (CSE) course structure and detailed syllabus for all semesters. Key points discussed included:

Course Structure:

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Signature:	Signature:	Signature:
External Subject Expert-I	**External Subject Expert-II**	**Industry Expert**
Prof. R. B.V Subramanyam	Dr M.A. Hameed	Dr V. Sree Kumar
Signature:	Signature:	Signature:
Internal Subject Expert-I	**Internal Subject Expert-II**	**Internal Subject Expert-III**
Dr V Krishna	Dr B Sunil Srinivas	Dr. Ch B N Lakshmi
Signature:	Signature:	Signature:

I Semester

S.No	Class	Course Code	Course Title	Int. marks	Ext. marks	L	T	P	C
1	PC	C581PC1	Data Structures and Algorithms	30	70	3	0	0	3
2	PC	C581PC2	Advanced Databases	30	70	3	0	0	3
3	PC	C581PC3	Digital Image Processing	30	70	3	0	0	3
4	PE1	C581PE1A	Information Security	30	70	3	0	0	3
5		C581PE1B	Mobile Applications and Services						
6		C581PE1C	Big Data Analytics						
7		C581PE1D	Game Theory						
8	PE2	C581PE2A	Optimization Techniques	30	70	3	0	0	3
9		C581PE2B	Natural Language Processing						
10		C581PE2C	Advanced Computer Architecture						
11		C581PE2D	Computer Forensics						
12	PC	C581PC4	Data Structures and Algorithms Lab	30	70	0	0	3	1.5
13	PC	C581PC5	Digital Image Processing Lab	30	70	0	0	3	1.5
			Total Credits			**15**	**0**	**6**	**18**

Chairman BOS
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Dr A. Suresh Rao
Signature: 22/4/20

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Industry Expert
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Dr B Sunil Srinivas
Signature:

Internal Subject Expert-III
Dr. Ch B N Lakshmi
Signature:

II Semester

S.No	Class	Course Code	Course Title	Int. marks	Ext. marks	L	T	P	C
1	PC	C582PC6	Machine Learning Techniques	30	70	3	0	0	3
2	PC	C582PC7	Distributed Computing	30	70	3	0	0	3
3	PC	C582PC8	Wireless Sensor Networks	30	70	3	0	0	3
4	PE3	C582PE3A	Deep Learning with Computer Vision	30	70	3	0	0	3
5		C582PE3B	Internet of Things						
6		C582PE3C	Block chain						
7		C582PE3D	Cyber Security						
8	PE4	C582PE4A	Mobile Computing	30	70	3	0	0	3
9		C582PE4B	Soft Computing						
10		C582PE4C	Service Oriented Computing						
11		C582PE4D	Cloud Computing						
12	PC	C582PC9	Machine Learning Techniques Lab	30	70	0	0	3	1.5
13	PC	C582PC10	Wireless Sensor Networks Lab	30	70	0	0	3	1.5
14	AC	C583AC1	Audit Course-I			2	0	0	0
			Total Credits			**17**	**0**	**6**	**18**

Chairman BOS
Dr M Narender
Signature

HOD CSE
Dr A. Suresh Rao
Signature: 27/11/20

University Nominee
Dr. G Venkata Rami Reddy
Signature: G.V.

External Subject Expert-I
Prof. R. B.V Subramanyam
Signature:

External Subject Expert-II
Dr M.A. Hameed
Signature:

Industry Expert
Dr V. Sree Kumar
Signature:

Internal Subject Expert-I
Dr V Krishna
Signature:

Internal Subject Expert-II
Dr B Sunil Srinivas
Signature:

Internal Subject Expert-III
Dr. Ch B N Lakshmi
Signature:

III Semester

S.No	Class	Course Code	Course Title	Int. marks	Ext. marks	L	T	P	C
1	OE	C223OE1	Open Elective1	30	70	3	0	0	3
2	PE	C583PE5	Research Methodology	30	70	3	0	0	3
3	PW	C583PW	Project Phase-I	100	--	--	0	20	10
4	AC	C583AC2	Audit Course-II			2	0	0	0
			Total Credits			**8**	**0**	**20**	**16**

IV Semester

S.No	Class	Course Code	Course Title	Int. marks	Ext. marks	L	T	P	C
1	PW	C584PW	Project Phase-II	--	100	0	0	32	16
			Total Credits			**0**	**0**	**32**	**16**

M.Tech (CSE) Open Electives R21.

1. Artificial intelligence
2. Artificial intelligence & machine learning
3. Block chain technology
4. Cloud computing
5. Cyber security
6. Deep learning
7. Internet of things
8. Machine learning
9. Python programming
10. Python programming lab
11. Operating systems

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Signature:

- The course structure was examined for compliance with the institute's academic regulations, credit distribution, and AICTE guidelines.
- The syllabus content was reviewed to ensure it covers advanced topics in Computer Science, promotes research and innovation, and is aligned with current industry requirements.
- The Board analyzed the balance between core subjects, electives, and research/project work, ensuring students gain both theoretical knowledge and practical exposure.
- Emphasis was placed on integration of emerging technologies, hands-on lab work, and fostering analytical, problem-solving, and research skills.
- were made for minor modifications in certain electives to improve clarity, learning outcomes, and alignment with Program Outcomes (POs) and Program Educational Objectives (PEOs).

Agenda 13: Other Points if any

Resolution:

The Board invited members to share additional points for discussion. No further points were raised, and the agenda was concluded with appreciation for the contributions of all members.

HOD
Department of CSE

Copy To:
1. All the members of BOS
2. Principal
3. Dean (Academics)

Chairman BOS
Dr M Narender
Signature:

HOD CSE
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