

Board of Studies

(BOS)

AY 2021-22



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(UGC AUTONOMOUS)
(Affiliated to AU, Approved by AICTE & Accredited by NBA & NAAC with 'A' Grade))
Sangivalasa 531 162, Bheemunipatnam Mandal, Visakhapatnam Dist

DEPARTMENT OF CHEMICAL ENGINEERING

19-06-2021

Minutes of the meeting of the Board of Studies, Department of Chemical engineering (UG) held on 19-06-2021 at 10.00 AM through online (Google Meet platform).

Members present:

1. Dr. Ch. Anil
2. Prof. S. Subba Rao
3. Prof. R. Srikanth
4. Prof. P.S.T. Sai
5. Prof S. V. Naidu

Chairman, BOS, Chemical Engineering
Member
Member
Member, Academic council nominee
Member, Andhra University nominee

Resolutions:

Chairman welcomed all the members for the BoS meeting.

- 1) The Syllabi for III/IV B. Tech. Chemical Engineering I and II Semesters under R-19 regulations are discussed and the experts felt satisfactory about the same. Prof. PST Sai suggested to include manufacturing of industrial gases like oxygen in Chemical Technology course. The committee accepted to implement the same in Unit - I. They have suggested a few changes which are represented in Table below.

S. No.	Name of the course (R-19)	% Change from previous regulations (R-15)	Remarks
1.	Open elective - I Food processing Technology	0	No Changes are made
2.	Open elective - I Engineering Biology	0	No Changes are made
3.	Open elective - I Fuel Cell Technology	0	No Changes are made
4.	Open elective - I Design of experiments	0	No Changes are made
5.	Chemical Engineering Thermodynamics - II	0	No Changes are made
6.	Heat Transfer	0	No Changes are made
7.	Mass Transfer - I	0	No Changes are made
8.	Chemical Technology	10	New topics are added
9.	Professional Elective - II	100	New Course is

	Industrial Safety		introduced for
10.	Professional Elective - II Fertilizer Technology	0	Chemical Engineering No Changes are made
11.	Professional Elective - II Pharmaceutical Technology	0	No Changes are made
12.	Open elective - II Fundamentals of Industrial Safety and Health	100	Syllabus is modified and generalized, to be applicable for engineers
13.	Open elective - II Bioinformatics	0	No Changes are made
14.	Open elective - II Corrosion Engineering	0	No Changes are made
15.	Open elective - II Computational tools for engineers	0	No Changes are made
16.	Mass Transfer - II	0	No Changes are made
17.	Chemical Reaction Engineering - I	0	No Changes are made
18.	Process Dynamics and Control	10	Few topics are modified and units are rearranged.
19.	Professional Elective - III Industrial Pollution and Control	0	No Changes are made
20.	Professional Elective - III Membrane Technology	0	No Changes are made
21.	Professional Elective - III Catalysis	0	No Changes are made
22.	Professional Elective - IV Material Science and Engineering	0	Core course is converted to Elective course
23.	Professional Elective - IV Petroleum Refinery Engineering	0	No Changes are made
24.	Energy Engineering	0	No Changes are made

2) The Syllabi for II/IV B. Tech. Chemical Engineering I and II Semesters under R-20 regulations are discussed and the experts felt satisfactory about the same. They have suggested a few changes which are represented in Table below.

S. No.	Name of the course (R-20)	% Change from previous regulations (R-19)	Remarks
1.	Biology for Engineers	0	No Changes are made
2.	Chemical Process Calculations	0	No Changes are made
3.	Mechanical Operations	0	No Changes are made
4.	Humanities elective Industrial Management	0	Earlier the course is offered as an elective in final year in R-15
5.	Humanities elective Managerial economics and Financial Analysis	100	New course is introduced
6.	Humanities elective Operations Research	100	New course is introduced
7.	Engineering Thermodynamics	0	No Changes are made
8.	Momentum Transfer	0	No Changes are made
9.	Numerical Methods for Chemical Engineers	0	No Changes are made
10.	Professional Elective - I Polymer Technology	0	No Changes are made
11.	Professional Elective - I Entrepreneurship Engineering	0	No Changes are made
12.	Professional Elective - I Design Thinking	0	No Changes are made

- 3) Prof. S. V. Naidu suggested to update the text book for Chemical Process Calculations course such that the unit system will be in SI. The committee accepted to change the text book for Chemical Process Calculations authored by KV Narayanan.
- 4) Prof. P.S.T. Sai suggested to use MATLAB tool instead of Python in computational laboratory. Dr. Ch. Anil informed that Python is introduced in laboratory to improve the coding skills and this helps students to get placed in software companies especially for girl students. Dr. Ch. Anil also added that students are also being trained in MATLAB in 3rd year for one week by the faculty of the department.

5) The policies for Minor and Honors degree under R-20 regulations were discussed. As suggested by APSCHE any student from other engineering background (except Chemical Engineering) can opt for Minor and only Chemical Engineering background students can opt for Honors. Student can opt for Minor / Honors in Chemical Engineering from 2nd year 2nd semester, if and only if the student scores more than 8 CGPA upto 2nd year 1st semester and without any backlogs throughout the engineering program. Students has to select one pool from the 4 pools in Honors degree in Chemical Engineering. Number of credits required to get Minor / Honors degree in Chemical Engineering is 20 credits, in which 16 credits will be earned through 4 courses in college and 4 credits will be earned through 2 MOOCs courses. Courses offered during the semester and MOOCs courses to be studied will be finalized by the internal BoS at the time of requirement.

6) The Syllabi for Minor and Honors degree which are newly introduced under R-20 regulations are discussed and the experts felt satisfactory about the same. Prof. PST Sai suggested to change the titles of a few Minor courses. The committee accepted to change the titles of Mechanical Operations to Particle Technology and Mass Transfer to Separation Technology. Prof. S. V. Naidu suggested to replace the Environmental Engineering pool in Honors with Advanced Chemical Engineering courses. The committee accepted to add the courses like Advanced Heat Transfer, Advanced Separation Technology, Advanced Mass Transfer and Advanced Process Control in the Advanced Chemical Engineering Pool. The updated list is presented in the below table.

Course Code	Course	L-T-P	Credit
Minor			
CHE 511 M	Chemical Process Calculation	3-1-0	4
CHE 512 M	Particle Technology	3-1-0	4
CHE 513 M	Momentum Transfer	3-1-0	4
CHE 514 M	Heat Transfer	3-1-0	4
CHE 515 M	Separation Technology	3-1-0	4
CHE 516 M	Chemical Reaction Engineering	3-1-0	4
	MOOCS - I		2
	MOOCS - II		2

The courses that are offered for B. Tech. (Honors) in Chemical Engineering are

Course Code	Course	L-T-P	Credit
Pool 1: Advanced Chemical Engineering			
CHE 611 H	Advanced Heat Transfer	3-1-0	4
CHE 612 H	Advanced Separation Technology	3-1-0	4
CHE 613 H	Advanced Reaction Engineering	3-1-0	4
CHE 614 H	Advanced Process Control	3-1-0	4
	MOOCs - I		2
	MOOCs - II		2

Course Code	Course	L-T-P	Credit
Pool 2: Pharmaceutical Technology			
CHE 621 H	Pharmaceutical Technology	3-1-0	4
CHE 622 H	Pharmaceutical Kinetics	3-1-0	4
CHE 623 H	Pharmaceutical Analysis	3-1-0	4
CHE 624 H	Pharmaceutical Biotechnology	3-1-0	4
	MOOCs - I		2
	MOOCs - II		2

Course Code	Course	L-T-P	Credit
Pool 3: Biochemical Engineering			
CHE 631 H	Biochemistry and Microbiology	3-1-0	4
CHE 632 H	Bioprocess Engineering	3-1-0	4
CHE 633 H	Bioseparation Technology	3-1-0	4
CHE 634 H	Bioanalytical Techniques	3-1-0	4
	MOOCs - I		2
	MOOCs - II		2

Course Code	Course	L-T-P	Credit
	Pool 4: Industrial Safety		
CHE 641 H	Principles of Safety Management		
CHE 642 H	Chemical Process Safety	3-1-0	4
CHE 643 H	Environmental Issues and Management	3-1-0	4
CHE 644 H	Hazard Identification and Risk Assessment	3-1-0	4
	MOOCs - I		2
	MOOCs - II		2

With these modifications, the committee approved the 3rd year syllabus under R-19, 2nd year syllabus under R-20 and Minor and Honors degree programs under R-20 regulations.

Ch. Anil

(Dr. Ch. Anil)
Chairman, BOS

HEAD,
DEPARTMENT OF CHEMICAL
ENGINEERING

R. Sankar

Convener, IQAC
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.

Principal

Principal
Anil Neerukonda Institute of
Technology & Sciences
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DEPARTMENT OF CHEMICAL ENGINEERING

04-09-2021

Minutes of the meeting of the Board of Studies, Department of Chemical engineering (PG) held on 04-09-2021 at 10.00 AM through online (Google Meet platform).

Members present:

1. Prof. S. Subba Rao
2. Prof. R. Srikanth
3. Prof. V. Sridevi
4. Prof. P.S.T. Sai
5. Prof S. V. Naidu
6. Prof. Kavita W
7. Dr. Ch. Anil

Member *M*

Member *PSC*

Member *Sridevi*

Member, Academic council nominee

Member, Andhra University nominee

Member, Academic council nominee

Chairman, BOS, Chemical Engineering *G*

Resolutions:

Chairman welcomed all the members for the BoS meeting.

- 1) The Course structure for M. Tech. Food Processing Technology under R-20 regulations with effective from 2021-22 is discussed. Prof. S. V. Naidu suggested the following changes to the curriculum.
 - (i) Food Biochemistry course in I year II semester is interchanged with Food Process Engineering - I Course in I year I Semester as the laboratory course related to Food Biochemistry is in I semester.
 - (ii) Applied Mathematics in Food Processing mandatory course is interchanged with Food Standards and Regulations elective course in I year II Semester. Now, the Applied Mathematics in Food Processing course is converted into elective course and Food Standards and Regulations course is converted to mandatory course.
 - (iii) 2 credit Seminar course in II year I semester is divided into two 1 credit courses and are placed in I year I semester and I year II semester.
 - (iv) Prof. PST Sai appreciated the structure as the complete II year gives flexibility to do industry projects for the entire year.
- 2) The Syllabi of M. Tech. Food Processing Technology is reviewed and the following changes are suggested by the experts.

- (i) Prof. Kavita W suggested to include the FSSAI topic in Food Standards and Regulations course.
- (ii) Prof. Kavita W suggested to elaborate the syllabus of Functional Foods and Nutraceuticals course and Dairy and Aquaculture Technology course.
- (iii) Prof. Kavita W suggested to mention experiments in detail in Food Microbiology and Food Biochemistry Laboratory course.
- (iv) Prof. S.V. Naidu suggested to reduce the syllabus of Applied Mathematics in Food Processing as many students will be from Science background.

All the courses are newly introduced in this programme and are inline with the AICTE curriculum. With these modifications, the committee approved the M. Tech. Food Processing Technology under R-20 regulations.

The ratified structure of M. Tech. Food Processing Technology is

M. Tech. Food Processing Technology

R-20 regulations w.e.f. 2021-22 admitted batch

I Year – I Semester										
Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
FPT111	Food Microbiology	PC	3	0	0	3	40	60	100	3
FPT112	Food Biochemistry	PC	3	0	0	3	40	60	100	3
FPT113	Professional Elective - I	PE	3	0	0	3	40	60	100	3
FPT114	Professional Elective - II	PE	3	0	0	3	40	60	100	3
FPT115	Research Methodology and IPR	MC	3	0	0	3	40	60	100	3
FPT116	Food Microbiology and Biochemistry Lab	PC	0	0	3	3	50	50	100	2
FPT117	Seminar - I	SC	0	0	2	2	100	-	100	1
FPT118	Human Values and Professional Ethics	Audit	2	0	0	2	40	0	40	0
Total			17	0	5	22	390	350	740	18

Professional Elective - I

FPT 113 (A): Plant Food Technology

FPT 113 (B): Animal Product Technology

FPT 113 (C): Instrumentation and Control in Food Industry

Professional Elective - II

FPT 114 (A): Principles of Food Science and Preservation

FPT 114 (B): Plantation Crops, Spices & Condiment Technology

FPT 114 (C): Functional Foods and Nutraceuticals

I Year – II Semester										
Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
FPT121	Food Process Engineering - I	PC	3	0	0	3	40	60	100	3
FPT122	Food Process Engineering - II	PC	3	0	0	3	40	60	100	3
FPT123	Professional Elective - III	PE	3	0	0	3	40	60	100	3
FPT124	Professional Elective - IV	PE	3	0	0	3	40	60	100	3
FPT125	Food Standards and Regulations	MC	3	0	0	3	40	60	100	3
FPT126	Food Processing Lab	PC	0	0	3	3	50	50	100	2
FPT127	Seminar - II	SC	0	0	2	2	100	-	100	1
FPT128	English for research paper writing	Audit	2	0	0	2	40	0	40	0
Total			17	0	5	22	390	350	740	18

Professional Elective - III

- FPT 123 (A): Novel Food Packaging Technology
 FPT 123 (B): Applied Mathematics in Food Processing
 FPT 123 (C): Post Harvest Technology and Cold Chain Management

Professional Elective - IV

- FPT 124 (A): Dairy and Aquaculture Technology
 FPT 124 (B): Beverage and Snack Food Technology
 FPT 124 (C): Bakery and Confectionery Technology

II Year – I Semester										
Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
FPT211	MOOCs - I	OE	0	0	0	0	100	-	100	3
FPT212	MOOCs - II	OE	0	0	0	0	100	-	100	3
FPT213	Dissertation Phase - I	PR	0	0	20	20	100	-	100	10
Total			0	0	20	20	300	-	300	16

MOOCs - I and II courses can be selected based on their Dissertation topic / students interest.

II Year – II Semester										
Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
FPT221	Dissertation Phase - II	PR	0	0	32	32	100	100	200	16
Total			0	0	32	32	100	100	200	16

Dr. Anil
 (Dr. Ch. Anil)
 Chairman, BOS

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DEPARTMENT OF CHEMICAL ENGINEERING

M. Tech. Food Processing Technology

R-20 regulations w.e.f. 2021-22 admitted batch

Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
							FPT111	Food Microbiology		
FPT112	Food Biochemistry	PC	3	0	0	3	40	60	100	3
FPT113	Professional Elective - I	PE	3	0	0	3	40	60	100	3
FPT114	Professional Elective - II	PE	3	0	0	3	40	60	100	3
FPT115	Research Methodology and IPR	MC	3	0	0	3	40	60	100	3
FPT116	Food Microbiology and Biochemistry Lab	PC	0	0	3	3	50	50	100	2
FPT117	Seminar - I	SC	0	0	2	2	100	-	100	1
FPT118	Human Values and Professional Ethics	Audit	2	0	0	2	40	0	40	0
	Total		17	0	5	22	390	350	740	18

Professional Elective - I

FPT 113 (A): Plant Food Technology

FPT 113 (B): Animal Product Technology

FPT 113 (C): Instrumentation and Control in Food Industry

Professional Elective - II

FPT 114 (A): Principles of Food Science and Preservation

FPT 114 (B): Plantation Crops, Spices & Condiment Technology

FPT 114 (C): Functional Foods and Nutraceuticals

Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
							FPT121	Food Process Engineering - I		
FPT122	Food Process Engineering - II	PC	3	0	0	3	40	60	100	3
FPT123	Professional Elective - III	PE	3	0	0	3	40	60	100	3
FPT124	Professional Elective - IV	PE	3	0	0	3	40	60	100	3
FPT125	Food Standards and Regulations	MC	3	0	0	3	40	60	100	3
FPT126	Food Processing Lab	PC	0	0	3	3	50	50	100	2
FPT127	Seminar - II	SC	0	0	2	2	100	-	100	1
FPT128	English for research paper writing	Audit	2	0	0	2	40	0	40	0
	Total		17	0	5	22	390	350	740	18

Professional Elective - III
 FPT 123 (A): Novel Food Packaging Technology
 FPT 123 (B): Applied Mathematics in Food Processing
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II Year - I Semester										
Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
FPT211	MOOCs - I	OE	0	0	0	0	100	-	100	3
FPT212	MOOCs - II	OE	0	0	0	0	100	-	100	3
FPT213	Dissertation Phase - I	PR	0	0	20	20	100	-	100	10
Total			0	0	20	20	300	-	300	16

MOOCs - I and II courses can be selected based on their Dissertation topic / students interest.

II Year - II Semester										
Code	Title of the Course	Category	L	T	P	Total	Max. Marks		Total Marks	Credits
							Sess.	End Exam.		
FPT221	Dissertation Phase - II	PR	0	0	32	32	100	100	200	16
Total			0	0	32	32	100	100	200	16

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QSR
Principal
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CS. Anil
HEAD,
DEPARTMENT OF CHEMICAL
ENGINEERING



Date: 19.06.2021

Minutes of BoS Meeting (Online via Googlemeet) held on 19th
June, 2021

Members Present:

- | | |
|----------------------------------|--|
| 1. Dr. B V S Viswanadham | Professor, IIT(B), External Member |
| 2. Dr. G AppaRao | Professor, IIT(M), External Member |
| 3. Dr. C N V Satyanarayana Reddy | Professor, AU, University Nominee |
| 4. Sri. D Kasi Visvesvara Rao | Industry Member, |
| 5. Dr. J Vikranth | Assoc. Professor |
| 6. Mr. M K S S K Chaitanya | Asst. Professor |
| 7. Mrs. P V R Sravya | Asst. Professor |
| 8. Mr. T V ViswaTeja | BoS-Civil Coordinator, Asst. Professor |
| 9. Mr. Ch.Srinivas | Asst. Professor |
| 10. Mr. K Suryanarayana | Asst. Professor |
| 11. Mr. J Harshavardhana Reddy | Asst. Professor |
| 12. Mr. NANP Vital | Asst. Professor |
| 13. Dr. B.N.D. Narasinga Rao | Professor & HoD (In Chair) |

Agenda:

(I) R-19 Regulations

- 1) Detailed Syllabus: III Year
- 2) Open Elective Courses-Civil

(II) R-20 Regulations

- 1) Course Structure: II, III, IV Years based on APSICHE Guidelines
- 2) Detailed Syllabus: II Year
- 3) Honours Courses
- 4) Minor Courses
- 5) Academic Regulations

(III) Paper setters for II Year I semester and II semester B.Tech (Civil Engineering)

(IV) Any other item with the permission of the chair

Discussions & Resolutions:

1. Detailed Syllabus for III Year B.Tech. (Civil Engineering), including the open electives under R-19 Regulations, has been considered and with suggestions discussed and approved.
2. Considered the Course structure for II Year to IV Year of B.Tech Civil Engineering under R-20 Regulations, made as per AICTE and APSICHE guidelines for discussion and with suggestions discussed and approved.

3. Detailed Syllabus for II Year B.Tech. (Civil Engineering) under R-20 Regulations, has been considered and with suggestions discussed and approved.
4. Honours and Minor courses to be offered by the Department with effect from II Year II semester under R-20 Regulations have been discussed and approved.
5. The Board has authorized the Head of Department, Civil Engineering, ANITS to make minor changes in the syllabus, if deemed necessary, based on the feedback given by the concerned subject faculty member(s), keeping 90% to 95% of the overall content same.
6. Academic regulations for R20 Regulations have been considered and approved. Members suggested to give due credit in the certificate for the students who acquire some credits for Honours/Minor courses but fail to get the Honours /Minor Degree for any reason.
7. List of paper setters for III Year B.Tech. Civil Engineering under R-19 Regulations and for II Year B.Tech. Civil Engineering under R-20 Regulations is considered and approved. The Board, however, has authorized the Head of Department, Civil Engineering, ANITS to add or modify the list wherever necessary.
8. Members were informed that in view of lockdown due to COVID19, the Mid-II examinations for II and III Year II Semester students were conducted online through Moodles, as per UGC Lockdown guidelines. Members were also informed that the Project work end semester Viva examination was also conducted online through Skype based on UGC lockdown guidelines.
9. Discussed the innovative Teaching and Evaluation Techniques.

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Dr. B.N.D. Narasinga Rao
(Dr.B.N.D.NARASINGA RAO)
Professor & Head-Civil Engineering
BoS-Chairman-Civil Engineering
Dr. B.N.D. Narasinga Rao
Professor & Head
Department of Civil Engineering
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
EXTERNAL BOS MEETING MINUTES**

Meeting Date: 19-06-2021

Venue: Online (gmeet)

Timings: 9:30 AM to 1:40 PM

The agenda :

- 3/4B.Tech syllabus as per regulations 2019
- 2/4B.Tech (CSE, CSE with DS,CSE with AI&ML) syllabus as per regulations 2020
- Minor & Honor offering as per regulations 2020
- Participation in Electives offered by Infosys

Members Present:

- Dr. R.Sivaranjani, HoD&Professor, CSE, ANITS Chairman, BOS, CSE
- Dr M Rama Krishna Murty, Professor, CSE, ANITS,Member
- Mr. S. Ratan Kumar ,Associate. Professor, CSE, ANITS,Member
- Dr K S Deepthi,Associate. Professor., CSE, ANITS, Member
- Mr. G.Jagadish, Assistant. Professor., CSE, ANITS, Member
- Dr. K. Suresh,Assistant. Professor., CSE, ANITS ,Member
- Dr. B Prajna,Professor, CSE,AUCE University Nominee
- Dr. KSVSN RAJU, Professor, Visiting Professor, CSE, ANITS, Special Invitee
- Mr. T. ShyamVamsi, IBM ,Chennai, Alumni, Industry
- Roy Antony Arnold George Charles, Manager, Campus Connect, Infosys Technologies , Hyd, Industry
- Mr. Bharath Bheemarasetti, Software Developer Engineer, Adobe systems India Pvt. Limited

Deliberations: Chairman BOS officially welcomed all the internal and external members of the Board Of Studies committee for the BOS meeting of B.Tech-CSE, 2021.

On behalf of CSE, ANITS, Mr. S. Ratan Kumar, Assoc. Prof., Dept. of CSE welcomed the BOS committee and deliberated a quick view on R19 and R20 course structures which are designed with 160 credits according to the guidelines of AICTE and APSCHE.

The in-detail presentation started with---

The coordinator presented

- Feedback had collected from the faculty and students, according to that some modifications made to the syllabus.
- The syllabus deviation of R19 and R20 regulation.
- A new course called "Constitution of India & Intellectual Property Rights" is introduced in 1st semester of 3rd year in R19 and 1st semester of 2nd year in R20.

Agenda 1: 3/4B.Tech syllabus as per regulations 2019

On R19 3/4B.Tech syllabus the external members have made the following deliberations:

- The open elective Python Programming course - removed anonymous lambda function and advanced topics from UNIT-5.
- The Essentials of Python course – adding of string objects and advanced python libraries. Increase the complexity level of case studies in Essentials of Python course.
- Providing of live execution in class room for python course.
- Swapping of course HCI and ML in PE2 and PE3.
- Smart Systems Design & Programming course --demonstration with the help of devices.
- Mobile Computing course - replace 3G technology with 4G and introduced WIFI related content.
- No SQL Data Bases course - follow one or two datasets to discuss.
- Data warehousing and Data mining course – add case studies.
- Embedded Systems course – swap with Smart Systems Design & Programming.
- DBMS theory and Lab course - scenario based experiments were suggested to add, also suggested to refer Infosys head start for real time scenarios.
- QA-VA course – no modifications.
- OOSE theory and Lab course - for new models like agile and DevOps, it is better to introduce advanced software engineering course and suggested to promote student work in github.
- Web Technology theory and Lab course - advised to revise the syllabus once again. Suggested to remove Servlets and add this in python syllabus Recommendation was given to add responsive Design REACT or Nodejs in unit -5

Agenda 2: 2/4B.Tech (CSE, CSE with DS,CSE with AI&ML) syllabus as per regulations 2020

The following courses which are taken from R19 and are not modified:

- DSA and DS LAB ,JAVA and JAVA LAB ,CO, MP DC,CN
- DMS PSQT,DTPI, MPI and MPI LAB,OS and OS LAB,FLAT

Agenda 3: Minor & Honor offering as per regulations 2020

- Under CSE-Minor the following courses were considered for 2nd year – semester-2
 - Object oriented Programming
 - Data Structures
 - Operating System
 - DBMS
- For CSE-Honor the External committee suggested to add tracks of Block chain and IOT if possible.


Agenda 4: Participation in Electives offered by Infosys

- o The autonomous coordinator displayed Electives offered by Infosys. All the members welcomed the idea of offering these courses.(Annexure -A provides the details)

The following are the general suggestions given by the external BOS members:

- Consider the using Text books and reference books from the recent publications if possible
- Promote student project work online platform "github "
- It is suggested that to mention number of lecture hours instead of hours for each unit.

Finally, the meeting ended with vote of thanks by BOS chairman.


Prof. (Dr) R Sivaranijan
Chairman
BOS-CSE

Attachments:

1)Annexure A

1.1.3 % of changes in syllabus content in the line with AU(2021-22)

R-14 (AU-Regulation)		R-15 (Autonomous-Regulation)				
Sl. No	Course Name	Course code	Course Name	Course Code	Remarks	% of syllabus content added / replaced
			OPEN ELECTIVE II	CSE411		
1			CRYPTOGRAPHY & NETWORK SECURITY	CSE412	UNIT-1: No Change UNIT-2: Cryptography standards like XML, PK UNIT-3: WAP security GSM removed UNIT-4: Kereberos versions added UNIT-5: Firewalls and Intrusion detection added.	35
2			OBJECT ORIENTED ANALYSIS & DESIGN	CSE413	NEWLY ADDED COURSE	80%
3			PROFESSIONAL ELECTIVE II	CSE414		
4			Mobile Computing	CSE414A	Newly added course/ Newly introduced course	100
5			Distributed Operating Systems	CSE414B	<p>Contents that are added in R15</p> <p>Design Requirements for Distributed Architectures, Fundamental Models- Interaction Model, Failure Model, Security Model.</p> <p>Design Issues for RMI, Implementation of RMI, Distributed Garbage Collection</p> <p>Concurrency Control in Distributed Transactions, Transaction Recovery; Replication-Introduction, Passive (Primary) Replication, Active Replication.</p> <p>Contents that are deleted from AU</p> <p>Distributed Shared Memory, Introduction, What is Shared memory?, Consistency models, Page based Distributed Shared memory, Shared – variable Distributed Shared memory, Object based Distributed Shared Memory</p>	40

					Lay red Protocols, ATM networks, The Client – server model, Remote	
6	Neural Network and Fuzzy system(Elective -II)	CSE 4.2.3	Neural Networks & Deep Learning	CSE414C	Newly introduced course	100
7			Human Computer Interaction	CSE414D	Newly added course/ Newly introduced course	100
8			Pattern Recognition	CSE414E	Newly introduced course	100
			PROFESSIONAL ELECTIVE III	CSE415		
9			Computer vision	CSE415A	Newly introduced course	100
10	Embedded System	CSE 4.1.5	Embedded Systems	CSE415B	DMA, UART and PLD	1
11	Data WareHousing and Data Mining	CSE 4.2.3	DATA WAREHOUSING & DATA MINING	CSE415C	No Change	0
12			Machine Learning	CSE415D	Newly introduced course	100
13			Cyber Security	CSE415E	Newly added course/ Newly introduced course	100
14		CSE 416	CRYPTOGRAPHY & NETWORK SECURITY LAB	CSE416	Newly added course/ lab	100
15			INDUSTRIAL TRAINING & SEMINAR	CSE417		
16			PROJECT I	CSE418	Newly Introduced Course	100
			PROFESSIONAL ELECTIVE- IV	CSE421		
17			Client Server Computing	CSE421A	Newly added course/ Newly introduced course	100
18			Augmented Reality	CSE421B	Newly added course/ Newly introduced course	
19			Semantic Web	CSE421C	Newly introduced course	100
20			Big Data Analytics	CSE421D	Newly introduced course	100
21			Information Security & Auditing	CSE421E	Newly introduced course	100%
22			Social Network Analysis	CSE421F	Newly introduced course	100%
23			PROFESSIONAL ELECTIVE – V	CSE422		
24			Network Management	CSE422A	Newly introduced course	100
25			Fuzzy Computing	CSE422B	Newly introduced course	100
26			Wireless Sensor Networks	CSE422C	Newly Introduced course	100
27			Cloud Computing	CSE422D	Newly Introduced course	100

28			Computing Optimization	CSE422E	Newly introduced course	100
29			PROJECT II	CSE423	Newly Introduced course	100
30			MOOC	CSE424	Newly Introduced course	100
Average % change						

1.1.3 % of changes in syllabus content in the line with R-15

R-15(Autonomous-Regulation)		R-19 (Autonomous-Regulation)				
Sl. No	Course Name	Course code	Course Name	Course Code	Remarks	% of syllabus content added / replaced
1	DATA STRUCTURES AND ALGORITHMS	CSE 211	DATA STRUCTURES & ALGORITHMS	CSE 211	In the UNIT -I four topics removed. Contents are rearranged from one unit to another unit for better flow of understanding	5%
2	COMPUTER ORGANIZATION	CSE 2.12	COMPUTER ORGANIZATION	CSE212	UNIT-1 Division.HARDWARE IMPLEMENTATION & ALGORITHM	5%
3	OBJECT ORIENTED PROGRAMMING WITH JAVA	CSE214	JAVA PROGRAMMING	CSE213	In UNIT-1 added Introduction to object oriented concepts,java buzzwords, UNIT-4 added swings UNIT-5 ENTERPRISE JAVA BEANS Added .It constitutes half part of entire unit	30%
4	DATA COMMUNICATIONS	CSE221	DATA COMMUNICATION	CSE 214	1) IN Unit-1 added history of data communication , and Removed Transmission impairments . 2) In unit2: added transmission impairments along with representation of signals contains Amplitude, Frequency, Phase, Data/Signal Encoding Techniques, Modulation and Demodulation techniques 3) In Unit -3 added interface standards- DCE, DTE, Modems. and given a clarification on flow control and error control separately i.e Flow Control-Error Control:Stop and Wait, Go Back -N,	25%

					<p>selective repeat protocols, ARQ protocols. Error: Error Detection, and correction- Parity Check, VRC, CRC, Hamming code, Bit oriented protocol- HDLC, LAP, ATM-cell relay.</p> <p>4) In Unit-4 added LAN addressing, LAN Topologies, LAN Technologies and also added IEEE 802.5, Short Range networks: Bluetooth- Architecture and Services.</p> <p>Introduction to IoT : Design principles, Architecture, Protocols, Applications.</p> <p>5) In R15 removed Modem and Modem circuits.</p> <p>Text Book details added:</p> <p>. Raj kamal, "Internet of Things – Architecture and Design principles", Publisher: Tata McGraw-Hill Education India.</p> <p>Removed one book in reference book and the text book is added in text book i.e .Behrouz Forouzan, "Data Communications and Networking", TMH, 2004, 4th Edition</p>	
5	JAVA programming lab	CSE218	JAVA PROGRAMMING LAB	CSE217	Experiments are added based on the scenarios	70%
6	Data Structures Lab	CSE 216	DATA STRUCTURES LAB USING C	CSE 218	<p>1) Experiments are given in the scenario based</p> <p>2) Three new experiments (Exp no 12, 13, 14) added related to the concepts of Graphs</p>	10%
7	MICROPROCESSOR AND INTERFACING	CSE222	MICROPROCESSOR AND INTERFACING	CSE222	<p>1. In UNIT-I Memory interfacing topic is removed which is already covered in CO subject.</p> <p>2. UNIT-II NO change</p> <p>3. Remove ADC/DAC topic</p> <p>4. UNIT-IV, NO change</p> <p>5. UNIT V added Interrupt service routines topic added</p>	10%
8	Operating System	CSE223	OPERATING SYSTEMS	CSE223	1. In UNIT-I, Review of CO, Virtual Machines, Thread Libraries, Threading issues removed and OS Functions, Types of OS, Shell Programming: Commands and Shell Script	6%

					added. 2.In UNIT-II,Multiple Processing Scheduling,Real Time Scheduling removed.added Mutex Locks and Case Study 3.In UNIT-III,Added Case Study 4.In UNIT-IV,No change 5.In UNIT-V,Capability Based System and Case Study Removed.	
9			COMPUTER NETWORKS			
10	COMPUTER GRAPHICS	CSE 313	COMPUTER GRAPHICS	CSE 225	unit-I: Removed Hard copy devices UNIT-II:No change UNIT-III:removed transformation functions and Structure and hierarchical models UNIT-IV: added three dimensional viewing from unit-V to unit-IV,removed 3D transformations functions. UNIT-V: included poly rendering Methods	10%
11			FORMAL LANGUAGES AND AUTOMETA THEORY			
12	MICROPROCESSOR AND INTERFACING LAB	CSE226	MICROPROCESSOR AND INTERFACING LAB	CSE227	1. NO change Cycle I and IV. 2. In Cycle 2,remove 2.2 experiment instead added the Hardware interrupts experiment using Mode 0 and 1 3.In Cycle III, remove 3.2 &3.3 experiment instead added logic controller experiment with PC	5%
13	Operating Systems Lab	CSE227	OPERATING SYSTEM LAB	CSE228	1.Hardware and Software Specification Removed. 2.program for error reporting removed. 3.Dining Philosopher and Producer Consumer Problem and Contiguous file allocation method added.	10%
			OPEN ELECTIVES			
14			Essentials of	CSE 311	Newly Introduced course	100

			Python			
			PROFESSIONAL ELECTIVE -I	CSE312		
15	Embedded Systems	CSE 415(B)	Embedded Systems	CSE312(A)	No Change	0%
16	Advanced Data Structures	CSE325(D)	Advanced Data Structures	CSE312(B)	No Change	0%
17	FUNDAMENTALS OF DIGITAL IMAGE PROCESSING	CSE 411(D)	Digital Image Processing	CSE312(C)	No Change	0%
18			Artificial Intelligence	CSE 312(D)	Newly Introduced course	100
19			COMPETITIVE PROGRAMMING	CSE 313	Newly Introduced course	100
20			COMPILER DESIGN	CSE 314	No Change	0%
21	DATA BASE MANAGEMENT SYSTEMS	CSE312	DATA BASE MANAGEMENT SYSTEMS	CSE 315	No Change	0%
22	DESIGN & ANALYSIS OF ALGORITHMS	CSE 315	DESIGN & ANALYSIS OF ALGORITHMS	CSE 316	No Change	0%
23			COMPETITIVE PROGRAMMING LAB	CSE 318	Newly Introduced course	100
24			DATA BASE MANAGEMENT SYSTEMS LAB	CSE 319	Included experiment 10: Developing a sample application which includes all database design steps like requirements analysis, logical database design, normalization, developing user interface to access database from the	5%

					application	
25			Constitution of India & - Intellectual Property Rights (Mandatory non-credit course)	CSE 320	Newly Introduced course	100
			PROFESSIONAL ELECTIVE -II	CSE 322		
26	Human Computer Interaction	CSE 414 (D)	Human Computer Interaction	CSE322(A)	No Change	0%
27	Mobile Computing	CSE 414(A)	Mobile Computing	CSE 322(B)	No Change	0%
28	No SQL Data Bases	CSE325(F)	No SQL Data Bases	CSE322(C)	No Change	0%
29	Data warehousing and Data mining	CSE415(C)	Data warehousing and Data mining	CSE322(D)	UNIT-4: Few topics removed from this unit Unit 5: Added these topics: Partition based methods: K-means, K-medoids. Hierarchical methods: BIRCH, CURE Density-based methods: DBSCAN.	10%
			PROFESSIONAL ELECTIVE - III	CSE 323		
30	Distributed Operating Systems	CSE 414(B)	Distributed Operating Systems	CSE323(A)	No Change	0%
31	Smart Systems Design & Programming	CSE 325(A)	Smart Systems Design & Programming	CSE323(B)	No Change	0%
32			Machine Learning Using R	CSE323(C)	Newly Introduced course	100
33	Computer vision	CSE 415(A)	Computer vision	CSE323(D)	No Change	0%

34			OBJECT ORIENTED SOFTWARE ENGINEERIN G	CSE 324	Newly Introduced course	100
35	WEB TECHN OLOGIE S	CSE 323	WEB TECHNOLOGI ES	CSE 325	Servlets & JSP merged into single unit Unit5: completely new concepts are added	25
36	CRYPT OGRAP HY AND NETWO RK SECURI TY	CSE 412	CRYPTOGRAP HY AND NETWORK SECURITY	CSE 326	No Change	0%
37			OBJECT ORIENTED SOFTWARE ENGINEERIN G LAB	CSE 328	Newly Introduced course	100
38	OPEN SOURC E TECHN OLOGIE S LAB	CSE 326	WEB TECHNOLOGI ES LAB	CSE 329	Exp3: Servlets & JSP added Exp 4: Web Development using Node JS & Express JS added	10%
Average % of Change						

R. Seetha
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AN
Principal
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[Signature]
Head of the Department of
Computer Science & Engineering
Anil Neerukonda Institute of
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Sangivalasa, Visakhapatnam Dist



7th meeting of BOS , Dept. of EC (UG), ANITS

Created by: Dr. Rajya lakshmi Valluri

Time
2pm - 3pm (India Standard Time
- Kolkata)

Date
Sat Jun 19, 2021

My Notes

Agenda:

- 1.R20 Autonomous Syllabus(2nd year Sem-I & II)
- 2.R20 Minor and Honors for B.Tech
- 3.R19 Autonomous Syllabus(3rd year Sem-I & II)
- 4.Any other item with permission of the chair

Owner

- ✓ Dr. Rajya lakshmi Valluri
- Mr ANIL PRASAD D A
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Members present in 7th meeting of the Board of Studies, Dept of ECE(UG) held on 19-06-2021 at 2:00PM through video conference

S.No	Name of the member	Designation	Category
1.	Dr. V. Rajya Lakshmi	Head, ECE, ANITS	Chairman, BOS, ECE
2.	Dr. G.ManmadhaRao	Prof., ECE, ANITS	Member
3.	Dr.B.SomaSekhar	Assoc. Prof., ECE, ANITS	Member
4.	Dr.S.Srinivas	Assoc. Prof., ECE, ANITS	Member
5.	Dr.P.MurgaPandiyan	Assoc. Prof., ECE, ANITS	Member
6.	Mr. D. Anilprasad	Asst. Prof. ECE, ANITS	Member
7.	Dr. J. BhaskaraRao	Asst. Prof. ECE, ANITS	Member
8.	Dr. A. Lakshminarayana	Asst. Prof. ECE, ANITS	Member
9.	Dr.K.V.G.Srinivas	Asst. Prof. ECE, ANITS	Member
10.	Mr. Vijaya Kumar Sahu	Asst. Prof. ECE, ANITS	Member
11.	Mr.N.Srinivasa Naidu	Asst. Prof. ECE, ANITS	Member
12.	Dr.G.Prasanna	Asst. Prof. ECE, ANITS	Member
13.	Prof. P. Ramakrishna Rao	Advisor, ANITS	Academic council nominee
14.	Prof K. Chandra BhusahanRao	Prof., Dept of ECE, JNTUV	Academic council nominee
15.	Prof.N.V.S.N.Sharma	Prof., Dept of ECE, NITW	University Nominee
16.	Mr.N.Srinivas	Avantel, Visakhapatnam	Industry
17.	Mr. M. Durga Prasad	JTO, BSNL	Alumni
18.	Prof.K.S.RangaRao	Prof., ECE, ANITS	Member
19.	P.Venkata naga Sri Hyma	Student	Member
20.	S.Hruthika	Student	Member
21.	S.Divya	Student	Member



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Minutes of the 7th meeting of the BOS, Department of ECE (UG) held on 19.06.2021 at 02:00PM through video conference.

1. R20 Autonomous Syllabus (2nd Year Sem-I & II)
2. R20 Minor and Honors for B.Tech
3. R19 Autonomous Syllabus (3rd Year Sem-I & II)
4. Any other item with the permission of the chair

The chairperson, Dr.V.Rajya Lakshmi, HOD, dept of ECE, ANITS hosted the online meeting conducted through video conference and welcomed all the BOS members present.

1. R20 Autonomous Syllabus (2nd Year Sem-I & II)

The Chairperson presented the members the comparison of R19 scheme and R20 scheme in terms of credits and explained the minor changes made in R20 compared to R19 as per APSCHE recommendations.

The newly introduced courses in R19 are as follows:

S.No	Course code	Name of the course (R19)	% change compared to R15	Remarks
1.	ECE313	Digital communications	25%	One new Unit is introduced and new topics were added in Unit-II
2.	ECE316	Antennas and Wave Propagation	15%	Reduced contents in UNIT-II; UNIT-III and UNIT-V
3.	ECE324	Data structures	100%	New Theory course
4.	ECE329	DS lab	100%	New Lab course

The changes made in R20 scheme is as follows:

Semester	Minor Changes made in R20 compared to R19
I	No change
II	No change
III	No change
IV	No change
V	Internship during summer, "INTERNSHIP I" is added with 2 credits and category of courses "Embedded systems and IOT" and associated lab "Embedded systems and IOT lab" is changed to SC (Skill oriented) from PC(Professional Core)
VI	Category of courses Data Structures & Data Structures Lab is changed to SC (Skill oriented) from PC(Professional Core)
VII	Credits of course "Industrial training" is changed to 2 credits from 1 credit.
VIII	Professional Elective-6 is removed in R20.

The chairperson reminded that R20 scheme with minor changes mentioned above were already communicated to the BOS members through mail for their approval earlier.

2. R20 Minor and Honors for B.Tech

a) Chairperson informed the members that in R20 Minors and Honors were introduced newly as per APSCHE guidelines and presented the proposed two minors and three Honor streams.

- b) Prof. NVSN Sharma, Director IIIT, Trichy enquired about the requirements of registering in minor.
- c) Chairperson replied that a candidate shall be permitted to register for Honors / Minor program at the beginning of 4th semester subject to a maximum of two additional courses per semester, provided that the student must have acquired a minimum of 8.00 CGPA up to the end of 2nd semester without any backlogs.
- d) Prof. P. Ramakrishna Rao, Advisor, ANITS, enquired about the regulations of Honors offered to ECE students.
- e) Chairperson replied that a candidate shall earn 20 credits in addition to the 160 credits to get Honor / Minor degree along with regular B.Tech degree. In the case of Honors, out of 20 additional Credits to be acquired, 16 credits shall be earned by undergoing specified courses listed as pools, with four courses, each carrying 4 credits. The remaining 4 credits must be acquired through two MOOCs courses, which shall be domain specific, each with 2 credits.
- f) Prof. K. Chandra Bhusan Rao, JNTUKV, suggested ensuring that courses offered under Honors were mapped to PSOs properly. He also advised to mention the prerequisites in courses. He suggested including courses under MOOCs to be opted by students under minor/Honors.
- g) Prof. NVSN Sharma, Director IIIT, Trichy suggested to make it available list of MOOC courses mentioning semester in which student can opt under MOOCs.
- h) Chairperson requested Dr.S.Srinivas Assoc.Prof to prepare list of courses mentioning semester in which student can opt under MOOCs.

3. R19 Autonomous Syllabus (3rd Year Sem-I & II)

Committee discussed the contents in the 3rd year syllabus of R-19 and made the following recommendations/suggestions course wise.

a) ECE 313 Digital Communications

- i. Prof. P. Ramakrishna Rao, Advisor, ANITS, mentioned that the two problems in digital communications are noise and Inter Symbol Interference (ISI) and suggested to include topic Inter Symbol Interference which is totally ignored in the syllabus. He also advised to introduce the basic idea of spread spectrum, types of spread spectrum and its applications if possible.
- ii. Dr.A. Lakshmi Narayana, Assistant Professor, presented the syllabus of Digital communications with UNIT-IV as Spread Spectrum Modulation and UNIT-V as Introduction to OFDM.

b) iii. Prof. P. Ramakrishna Rao, Advisor, ANITS, expressed that OFDM may be taught at PG level.

c) iv. Prof. NVSN Sharma, Director IIIT, Trichy expressed his opinion on keeping the UNIT-IV as Spread Spectrum Modulation and UNIT-V as Linear block codes and convolution codes instead of OFDM.

d) v. Mr.M.Durga Prasad, JTO, BSNL expressed that OFDM is the basis for all the LTE and above generation communications and may be appreciated if it is briefly taught to students.

b) ECE 314 Embedded Systems and IoT

e) i. Prof. NVSN Sharma, Director IIIT, Trichy expressed that more contents in UNIT-III "Internet of Things" may be added and all agreed.

c) ECE 315 Integrated Circuits and Applications

i. Prof. NVSN Sharma, Director IIIT, Trichy Suggested to keep text book by Ramakant A. Gayakwad, as prescribed text book instead as reference book.

f) ii. Prof. P. Ramakrishna Rao, Advisor, ANITS, advised to keep standard text books as reference text books.

iii. Prof. NVSN Sharma, Director IIIT, Trichy, advised to maintain uniformity in mentioning the number of reference text books in all courses.

d) ECE 316 Antennas and Propagation

g) i. Prof. NVSN Sharma, Director IIIT, Trichy, suggested to reduce contents in UNITS-II, III and V.

h) ii. Prof. K. ChandraBhusan Rao, JNTUKV, also expressed that contents in all units look lengthy and advised to reduce if possible.

iii. Chairperson replied that the necessary modifications will be done and communicated to all.

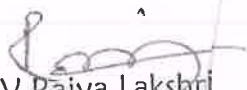
e) ECE 319 AC & DC Lab

i. Prof. NVSN Sharma, Director IIIT, Trichy, advised to specify the parameters which were being measured during the experiments.

f) ECE 322(c) Optical Communications


i. Prof. NVSN Sharma, Director IIIT, Trichy, expressed that contents in UNIT-III may be reduced. He also suggested to include topics related to Optical Fibreless communication

- b) ii. Prof. NVSN Sharma, Director IIIT, Trichy Suggested to keep text book by Rajiv Ramaswami, Kumar Sivarajan and Galen Sasaki as prescribed text book instead as reference book.
- c) g) ECE 323(b) Wireless Sensor Networks
- i. Prof. NVSN Sharma, Director IIIT, Trichy, expressed that prerequisites mentioned as Computer Network Engineering are not covered.
- d) h) ECE 326 VLSI Design
- i. Prof. NVSN Sharma, Director IIIT, Trichy, advised to include design rules in the syllabus.
- e) i) ECE 328 Integrated Circuits Lab
- i. Prof. NVSN Sharma, Director IIIT, Trichy, suggested to modify the name of the 7th experiment as "Comparison of Astable multivibrator using Op-amp and IC 555".
- Dr. V. Rajya Lakshmi, Chairperson informed the External BOS members that suggested modifications in various courses will be incorporated and the same will be forwarded for their approval within 10 Days.
- f) Meeting concluded with a vote of thanks presented by Mr. D. Anil Prasac, Academic Coordinator, to all the members.


Dr.V.Rajya Lakshmi
Chairperson, BOS & HOD, ECE
ANITS

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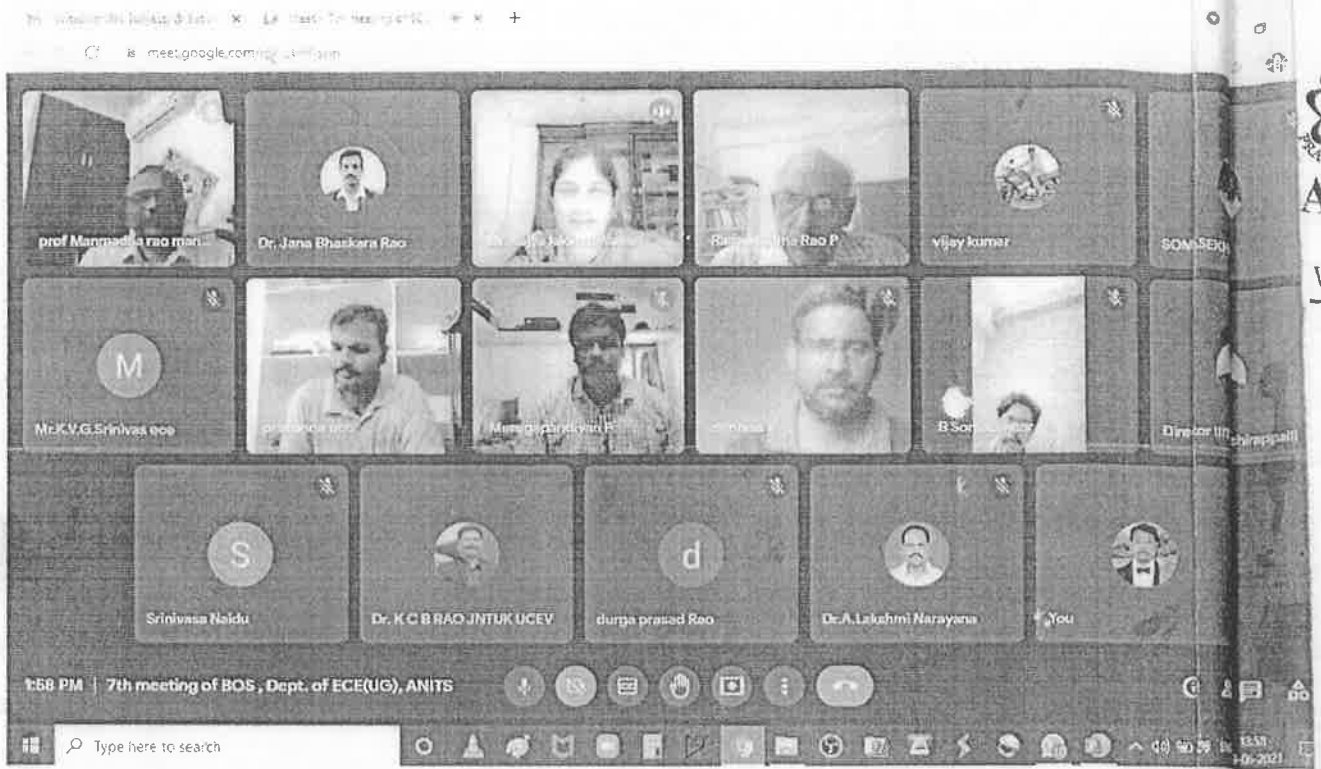


Fig: 7th BOS meeting of ECE held on 19-06-2021 at 2:00 PM through video conference.



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(Permanently Affiliated to Andhra University, Approved by AICTE)
Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
Accredited by NBA

**Minutes of the Board of Studies (BOS of EEE) meeting held on
19th June 2021 (Saturday) at 10.30 AM (online)**

MEMBERS PRESENT:

S. No.	Name	Designation	Category
1	Dr. J. Vijaya Kumar	Professor, EEE, ANITS	Member
2	Dr. V. Murali	Assoc. Prof., EEE, ANITS	Member
3	Mr. S. Balamurali	Assoc. Prof., EEE, ANITS	Member
4	Dr. Nishant Patnaik	Assoc. Prof., EEE, ANITS	Member
5	Dr. S. Vijaya Bhaskar	Assoc. Prof., EEE, ANITS	Member
6	Mr. Kavala Kiran Kumar	Asst. Prof., EEE, ANITS	Member
7	Mr. B. Rajasekhar	Asst. Prof., EEE, ANITS	Member
8	Dr. R. Satish	Asst. Prof., EEE, ANITS	Member
9	Dr. Ch. V. N. Raja	Asst. Prof., EEE, ANITS	Member
10	Mr. M. Sudheer Kumar	Asst. Prof., EEE, ANITS	Member
11	Mr. K. Trinadh Babu	Asst. Prof., EEE, ANITS	Member
12	Mr. L. Dinesh	Asst. Prof., EEE, ANITS	Member
14	Mr. S. Harish	Asst. Prof., EEE, ANITS	Member
15	Mr. A. Dhanamjay Apparao	Asst. Prof., EEE, ANITS	Member
16	Mr. L. Vijay	Asst. Prof., EEE, ANITS	Member
17	Mrs. D. Srilakshmi	Asst. Prof., EEE, ANITS	Member
18	Mrs. V. Rangavalli	Asst. Prof., EEE, ANITS	Member
19	Mr. V. Anil Kumar	Asst. Prof., EEE, ANITS	Member
20	Mr. N. Kiran	Asst. Prof., EEE, ANITS	Member
21	Mr. J. Uday Venkatesh	Asst. Prof., EEE, ANITS	Member
21	Mr. R.V.L. Divakar	Asst. Prof., EEE, ANITS	Member
22	Prof. Deba Priya Das	Professor, IIT Kharagpur	Academic Council Nominee
23	Prof. G.V. Siva Krishna Rao	Prof. & HOD, EE, AUCE(A)	University Nominee
24	Sri B. Srinivasa Reddy	GM (Electrical), RINL	Industry
25	Prof. G. Raja Rao	HOD, EEE, ANITS	Chairman, BOS

* * *

Agenda:

1. Approval of syllabus of III/IV B.Tech. I and II semester under R-19 regulation.
2. Approval of Syllabus of II/IV B.Tech. I and II semester under R-20 regulation.
3. Approval of courses for B.Tech-Honors & Minor under R-20 as per the guidelines of APSCHE.
4. New Courses Introduced.
5. **New Topics Added.**
6. Any other Item with the Permission of the Chair.

Resolutions:

1. Approval of syllabus of III/IV B.Tech. under R-19 regulation:
 - a) The Chair person welcomed all the BOS members and thanked the members for the support they have rendered to the department during the last five years.
 - b) The chairman presented the course structure and detailed syllabus of regulation R-19 for III/IV B.Tech 1st & 2nd semester for the academic year 2021-22.
 - c) The board discussed on the topics / units mentioned in all courses of the III/IV Semester-I & II. The external members were mostly satisfied with the topics proposed for various courses and suggested certain modifications in some courses.
 - d) Mr. B. Srinivasa Reddy has suggested to include composite insulators and voltage graded cables in Power Transmission and Distribution courses. He also suggested to introduce experiments based on electrical vehicles & drives in electrical machines lab.
 - e) The board has approved the courses offered under Open Elective-1 in 3rd year 1st semester and Open Elective-2 in 3rd year 2nd Semester during 2021-22.
 - f) The board has approved the list of courses mentioned under Professional Elective-1 in 3rd year 1st semester and Professional Elective-2 & 3 in 3rd year 2nd Semester during 2021-22.
2. Approval of Syllabus of II/IV B.Tech. under R-20 regulation:
 - a) The chairman presented the course structure and detailed syllabus of regulation R-20 for II/IV B.Tech 1st & 2nd semester for the academic year 2021-22. The Committee has mainly discussed on the scheme and syllabi of 2nd year 1st semester and 2nd semester courses to be taught by EEE faculty.

b) The board has discussed in full length and resolved to introduce "*Constitutional of India & Intellectual Property Rights*" as a non credit mandatory course for 2nd year 1st semester during 2021-22.

c) The board members were happy about the modifications and the scheme & syllabi of 2nd year.

3. **Approval of courses for B.Tech-Honors & Minor under R-20 as per the guidelines of APSICHE:**

a) The chairman has presented in brief about honors, minor and conditions to be satisfied for acquiring the same. It is resolved that the department to offer **B.Tech (Honors)** in tune with APSICHE guidelines for which the student should acquire 20 additional credits (4 Theory X 4 credits + 2 MOOCS X 2 Credits) to get Honors degree. If the number of students opting is less than 10, it may be considered to convert the Theory class work to MOOCS courses as mentioned in APSICHE / AICTE guidelines.

b) The chairman presented the list of courses offered under Pool-1 for 2nd year 2nd semester, Pool-2 for 3rd year 1st semester, Pool-3 for 3rd year 2nd semester and Pool-4 for 4th year 1st semester respectively, in addition to the regular courses. The eligibility to register for B.Tech (Honors) degree is as per guidelines of APSICHE.

c) The board has discussed in full length and resolved to offer the following list of courses under **Pool-1** for **B.Tech (Honors)** at 2nd year 2nd semester:

S.No	Pool-1
1	Advanced Network Theory
2	Advanced Digital Logic Design
3	Electronic Measurements
4	Electrical Engineering Materials

Out of these above four courses the student has to select one course of his/her choice.

d) The board has discussed in full length and recommended to finalize the list of courses under Pool-2, Pool-3 and Pool-4 in next BOS meeting.

e) It is also resolved that the department to offer **B.Tech (Minor)** courses in tune with APSICHE guidelines to the eligible students belonging to other disciplines for which the student should acquire 20 additional credits (4 Theory X 4 credits + 2 MOOCS X 2 Credits). If the number of students opting is less than 20, it may be considered to convert the Theory class work to MOOCS courses as mentioned in APSICHE / AICTE

guidelines. Minor can be offered in Generic courses, specialized stream of courses offered by industries such as Infosys / IBM / Siemens etc.

- f) The board has discussed in full length and resolved to offer the following list of courses for B.Tech (Minor) under General Minor Track:

B.Tech (Minor)

S.No	General Minor Track
1	NT
2	EDC
3	DLD
4	DC Machines
5	AC Machines
6	Basic Power System & Utilization
7	DCS
8	PE

B.Tech (Minor) Specialized Track

S.No	TRACK -1 POWER SYSTEMS
1	Distribution System Planning & Automation
2	Restructured Power Systems
3	HVDC & FACTS
4	Power Quality
5	Smart Grid Technologies
	TRACK -2 POWER ELECTRONICS & DRIVES
1	Advanced Power Electronics
2	Advanced Electrical Drives
3	HVDC & FACTS
4	Power Quality
5	Hybrid Electrical Vehicles
	TRACK- 3 CONTROL SYSTEMS
1	State Estimation & System Identification
2	Digital Control Systems
3	Non Linear Control Systems
4	Optimal Control Systems
5	Adaptive Control Systems
	TRACK- 4 ENERGY SYSTEMS
1	Energy Conservation & Audit
2	Utilization of Electrical Energy
3	Solar & Fuel cell Energy Systems
4	Wind & Biomass Energy Systems
5	Nuclear, Geothermal & Tidal Energy Systems

Out of these above four tracks the student has to select only **one** track with four courses.

4. New Courses Introduced:

- a) The board discussed on the topics / units mentioned in all courses of the III/IV Semester-I & II. The external members were mostly satisfied with the topics proposed for various courses and suggested certain modifications in some courses.
- b) The following Table presents the list of new courses added in regulation R-19 for III/IV Semester-I & II.

R-19	
PE-1 (3-1)	1) Embedded Systems
PE-3 (3-2)	1) Optimization Techniques
OE-1 (3-1)	1) Python 2) Computer Architecture and Organization
OE-2 (3-2)	1) IoT

- c) The board has discussed and resolved to continue the same course of R-19 in R-20 for II/IV Semester-I & II.

5. New Topics Added:

- a) The following Table presents the list of courses and topics added for R-19 in comparison with R-15 of III/IV Semester-I & II.

S.No.	Subject	Topics Added
1.	Renewable Energy Technologies (PE-1)	<ul style="list-style-type: none"> Thermoelectric power conversion & Thermionic power conversion- Principle of working, Performance and limitations.
2.	Performance of Linear and Induction Machines	<ul style="list-style-type: none"> Linear Induction Motor & Properties. Magnetic Levitation.
3.	Power Transmission & Distribution	<ul style="list-style-type: none"> Necessity of neutral grounding, various methods of neutral grounding. Composite insulators. HV & EHV graded cables.
4.	Electrical Drives & Traction (PE-2)	<ul style="list-style-type: none"> Direct Torque Control of 3-phase Induction Motors.
5.	Digital control Systems (PE-2)	<ul style="list-style-type: none"> Effect of Pole-Zero Placements. Detectability.
6.	ANN & Fuzzy systems (PE-3)	<ul style="list-style-type: none"> MATLAB Implementation of Fuzzy Systems.
7.	Power Electronics	<ul style="list-style-type: none"> Buck converter. Boost Converter. Buck-Boost converter.
8.	Power System Analysis	<ul style="list-style-type: none"> Concept of Voltage Stability

2. The following Table presents the list of course and topics added for R-20 in comparison with R-19 of II/IV Semester-I & II.

S.No.	Subject	Topics Added
1.	Network Theory	<ul style="list-style-type: none"> AC Transients.
2.	Microprocessors & Micro Controllers	<ul style="list-style-type: none"> Instruction Format. Memory Organization.
3.	Electromagnetics	<ul style="list-style-type: none"> Poynting Theorem. Energy Conservation.
4.	Performance of DC Machines & Transformers	<ul style="list-style-type: none"> All-day Efficiency. Open-delta connection. Parallel operation of 3-phase Transformers.
5.	Electrical Power Generation & Utilization	<ul style="list-style-type: none"> Diesel Power Plants. Electric Traction.

6. Any other item with the permission of the Chair.

1. The board has discussed and resolved to continue the same structure for **M.Tech. (Control Systems)** during 2021-22. The board discussed and recommended to include “**Research Methodology**” as a non-credit course and “**Design Thinking**” as a Professional Elective-1” along with the regular courses.

2. The board has discussed to introduce value added courses in R-19 for III/IV Semester-II. Following Table presents the list of value added courses:

Course Code	R-19
EEE 3210	MATLAB Essential tools for research applications
EEE 3211	Fuel Cell Technologies for Hybrid Vehicles

Date: 19-06-2021

C/s to: 1. The Principal

[Handwritten Signature]
Principal
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist

[Handwritten Signature]
19/6/21
Dr. G. RAJA RAO

Professor & HOD of EEE

part of the Department
ELECTRICAL & ELECTRONICS ENGINEERING
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Anil Neerukonda Institute of Technology & Sciences (Autonomous)

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Accredited by NBA (ECE, EEE, CSE, IT, Mech. Civil & Chemical) & NAAC)

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17

R-15 to R-19 Third Year 21-22 Change of Syllabus

SN	Code	Course	Remarks	Percentage of change	No: of courses with change in syllabus ≥ 20 /new course
1	IT312	Computer Networks	Unit-1 Topics included <ul style="list-style-type: none"> • Introduction to Networks cellular telephone and satellite networks • cellular telephony • Satellite networks. Unit-2 Complete Unit is changed where new topic related to Data link layer has been included Unit-5 DNS topic is included	40	1
2	IT315	Artificial Intelligence	Topics included <ul style="list-style-type: none"> • Introduction • Model of artificial neuron • Characteristics of neural networks • Applications of Neural Networks • Genetic Algorithm • Learning Rules • Single layered Feed forward networks, Multi layered forward networks • Back Propagation networks 	20	1
3	IT317	UML & Testing Lab	14. Study of testing tool (e.g. winrunner) 15. Study of web testing tool (e.g. selenium) 16. Study of bug tracking tool (e.g. bugzilla) 17. Study of any test management tool (e.g. test	30	1


			director) 18. Study of any open source testing tool (e.g. test link) 19. Test Facebook Manually (beyond the syllabus)		
4	IT319	Web Technologies Lab	Java Script is introduced in the new syllabus,Django is introduced in the new syllabus.	25	1
5	IT3110	Internship in Industry-I	New course	100	1
6	IT3111	Constitution of Indian & - Intellectual Property Rights	New course	100	1
	IT322	Professional Elective - I	PE		
7		Unix Network Programming	<ul style="list-style-type: none"> • Unix Fundamentals • Inter-process communication • Overview of transport layer protocols • Threads • Alternative design • Case studies • Broadcasting • Multicasting • Socket creation 	40	1
8		Data Warehousing and Data Mining	<ul style="list-style-type: none"> • Difference between operational database systems and data warehouses • Extraction-Transformation-Loading • Schema Design, Star and Snow-Flake Schema, Fact Constellation, Fact Table, Fully Addictive, Semi-Addictive, Non-Addictive Measures; Fact-Less-Facts, Dimension Table Characteristics • Applications and Trends in Data mining: Applications-Decisions involving judgments, Screening, Images, Load 	45	1

			forecasting, Diagnosis, Marketing, Sales & financial domains, Bio-medical; Trends in Data Mining• Compact Representation of Frequent Item Set- Maximal Frequent Item Set, Closed Frequent Item Set. • K- Nearest Neighbour classification- Algorithm and Characteristics, Prediction: Accuracy and Error measures, Evaluating the accuracy of a classifier or a predictor• Ensemble methods• Hierarchical methods• hierarchical clustering-agglomerative methods and divisive methods, Basic Agglomerative Hierarchical Clustering Algorithm, • Key Issues in Hierarchical Clustering• Strengths and Weakness• Outlier Detection.		
9		Business Automation	New Subject	100	1
10		Embedded Systems	New Subject	100	1
11		Management Information Systems	New Subject	100	1
	IT323	Professional Elective - 2			
12		Machine Learning	Syllabus is restructured	100	1
13		Operation Research	New Subject	100	1
14	IT325	Design Thinking	New Course	100	1
	IT327	Elective Lab			
15		ETL Tools	New Subject	100	1
16		DEVOpps	New Subject	100	1
17		ADV.Java	New Subject	100	1
18	IT328	Internet of Things Lab	New Course	100	1

19	IT329	Graphics and Multimedia Lab	<ul style="list-style-type: none"> • Advantage of Computer Graphics and Areas of Applications • Hardware and Software for Computer Graphics (Hard Copy, Display Technologies) • Scan Conversion Algorithms (Line, Circle) • 2-Dimensional transformation, 2-D Translation, Rotation, Scaling, Homogeneous Coordinates, Reflection, Shear transformation • 3-dimensional transformation, 3-D Translation, Rotation Scaling, Reflection, Shear • Basic Principles of Animation and Types of Animation • Introduction to the flash interface , Setting stage dimensions, working with panels, panel layouts , Layers & Views • Shaping Objects – Overview of shapes, Drawing & Modifying Shapes , Animation -Principles , Frame by frame animation, tweening, masks • Introduction to Digital Image Processing: Definition, application areas. File forms • Basic digital Image processing techniques like antialiasing, Convolutions, Thresholding etc. • Image enhancement • Video – Broadcast video standards (NTSC, PAL), Integrating computer and television • video capture board, video, colour, shooting and editing video, recording formats 9S-VHS video hardware resolution • video compression (JPEG, MPEG) 	20	
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 HEAD OF THE DEPARTMENT
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 Sangivalasa, Visakhapatnam-531 162



Minutes of the Board of Studies meeting held (online mode) on 19th June 2021

Members Present:

S.No	Name	Designation	Category
1	PROF. D. RAVI KUMAR	Prof., Dept. of Mech. Engg. IIT-Delhi	Academic Council Nominee
2	PROF. N. RAMANAIAH	Professor, Dept. of Mech. Engg. AUCE(A). Vishakapatnam.	University Nominee
3	Mr. K. VENKATA POORNESH	Sr. Engineer, BHEL, Vishakapatnam.	Industry Nominee
4	Mr. CH. SURYA TEJA	Assistant Director Naval Armament Services	Alumni Member
5	PROF. T.V. HANUMANTHA RAO	Principal, ANITS & Professor of Mechanical Engineering	Honorary Member
6	PROF. N. INDRAKIRAN	Prof., Dept. of Mech. Engg. ANITS	Member
7	Dr. K. SIVA PRASAD	Prof., Dept. of Mech. Engg. ANITS	Member
8	Dr. RAJESH GHOSH	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member
9	M. RAJA ROY	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member
10	R. CHANDRAMOULI	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member
11	G. UMAMAHESWARA RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member
12	M.S.S. SRINIVAS RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member
13	DR. K. SATYANARAYANA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
14	DR. VINODH BABU MARRI	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
15	DR. K. NARESH KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
16	DR. M. PRASANTH KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
17	DR. M. SRINIVASA RAO	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
18	DR. V. BINDU NEEHARIKA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
19	DR. LENIIN V R	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
20	D S S RAVI KIRAN	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
21	P. RAMYA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
22	K. V. RUKMINI	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
23	S. PHANI KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
24	K.S. LALITHA SOUJANYA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
25	M. SAILAJA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
26	LAKSHMI PRASAD B.S.	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
27	B KRISHNA PRAFULLA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
28	BEHERA V. RAVI TEJA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
29	CH. MAHESWARA RAO	Asst. Prof., Dept. of Mech. Engg. ANITS	Member

32	R.D.V.PRASAD	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
33	PERURI SIVA V N B GUPTA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
34	GOWRISANKAR KAITHA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
35	S.RAMANJANEYULU	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
36	B. PRADEEP KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
37	G NARESH	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
38	A P S V R SUBRAHMANYAM	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
39	BODA GEETA CHANDRA SEKHAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
40	P. BALA DIVYA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
41	R. VARAPRASAD	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
42	J MAHESH	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
43	PAVAN KUMAR IJJADA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member
44	PROF. B. NAGARAJU	HOD, Dept. of Mech. Engg. ANITS	Chairman- Board of Studies (Mechanical)

Agenda:

1. Third year B.Tech Mech Engg. Curriculum under R19 regulations
2. Second year B.Tech Mech Engg. Curriculum under R20 regulations
3. Finalization of subjects exclusively for B.Tech Honor/minor/specialized minor as per APSCHE Guidelines
4. Any other item

The Board of studies meeting was held in the online mode on Google meet platform on 19th June 2021 in the department of Mechanical engineering. The agenda for the meeting is as stated above. The HOD initialized the meeting by exchanging greetings with the faculty of the department and external BOS members. He cordially invited the Principal and external BOS members to the meeting. He introduced Mr. Surya Teja, a distinguished Alumni of our department who has excelled in Indian Engineering Services by securing 15th rank at the All-India level as a new entrant to the BOS. He then placed the agenda before the committee members for discussion. The Salient points that came up in the meeting after purviewing the syllabus by the external BOS members are as follows:

1. In R-15 regulations, the course structure contained fixed subjects from the industrial engineering stream. It is decided that the students should be given a choice in selecting a subject of his choice from a spectrum of Industrial engineering related subjects depending on his interest. With this objective, a **Humanities elective** is introduced with four choices given to the student. This approach is in-line with CBCS. **Supply chain management** is newly introduced in the list of subjects pertaining to this stream.
2. Prof. Ravikumar, external BOS member from IIT-Delhi pinpointed that the number of lecture, tutorial & practical hours are not in conformance with the number of credits for some subjects placed before the committee. The Principal and HOD took a serious note of this lapse and advised the faculty to be highly vigilant in framing the syllabus, finalization of COs and mapping with the POs & PSOs and also the minor details like number of periods, credits etc.
3. The subject of **Design Thinking** was deliberated in the meeting from the perspective of whether to consider it as Theory (or) Practical. This was expressed by Prof. Ramaniah as the syllabus contained theoretical concepts and case studies. This subject was newly introduced

- involved in developing new products. This was cleared by the chairman who said that this subject will be considered as Theory and internal evaluation will be based on the activities (case studies) performed by the students as regular assignments. However the external evaluation will be completely based on theoretical principles.
4. An external BOS member stated that the concepts related to Gerber's theory has to be included in the first unit of DMM-II, which was accepted.
 5. It was suggested by the expert members that the subject of NDT should contain practical sessions, wherein the students are given an exposure to the ND techniques being adopted in the industry. The industrial expert from BHEL, Vizag said that he will certainly help the students in the practical sessions as the BHEL has excellent Non-Destructive testing facilities.
 6. The subjects NDT & Additive Manufacturing is newly introduced into the R-19 curriculum as professional elective and the board was satisfied with the syllabus.
 7. The Mechanical Engineering Labs-I & II which were a part of R-15 regulations is split into two different labs. The experiments in this lab are divided into thermal & design streams and introduced into the corresponding new labs rechristened as Thermal Engineering lab & Applied mechanics lab. By splitting the original lab into two, the number of experiments are also increased. The newly introduced Applied mechanics lab adds value to the practical exposure offered to the students. This lab is equipped with experimental setups drawn from the streams of kinematics, dynamics of machinery & design. This newly established facility is a feather in the cap of the mechanical engineering department as it can provide an opportunity for the faculty and students to execute projects practically which was not available earlier.
 8. The newly introduced skill development course titled Computer Aided Modelling and its course contents in R-20 curriculum were thoroughly debated in the meeting. The external BOS members were initially not convinced with the title. Moreover the contents being introduced were also found to be marginally short of the requirements of a full-fledged CAD course. The Chairman put forth the idea behind introducing this subject, which meets the guidelines given by APSCHE. APSCHE has directed the autonomous institutions to introduce at least five skill development courses in their course structure. The computer aided modelling is one such course and gives a comprehensive overview and practise using CAD software for producing real-time 3D machine components and their Assemblies. This approach will be a complete replacement of producing 2D machine components and their assemblies by conventional drawing. Further the syllabus will also be revised as per the instructions of expert members to include topics on Boolean operations and other basics of CAD.
 9. The percentage of new courses added to the curriculum in R-20 regulation is around 7% as compared to R-19 regulations. Similarly the number of new courses added in R-19 regulations as compared to R-15 regulations stands at around 13%. The percentage of syllabus revised in some of the courses for this academic year and newly introduced courses are as given in the Annexure-1&2.
 10. The AP state government has given a blueprint of the programmes that are being introduced from this academic year (2021-22). The HOD apprised the external BOS members on this blueprint provided by APSCHE and said that three additional programmes are being added to the existing B.Tech programme. The newly introduced programmes are (a) B.Tech (Hon.), (b) B.Tech with MAJOR in Mechanical and GENERALIZED MINOR in any other branch, (c) B.Tech in Mechanical with SPECIALIZED MINOR in any other branch. The student has the opportunity to choose any of the four programmes being offered by the department which includes the normal B.Tech Mechanical.

The department of Mechanical engineering should therefore offer a B.Tech/B.Tech (Hon.) programme for its students, and a Generalized/Specialized Minor programmes in Mechanical for students of other branches.

11. The department has developed course structures for all the three new programmes and placed in the BOS for review. The experts after perusing the contents gave the following suggestions:

10.1- It is necessary to first layout the prerequisite subjects that a student has to complete in the preceding semester before encountering the subjects programmed in **B.Tech Honours**. This will ensure a free flow of the subject knowledge without any hitches.

10.2- The subjects introduced for mechanical minor courses were thoroughly examined by the external members and they felt that the normal stream subjects like machine design, Engineering mechanics etc., will not create interest in the students to opt for this programme. They advised either to introduce such subjects like Product Design, Statistical Quality Control etc., to make the programme relevant to their discipline (or) substitute this programme with a specialized minor in Industrial engineering. The chairman has taken note of this comment and said that the final decision will be taken.

10.3- The BOS members were satisfied with the programme being offered in **Robotics** as a specialized minor in mechanical engineering.

The external BOS members appreciated the efforts put in by the HOD and the faculty in preparing the course structures for the new programmes and syllabus for the subjects in R-19 & R-20 course structures. The newly introduced course structure and syllabus of subjects pertaining to III-Year (R-19) and II-year (R-20) were **ratified** by the BOS. The chairman finally thanked the external BOS members and all the faculty for their participation in the meeting.

CC to: 1) Principal
2) Controller of examinations

(for kind information)

MECH. ENGG.

Annexure-1&2 enclosed

To
file of BOS Book.

24-6-21
PROFESSOR & HEAD
Department of Mechanical Engineering
JSS Institute of Technology & Research
Surpaleshi nag VISHAKHAPATNAM Dist AP



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES (A)
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ANNEXURE-1

The following modifications in the syllabus were made in the R-20 curriculum for II-Year & R-19 curriculum for III-year compared to the previous curriculum.

Modifications made in R-20 curriculum compared to R-19 curriculum

Sl.No	R-19 course code	Course name	R-20 Course Code	Course name	% change in syllabus	Remarks
1	MEC 211	Engineering Mathematics - III	MEC 211	Engineering Mathematics - III	0	
2	MEC 212	Material science & Metallurgy	MEC 212	Material science & Metallurgy	0	No change
3	MEC 213	Engineering Mechanics	MEC 213	Engineering Mechanics	0	Topics from one unit are shifted to another unit and vice-versa.
4	MEC 214	Mechanics of solids	MEC 214	Mechanics of solids	5	Removed the topic on columns with eccentric loading
5	MEC 215	Basic Thermodynamics	MEC 215	Basic Thermodynamics	5	second law efficiency added in 3rd unit, Gibbs and Helmholtz Functions, Maxwell Relations, general expression for Cp and Cv added in 4th unit.
6	MEC 216	Manufacturing Processes	MEC 216	Manufacturing Processes	0	Textbooks, Reference books and web references were modified.
7	MEC 217	Mechanics of solids-Lab	MEC 217	Mechanics of solids-Lab	0	
8	MEC 218	Manufacturing-Lab	MEC 218	Manufacturing- Lab	0	
9	MEC 221	Engineering Mathematics -IV	MEC 221	Engineering Mathematics - IV	0	
10	MEC	Basic Electrical	MEC	Basic Electrical	0	

11	222 MEC 223	Engineering Applied Thermal Engineering-I	222 MEC 223	Engineering Applied Thermal Engineering-I	0	
12	MEC 224	Kinematics of Machinery	MEC 224	Kinematics of Machinery	25	In R-19, unit-2 is combined with unit-IV and two topics in unit-IV are removed and one topic in unit-2 is removed, and thus One unit (unit-III) is added in R-20 curriculum. Thus there will be 25% change in syllabus.
13	MEC 225	Metal cutting, Machine Tools & Metrology	MEC 225	Metal cutting, Machine Tools & Metrology	0	<p>1. In comparison to R 19, where mechanics of metal cutting was divided into Unit-1 & Unit-2, in R20 both these units were merged to as one unit (Unit-1). Also, the 'Introduction to surface finish' part has been removed from Unit-1 and placed in Unit-5.</p> <p>2. In R20, Unit's 2 & 3 topics are not altered. Except that, these were 3rd & 4th units in R19 syllabus.</p> <p>3. In R19, the Unit-5 part was totally Metrology part, which now is divided into 2 parts in R20 syllabus as Unit-4 & Unit-5.</p>
14	MEC 226	Mechanical Engineering Drawing (subject removed in R- 20)	MEC 226	Computer Aided Modelling	100	New skilled course introduced
15	MEC 227	Machine Tools Lab	MEC 227	Machine Tools Lab	25	<p>1. The experiment which is "Measurement of cutting forces on Milling Machine" in R19 regulations is now changed as "Spur gear cutting in Milling machine"</p> <p>2. The experiment which is "Measurement of torque and thrust on Drilling machine" in R19 regulations is now changed as "Drilling and tapping on Radial Drilling machine".</p> <p>3. New experiment is added in R20 regulations i.e. "Surface roughness measurement by Talysurf surface roughness tester"</p>
16	MEC 228	**Basic Electrical & Electronics Engineering-Lab	MEC 228	**Basic Electrical & Electronics Engineering-Lab	0	

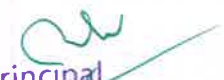
Modifications made in R-19 curriculum compared to R-15 curriculum

Sl.No	R-15 course code	Course name	R-19 Course Code	Course name	% change in syllabus	Remarks
1	MEC311	Open Elective-I	MEC311	***OpenElective-I	0	
			MEC312	HumanitiesElective		
2	MEC412	Managerial Economics and Financial Analysis	MEC312 (A)	Managerial Economics and Financial Analysis	0	
3	MEC322	Industrial Engineering and Management	MEC312 (B)	Industrial Engineering and Management	5	-In second unit of R15 last topic Computerized layout planning methods were removed.
4	MEC 416-IV	Entrepreneurship Development	MEC 312(C)	Entrepreneurship Development	0	
5			MEC 312(D)	Supply chain management	100	New course introduced
6			MEC313	DesignThinking	100	New course introduced
7	MEC314	Theory of Machines – II	MEC314	Dynamics of Machinery	20	In unit 2 (graphical method of dynamic analysis is removed) In unit 3 (balancing of uncouples locomotives) changed to (primary and secondary unbalanced forces of reciprocating masses. balancing of inline, v and radial engines are removed In unit V (Bifilar suspension) removed, Torsional vibration on Geared system removed.
8	MEC324	Engineering Thermodynamics- III	MEC315	Applied Thermal Engineering-II	0	
9	MEC315	Design of Machine Elements-I	MEC316	Design of Machine Elements-I	0	
10	MEC319	Verbal and Quantitative Aptitude –I	MEC317	Quantitative Aptitude-I & Verbal Aptitude	0	

11	MEC328	Mechanical Engineering Lab - II	MEC318	Thermal Engineering Lab	50	ME-I & ME-II labs of R-15 are combined together as one lab
12			MEC319	Applied Mechanics-Lab	100	New lab introduced
13	MEC411	Open elective -II	MEC 321	***Open Elective-II	0	
	MEC326	Dept Elective-I	MEC 322	Professional Elective-I		
14	MEC 326-IV	Production Planning and Control	MEC322 (A)	Production Planning & Control	20	Manufacturing resource planning (MRP-II), Capacity requirement planning, Gantt charts are added & Just in time inventory, line of balance, applications of computer in PPC are removed. Industrial Engineering & Production Management by MariandTelsangtext book is added in place of PPC by M. Mahajan, Operations Research by S. D. Sharma.
15	MEC 415-I	Gas Turbines and Jet Propulsion	MEC 322(B)	Gas Turbines & Jet Propulsions	0	
16			MEC 322(C)	Additive Manufacturing	100	New course introduced
17			MEC322 (D)	Non-Destructive Testing	100	New course introduced
	MEC415	Dept Elective -II	MEC 323	Professional Elective-II		
18	MEC 416-I	Refrigeration and Air Conditioning	MEC323 (A)	Refrigeration & Air-conditioning	3	Added one topic in IV Unit (Vortex tube refrigeration)
	MEC 422-IV	Statistical Quality Control	MEC 323(B)	Statistical Quality Control	5	Crosby's Juran's quality philosophies are added & ku chart, use of Dodge-Romig tables are removed.
19	MEC 422-III	Computational Fluid Dynamics	MEC 323(C)	Computational Fluid Dynamics	0	
20	MEC 416-V	Nano Technology	MEC323 (D)	Nano Technology	0	
21	MEC325	Operations Research	MEC 324	Operations Research	5	In first unit added introduction to advanced optimization techniques and third unit removed resources smoothing
22	MEC312	Hydraulic Machinery and Systems (This subject is combined with fluid	MEC 325	Fluid Mechanics & Hydraulic Machinery	60	Introduced a new subject covering only fundamental and important topics of Fluid Mechanics (II-2) and Hydraulic Machines (III-1) and hence syllabus has been modified in all units.

		mechanics in R19)				
23	MEC223	Fluid Mechanics				
24	MEC323	Design of Machine Elements-II	MEC 326	Design of Machine Elements-II	5	In Unit-1 Wording has been changed In Unit-3 Disc brakes are added
25	MEC329	Verbal and Quantitative Aptitude -II	MEC 327	Quantitative Aptitude-II & Soft Skills	50	Soft skills lab included
26	MEC316	FMM Lab	MEC 328	Fluid Mechanics & Hydraulic Machinery - Lab	10	Two experiments in the list removed
27	MEC327	Metrology & Mechatronics Lab	MEC 329	Metrology & Mechatronics-Lab	35	In R-15 we have 14 sets of experiments, out of which 4 are removed (3 from mechatronics(2 are removed and 1 Expt. is combined with the other) & 1 from metrology) and 1 Expt in metrology is made into 3 Expt by including extra analysis, so totally 5 changes out of 14 = 35%
28	MEC321	Manufacturing Technology - III			0	Subject removed
29	MEC317	Manufacturing Technology Lab-II			0	Already appeared in II-year-II-sem, MEC 227 as Machine Tools-lab
30	MEC318	Soft Skills lab			0	Merged with MEC 327
31	MEC313	Engineering Thermodynamics - II			0	Already appeared in II-year-II-sem, MEC 223 as Applied Thermal engineering-I

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2023
HOD
Mech. Engg.
PROFESSOR & HEAD
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ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES (A)

DEPARTMENT OF MECHANICAL ENGINEERING

(Permanently Affiliated to Andhra University, AICTE, Accredited by NBA NAAC with 'A' Grade)
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ANNEXURE-2

New subjects introduced in R-20 Curriculum compared to R-19 curriculum

Sl.No	Subject Code	Name of the subject
1.	MEC 125	Advanced Engineering Graphics
2.	MEC 226	Computer Aided Modelling
3.	MEC 312(B)	Statistical Quality Control
4.	MEC 328	Computer aided Design and Manufacturing Lab
5.	MEC 414(D)	Product Design & Manufacturing

Revised course titles in R-20 Curriculum compared to R-19 curriculum

S.No	Course title as per R-19 regulations	Course title as per R-20 regulations
1	Engineering Drawing	Engineering Graphics
2	Basic Electrical Engineering Lab	Basic Electrical & Electronics Engineering Lab
3	Applied Mechanics Lab	Kinematics and Dynamics of Machinery Lab

New subjects introduced in R-19 Curriculum compared to R-15 curriculum:

Sl.No	Subject Code	Name of the subject
1.	MEC 114	Biology for Engineers
2	MEC 124	Basics of Electronics Engineering
3	MEC 312(D)	Supply chain management
4	MEC313	Design Thinking
5	MEC319	Applied Mechanics-Lab
6	MEC 322(C)	Additive Manufacturing
7	MEC322(D)	Non-Destructive Testing
8	MEC 412(C)	Unconventional Machining Process
9	MEC 412(D)	Quality & Reliability Engineering
10	MEC 413(B)	Alternate Fuels
11	MEC 413(C)	Industrial Tribology

Revised course titles in R-19 Curriculum compared to R-15 curriculum

S.No	Course title as per R-15 regulations	Course title as per R-19 regulations
1	Engg. Thermodynamics -I	Basic Thermodynamics
2	Engg. Thermodynamics - II	Applied Thermal Engineering -I
3	Engg. Thermodynamics -III	Applied Thermal Engineering -II
4	Theory of Machines -I	Kinematics of Machinery
5	Theory of Machines -II	Dynamics of Machinery

6	Manufacturing Technology - I	Manufacturing Processes
7	Manufacturing Technology - II	Metal cutting, Machine Tools & Metrology
8	Machine Drawing	Mechanical Engineering Drawing
9	Computer Aided Design	Computer Aided Design & Manufacturing
10	Computer Aided Design Lab	Computer Aided Design & Manufacturing Lab
11	Manufacturing Technology Lab -I	Manufacturing Lab
12	Manufacturing Technology Lab -II	Machine Tools Lab
13	Strength of Materials Lab	Mechanics of Solids Lab

17/2/62

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Dept. of Mech. Engg.

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ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

(Autonomous)

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DEPARTMENT OF MECHANICAL ENGINEERING

Honor subjects offered by the department of Mechanical Engineering (R20)

I. Honor subjects:

a. Manufacturing pool

- i. Micro Electro Mechanical Systems (MEMS)
- ii. Advanced Manufacturing Methods
- iii. Design for Manufacturing & Assembly
- iv. Machine Tool Design

b. Thermal Engineering pool

- i. Fuels and Combustion Thermodynamics
- ii. Energy Audit and Management
- iii. Advanced Technologies in Automotive Engines
- iv. Advanced Fluid Mechanics

c. Design pool

- i. Composite materials
- ii. Introduction to Fracture Mechanics
- iii. Mechanics of Machinery
- iv. Engineering Tribology

d. Industrial Engineering pool

- i. Work system Design
- ii. Manufacturing planning and control
- iii. Quality engineering and management.
- iv. Inventory control and supply chain management

[Signature] 23.6.21
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DEPARTMENT OF MECHANICAL ENGINEERING

Minor subjects offered by the department of Mechanical Engineering (R20)

I. Generalized Minor subjects:

- i. Elements of Mechanical Engineering
- ii. Principles of Manufacturing processes
- iii. Fundamentals of Mechanical Design
- iv. Operations Research
- v. Automobile Engineering
- vi. Waste to energy conversion

II. Specialized minor in Robotics:

- i. Principles of Robotics
- ii. Elements of Mechatronics
- iii. Computer-Aided Manufacturing
- iv. Autonomous Vehicles
- v. Pneumatics and Hydraulics
- vi. Flexible Manufacturing Systems

24.6.21
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Board of Studies

(BOS)

AY 2020-21



**ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(UGC Autonomous)**

(Affiliated to AU, Approved by AICTE & Accredited by NBA & NAAC with 'A' Grade)
Sangivalasa 531 162, Bheemunipatnam Mandal, Visakhapatnam Dist

Date: 30-05-2020

Dear Prof. P.S.T. Sai,

Professor, Department of Chemical Engineering

IIT M, Chennai

Sub: ANITS – Meeting of the Board of Studies on 6th June, 2020

Greetings from ANITS,

Trust this finds you in good health & spirits. As you would recall ANITS under autonomous status had been paving successful path for the last five academic years with your expert guidance and advice.

Now, in order to continue the same spirit and zeal, the sixth meeting of Board of Studies is scheduled to be held on **Saturday, the 6th June, 2020 at 10:00 AM** through online.

The agenda of the meeting is to finalize the 2nd year syllabus of R – 2019 under the autonomous status from the academic year 2020-21 and any other issue with the permission of the chair.

We shall be grateful if you kindly make it convenient to give your august presence in the meeting. The draft curriculum and the syllabus shall be sent soon for your peer review.

With warm regards,

Prof. T. V. Hanumantha Rao

PRINCIPAL



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

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Sangivalasa 531 162, Bheemunipatnam Mandal, Visakhapatnam Dist

DEPARTMENT OF CHEMICAL ENGINEERING

06-06-2020

Minutes of the meeting of the Board of Studies, Department of Chemical engineering (UG) held on 06-06-2020 at 10.00 AM through online (Skype platform).

Members present:

1. Dr. Ch. Anil	Chairman, BOS, Chemical Engineering
2. Prof. S. Subba Rao	Member
3. Prof. R. Srikanth	Member
4. Dr. M. Shiva Naresh	Member
5. Prof. P.S.T. Sai	Member, Academic council nominee
6. Prof S. V. Naidu	Member, Andhra University nominee
7. Dr. A. Srinivasa Kumar	Member, Industry / Research

Resolutions:

Chairman welcomed all the members for the BoS meeting.

- 1) The modifications made in the structure were presented to the members to make it inline with the AICTE model curriculum.
- 2) Syllabi for II/IV B. Tech. Chemical Engineering I and II Semesters were discussed and the experts felt satisfactory about the same.
- 3) Dr. A. Srinivas Kumar felt to include nanotechnology related separation techniques in MO theory or Lab course. Dr. M. Shiva Naresh informed that an elective course on Nanotechnology will be offered in final year where the students will be exposed to these techniques. Prof. S.V. Naidu asked to change the title of 2nd unit in MO theory course.
- 4) Prof. S.V. Naidu suggested to name the title of the 2nd part of the 5th unit of Numerical Methods in Chemical Engineering course as Numerical solutions of PDEs and include "Introductory methods of Numerical Analysis" by S. S. Sastry as text book. He also suggested to see that there will be no repetition of topics in Engineering Mathematics – IV and Numerical Methods in Chemical Engineering.
- 5) Prof. S. V. Naidu suggested to include solving of PDEs in Computational lab course. Dr. A. Srinivas Kumar advised to test the depth of understanding in computational lab instead of teaching many tools. Dr. Ch. Anil informed that one of the tools will be taught in the course and care will be taken to focus on depth of understanding.
- 6) Prof. P.S.T. Sai enquired whether credits will be given based on O column in the course structure. Dr. Ch. Anil informed that the O is just to indicate the students to

study those hours at home. They will not be taken into consideration for the allocation of credits.

- 7) The committee, in view of pandemic COVID – 19 suggested to follow the guidelines made by UGC / AICTE in conducting classes, examinations and in adopting evaluation procedures.

With these modifications, the committee approved the 2nd year syllabus.

A. Anil

(Dr. Ch. Anil)
Chairman, BOS

HEAD,

DEPARTMENT OF CHEMICAL
ENGINEERING

R. Srikanth

Convener, IQAC
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Date: 31.05.2020

Minutes of BoS Meeting (Online via Skype) held on 31st May, 2020

Members Present:

- | | |
|----------------------------------|--|
| 1. Dr. B V S Viswanadham | Professor, IIT(B), External Member |
| 2. Dr. G Appa Rao | Professor, IIT(M), External Member |
| 3. Dr. C N V Satyanarayana Reddy | Professor, AU, University Nominee |
| 4. Sri. D Kasi Visvesvara Rao | Industry Member |
| 5. Dr. J Vikranth | Assoc. Professor |
| 6. Mr. M K S S K Chaitanya | Asst. Professor |
| 7. Mrs. P V R Sravya | Asst. Professor |
| 8. Mr. T V Viswa Teja | BoS-Civil Coordinator, Asst. Professor |
| 9. Mr. M Prem Chand | Asst. Professor |
| 10. Mr. Ch Srinivas | Asst. Professor |
| 11. Mr. K Suryanarayana | Asst. Professor |
| 12. Mr. J Harshavardhana Reddy | Asst. Professor |
| 13. Mr. N A N P Vital | Asst. Professor |
| 14. Dr. B.N.D. Narasinga Rao | Asst. Professor |
| | Professor & HoD (In Chair) |

Agenda:

- 1) Consideration of 4-Year Course structure for B.Tech. (Civil Engineering) under R-19 Regulations
- 2) Consideration of Syllabus for II Year I Semester and II Year II Semester B.Tech. (Civil Engineering) under R-19 Regulations
- 3) Paper setters for II Year I semester and II semester B.Tech (Civil Engineering)
- 4) Online examinations during lockdown
- 5) Any other item with the permission of the chair

Discussions & Resolutions:

1. The 4-Year Course structure for B.Tech. (Civil Engineering) under R-19 Regulations, circulated earlier by email is ratified.
2. Considered the detailed syllabus for II Year I semester and II semester B.Tech Civil Engineering under R-19 Regulations, for discussion and approved the same with necessary minor corrections.
3. The Board has authorized the Head of Department, Civil Engineering, ANITS to make minor changes in the syllabus, if deemed necessary, based on the feedback given by the concerned subject faculty member(s), keeping 90% to 95% of the overall content same.


Changes in syllabus effected is as given below

R20 - I B.Tech syllabus - No change


R19 - II B.Tech syllabus

CIV 212 - Building Planning and Drawing - 10 %

5. List of paper setters for II Year B.Tech. Civil Engineering under R-19 Regulations is considered and approved. The Board, however, has authorized the Head of Department, Civil Engineering, ANITS to add or modify the list wherever necessary.
6. Members were informed that in view of lockdown due to COVID19, the Mid-II examinations for II and III Year II Semester students were conducted online in open book model. Members were also informed that the Project work end semester Viva examination was also conducted online through Skype based on UGC lockdown guidelines.
7. Discussed the innovative Teaching and Evaluation Techniques.


(Dr. B.N.D. NARASINGARAO
Professor & Head
Dept. of Civil Engineering

Dr. B.N.D. Narasingarao
M.E. Ph.D. (IIT Bombay)
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Minutes of the meeting of the Board of Studies Dept. of CSE (UG & pg)

Held on 23-05-2020

Department of Computer Science & Engineering

Members Present:

S. No	Name of the faculty	Designation	Category	Signature of the member
1.	Dr. R.Sivaranjani	HoD & Professor, CSE, ANITS	Chairman, BOS, CSE	
2.	Dr M Rama Krishna Murty	Professor, CSE, ANITS	Member	
3.	Mr. S. Ratan Kumar	Associate. Professor, CSE, ANITS	Member	
4.	Dr J Hyma, Associate	Professor, CSE, ANITS	Member	
5.	Dr K S Deepthi	Associate. Professor., CSE, ANITS	Member	
6.	Mr. G.Jagadish	Assistant. Professor., CSE, ANITS	Member	
7.	Dr. K. Suresh	Assistant. Professor., CSE, ANITS	Member	
8.	Dr. B Prajna	Professor, CSE, AUCE	University Nominee	
9.	Dr. KSVN RAJU	Professor, CSE, GVPC Degree & PG Courses	Member	
10.	Mr. T. ShyamVamsi	IBM, Chennai, Alumni	Industry	
11.	Dr. S. Raja	Scientist "G", Ex Associate Director, NSTL, Visakhapatnam	Industry	
12.	Roy Antony Arnold George Charles	Manager, Campus Connect, Infosys Technologies, Hyd	Industry	

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Minutes of Board of Studies Meeting

Department of CSE

Minutes of the Meeting:

Subject : Board of Studies-Bachelor of Technology (CSE)
Date : 23-05-2020
Agenda : 1) Overview of B Tech CSE with Data Science Course Structure -R20
2) Overview of B Tech CSE with AI & ML Course Structure -R20
3) 2/4 B Tech CSE Syllabus in R19

The following members were present in the meeting:

- Dr. R. Sivaranjani, HoD & Professor, CSE, ANITS Chairman, BOS, CSE *RS*
- Dr. M. Rama Krishna Murthy, Professor, CSE, ANITS, Member *g*
- Mr. S. Ratan Kumar, Associate Professor, CSE, ANITS, Member *R*
- Dr. J. Hyma, Associate Professor, CSE, ANITS, Member
- Dr. K. S. Deepthi, Associate Professor, CSE, ANITS, Member - *Accepts*
- Mr. G. Jagadish, Assistant Professor, CSE, ANITS, Member - *GN*
- Dr. K. Suresh, Assistant Professor, CSE, ANITS, Member *DL*
- Dr. B. Prajna, Professor, CSE, AUCE University Nominee
- Dr. KVSVN RAJU, Professor, Department of Computer Science and Engineering, GVPC Degree & PG Courses Member
- Mr. T. Shyam Vamsi, IBM, Chennai, Alumni, Industry
- Dr. S. Raja, Scientist "G", Associate Director, NSTL, Visakhapatnam, Industry
- Roy Antony Arnold George Charles, Manager, Campus Connect, Infosys Technologies, Hyd, Industry

Chairman BOS officially welcomed all the internal and external members of the Board of Studies committee for the BOS meeting of B. Tech-CSE, 2020.

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On behalf of CSE, ANITS, Mr. S. Ratan Kumar, Assoc. Prof., Dept. of CSE welcomed the BOS committee and deliberated a quick view on R15 and R19 course structures which are modified to 160 credits according to the guidelines of AICTE and APSCHE.

The discussion started with the presentation of course structures of specialization courses (Data Science and AI&ML) with a detailing of their necessity in the current emerging scenario. It was mentioned 20 out of 160 credits are allotted for mandate courses of specialization. The four-year course structure is presented with a comparison to R19 BTech, in specific to number of professional and open electives.

The in-detail presentation started with---

- **Agenda 1: B Tech CSE with Data Science Course Structure –R20**

On this the external members have made the following deliberations:

- When it comes to the specialization course, the functional points like strategy for taking student input, course execution by department in various aspects have to carefully monitored.
- The core subjects of the CSE should not be neglected in view of accommodating the space for specialization courses.
- Cloud Computing subject syllabus has to be prepared inline with the industry requirements.
- Scope of the subject has to be reverified in Embedded Control Design.
- 4G/5G Networks can be introduced in place of Parallel Computing.
- Human Computer Interaction can be replaced with some other better option.
- In track 7, NOSQL can be introduced
- Track name "Natural Language Processing" can be changed to Speech and Text Processing or with some other better option.

- **Agenda 2: B Tech CSE with AI & ML Course Structure –R20 is presented.**

On this the external members have made the following deliberations:

- AI & ML Specialization and Data Science Specialization is close to each other, as there will be a chance of getting overlap in the course contents, it is suggested to carefully plan the tracks and other mandate subjects with respect to each other.
- Experiments in Deep Learning and Machine Learning should be properly framed without any overlap.
- Data Analysis course and lab can be replaced with some other option related to AI, provided there is no much dependency with AI and ML.
- In place of Data Analysis lab, lab courses related to the Industrial needs like creation of Bots etc can be revisited.

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- Robotics and Robotics Lab in place of Data Analysis is suggested and needs to be finalized.
- Agenda 3: 2/4 B Tech CSE Syllabus in R19 is presented.

Following the resolutions are taken after a rigorous discussion, debate among the members.

SEMESTER-3

- Prescribed text book for Data Structures is suggested to take by Mark Allen Weiss.
- In JAVA, UNIT-4 and UNIT-5 are suggested to replace by OOPs with JAVA and J2EE.
- For Data Communication the prescribed and reference books are suggested to be interchanged and title also should be according to that.
- In the syllabus of Data Communication asked to check for the possibility to introduce IOT related protocols, Short range networks.
- Design thinking must be handled with different activities. If possible bring experts from Outside to handle the course.
- Java Lab experiments must be designed as case studies


SEMESTER-4

- In Microprocessor subject recent processor study has to be incorporated.

General Suggestions given by the external committee:

- Number of prescribed textbooks should not be more than 1, it should be limited to maximum of 2 when the syllabus highly demands.
- Design Techniques in R19 subject has to be taught by computer science faculty to get an its application perspective to the Computer Science domain.
- Competitive programming in R19 should not be language specific and logic building part needs to addressed more.
- In labs scenario-based experiments have to be framed.
- Julia Programming can be introduced if possible.
- Proctoring system has to be improved. Like each proctor can take 5 second year students ,5 3rd Year students and 5 from final year not like in the existing system where each proctor is assigned with 15 from the same section.

Finally, the meeting ended with vote of thanks by BOS chairman.


Prof. (Dr) R Sivarajani
Chairman
BOS-CSE

1.1.3 % of changes in syllabus content in the line with AU(20-21)

Sl. No	R-14 (AU-Regulation)		R-15 (Autonomous-Regulation)		Remarks	% of syllabus content added / replaced
	Course Name	Course code	Course Name	Course Code		
			OPEN ELECTIVE I	CSE311		
1			File Systems & Data Bases	CSE311(A)	Newly Introduced Course	100
2			Computer Operating Systems	CSE311(B)	Newly Introduced Course	100
3			Fundamentals of Computer Networks	CSE311(C)	Newly Introduced Course	100
4	OBJECT ORIENTED PROGRAMMING	CSE 2.2.5	Concepts of Object Oriented Programming	CSE311(D)	Unit I: Minor changes, removed Templates, Exception handling, console I/O and File I/O concepts Unit II:No change Unit III:No change Unit IV:No Change UnitV:completely changed.Applets,Event Handling and AWT Controls concepts were introduced in unit 5,	18%
5	DATABASE MANAGEMENT SYSTEMS	CSE 3.2.3	DATABASE MANAGEMENT SYSTEMS	CSE312	Unit 1, chapter 1Introduction to DBMS: Three Schema architecture of DBMS, Data Models,Database Languages,Client/ServerArchitecture ,Database Administrator and Users(All Topics Added) Unit 1, chapter 2Entity-Relationship Model: Design Issues(All Topics Added) Unit 2Relational Model: Structure of Relational Databases,Basics of Relational Model(AllTopics Added) Unit 3SQL: Concept of DDL, DML, DCL, Referential Integrity Constraints, assertions, views, Stored Procedures(All Topics Added) Unit 4, chapter 1Database Design: Normalization using multivalued dependencies, 4NF, 5NF(All Topics Added) Unit 4, chapter 2Security: Access Control, Discretionary Access Control - Grant and Revoke on Views and IntegrityConstraints, Mandatory Access Control. (All Topics Added) Unit 5, chapter 1TransactionManagement: The ACID Properties, (All Topics Added) Unit 5, chapter 2Concurrency Control: 2PL,Serializability and Recoverability, LockConversions, Dealing with Deadlocks(All Topics Added) Unit 5, chapter 3Crash Recovery: The Log, Other Recovery-Related Structures, The Write-Ahead	20%

					LogProtocol, Check pointing. (All Topics Added)	
6	COMPUTER GRAPHICS	CSE 3.1.3	COMPUTER GRAPHICS	CSE313	Unit 3 - Raster Methods for transformation, Hierarchical Modelinwith Structures-GUI and Interactive Input Methods, Windows and Icons- Virtual Reality Environment(Removed) Unit 5 - Visible Surface Detection Methods: Classification of visible-surface detection algorithm, Bach face method, Depth buffer method, Scan line method.(Added)	10%
7	COMPUTER NETWORKS	CSE 3.1.4	COMPUTER NETWORKS	CSE314	Unit-II-Medium Access sub layer: Channel Allocation Problems Static and Dynamic, Multiple Access protocols: ALOHA - CSMA-CSMACD- IEEE Standard803.3 Ethernet ,802.4 Token bus. Unit-III- Routing Algorithms, Congestion controlling Algorithms, Traffic shaping,Tunneling, protocols in network layer,IPV4,IPV6,DHCP. Unit-IV- Transport layer services, Application Layer:	40%
8	DESIGN & ANALYSIS OF ALGORITHMS	CSE 3.2.2	DESIGN & ANALYSIS OF ALGORITHMS	CSE315	Unit 1 - Case Study: Pseudo code Conventions, Time and Space Complexities, Unit 2 - Binary Tree Traversals and Related Properties, Depth-First Search and Breadth-First Search, Topological Sorting, AVL Trees, Unit 5 - Case study for Backtracking: Graph Coloring	15%
9	DBMS LAB	CSE 3.2.8	DATABASE MANAGEMENT SYSTEMS LAB	CSE316	NA	NA
10	COMPUTER NETWORK LAB		COMPUTER NETWORK LAB	CSE317	Newly Introduced Course	100
11			SOFT SKILLS LAB	CSE318		
12			QUANTITATIVE VERBAL APTITUDE I	CSE319		
13	COMPILER DESIGN	CSE 3.2.1	COMPILER DESIGN	CSE321	YACC Tool is added in UNIT-3	4%
14	OBJECT ORIENTED SOFTWARE ENGINEERING	CSE 4.1.1	SOFTWARE ENGINEERING	CSE322	UNI-1:RA,DELETED UML UNIT-2: ADD SOFTWARE PROCESS,SRS ,SA UNIT-3: ADD FD,OOD UNIT-4: NC UNIT-5: S/W PROJECT PLANING	50%
15	WEB TECHNOLOGIES	4.1.6	WEB TECHNOLOGIES	CSE323	UNIT-1 HTML5 UNIT-2 PHP added complete unit UNIT-5 JSON half part of unit added	30%

16	COMPUTER ARCHIECTUR E	CSE 326	COMPUTER ARCHITECTURE	CSE324	<p>Overview of Computer organization, Introduction, classes of computer, defining computer architecture, trends in technology and power, measuring and reporting performance, quantitative principles of computer design.</p> <p>Memory hierarchy design: Introduction, ten advanced optimizations of cache performance, memory technology and optimizations, virtual memory and virtual machines, the design of memory hierarchy, memory hierarchies in Arm Cortex-A8 and Intel Core i7.</p> <p>Instruction-Level Parallelism and its Exploitation: Instruction-level parallelism(ILP) - concepts and challenges, basic compiler techniques for exposing ILP, reducing branch costs, overcoming data hazards and dynamic scheduling, hardware based speculation, exploiting ILP using multiple issue and static scheduling, exploiting ILP using dynamic scheduling, multiple issue and speculation, studies of the limitations of ILP, multi-threading, Intel Corei7 and ARM CORTEX A-8.</p> <p>Introduction, shared-memory architectures, performance of shared-memory multiprocessors, distributed shared-memory and directory-based coherence, synchronization, models of memory consistency, multicore processors and their performance</p> <p>Introduction, programming models and workloads for warehouse-scale computers, computer architecture, physical infrastructure and costs, A Google warehouse-scale computer.</p>	80
			PROFESSIONAL ELECTIVE I	CSE325		

17			Smart Systems Design & Programming	CSE325A	Newly Introduced Course	100
18			High Performance Computing	CSE325B	Newly Introduced Course	100
19	Principles Of Programming Languages	CSE 3.2.5	Principles Of Programming Languages	CSE325C	UNIT-1 deleted impact of machine architecture unit-2: NC unit-3:Nc unit-4 file system added unit-5:Add exception handling	25%
20			Advanced Data Structures	CSE325D	Newly introduced course	100%
21	IMAGE PROCESSING	CSE 3.2.5	Digital Image Processing	CSE325E	UNIT-1:NC UNIT2:NC UNIT-3 DELETED IMAGE ENHANCEMENT UNIT-4 DELETED IMAGE COMPRESSION UNIT 5:NC	20
22			NoSQL DataBases	CSE325F	Newly Introduced Course	100
23			OPEN SOURCE TECHNOLOGIES LAB	CSE326	Newly Introduced Course	100
24	OBJECT ORIENTED SOFTWARE ENGINEERING LAB	CSE 4.1.8	SOFTWARE ENGINEERING LAB/MINI PROJECT LAB	CSE327	ADD MINI PROJECT LAB	50%
25			QUANTITATIVE & VERBAL APTITUDE II	CSE328	New Course	100
			OPEN ELECTIVE II	CSE411		
26			CRYPTOGRAPHY & NETWORK SECURITY	CSE412	UNIT-1: No Change UNIT-2: Cryptography standards like XML, PK UNIT-3: WAP security GSM removed UNIT-4: Kereberos versions added UNIT-5: Firewalls and Intrusion detection added.	35
27			OBJECT ORIENTED ANALYSIS & DESIGN	CSE413	NEWLY ADDED COURSE	80%
28			PROFESSIONAL ELECTIVE II	CSE414		
29			Mobile Computing	CSE414A	Newly added course/ Newly introduced course	100
30			Distributed Operating Systems	CSE414B	Contents that are added in R15 Design Requirements for Distributed Architectures, Fundamental Models- Interaction Model, Failure Model,	40

					<p>Security Model.</p> <p>Design Issues for RMI, Implementation of RMI, Distributed Garbage Collection</p> <p>Concurrency Control in Distributed Transactions, Transaction Recovery; Replication-Introduction, Passive (Primary) Replication, Active Replication.</p> <p>Contents that are deleted from AU</p> <p>Distributed Shared Memory, Introduction, What is Shared memory?, Consistency models, Page based Distributed Shared memory, Shared – variable Distributed Shared memory, Object based Distributed Shared Memory</p> <p>Lay red Protocols, ATM networks, The Client – server model, Remote</p>	
31	Neural Network and Fuzzy system(Elective -II)	CSE 4.2.3	Neural Networks & Deep Learning	CSE414C	Newly introduced course	100
32			Human Computer Interaction	CSE414D	Newly added course/ Newly introduced course	100
33			Pattern Recognition	CSE414E	Newly introduced course	100
			PROFESSIONAL ELECTIVE III	CSE415		
34			Computer vision	CSE415A	Newly introduced course	100
35	Embedded System	CSE 4.1.5	Embedded Systems	CSE415B	DMA, UART and PLD	1
36	Data WareHousing and Data Mining	CSE 4.2.3	DATA WAREHOUSING & DATA MINING	CSE415C	No Change	0
37			Machine Learning	CSE415D	Newly introduced course	100
38			Cyber Security	CSE415E	Newly added course/ Newly introduced course	100
39		CSE 416	CRYPTOGRAPHY & NETWORK SECURITY LAB	CSE416	Newly added course/ lab	100
40			INDUSTRIAL TRAINING & SEMINAR	CSE417		
41			PROJECT I	CSE418	Newly Introduced Course	100
			PROFESSIONAL ELECTIVE- IV	CSE421		
42			Client Server Computing	CSE421A	Newly added course/ Newly introduced course	100

43			Augmented Reality	CSE421B	Newly added course/ Newly introduced course	100
44			Semantic Web	CSE421C	Newly introduced course	100
45			Big Data Analytics	CSE421D	Newly introduced course	100
46			Information Security & Auditing	CSE421E	Newly introduced course	100%
47			Social Network Analysis	CSE421F	Newly introduced course	100%
48			PROFESSIONAL ELECTIVE – V	CSE422		
49			Network Management	CSE422A	Newly introduced course	100
50			Fuzzy Computing	CSE422B	Newly introduced course	100
51			Wireless Sensor Networks	CSE422C	Newly Introduced course	100
52			Cloud Computing	CSE422D	Newly Introduced course	100
53			Computing Optimization	CSE422E	Newly introduced course	100
54			PROJECT II	CSE423	Newly Introduced course	100
55			MOOC	CSE424	Newly Introduced course	100
Average % change						

1.1.3 % of changes in syllabus content in the line with R-15

R-15(Autonomous-Regulation)		R-19 (Autonomous-Regulation)		Remarks	% of syllabus content added / replaced	
Sl. No	Course Name	Course code	Course Name			Course Code
1	DATA STRUCTURES AND ALGORITHMS	CSE 211	DATA STRUCTURES & ALGORITHMS	CSE 211	In the UNIT -I four topics removed. Contents are rearranged from one unit to another unit for better flow of understanding	5%
2	COMPUTER ORGANIZATION	CSE 2.12	COMPUTER ORGANIZATION	CSE212	UNIT-1 Division.HARDWARE IMPLEMENTATION & ALGORITHM	5%
3	OBJECT ORIENT	CSE214	JAVA PROGRAMMI	CSE213	In UNIT-1 added Introduction to object	30%

	ED PROGR AMMIN G WITH JAVA		NG		oriented concepts,java buzzwords, UNIT-4 added swings UNIT-5 ENTERPRISE JAVA BEANS Added .It constitutes half part of entire unit	
4	DATA COMM UNICAT IONS	CSE221	DATA COMMUNICA TION	CSE 214	<p>1) IN Unit-1 added history of data communication , and Removed Transmission impairments .</p> <p>2) In unit2 : added transmission impairments along with representation of signals contains Amplitude, Frequency, Phase, Data/Signal Encoding Techniques, Modulation and Demodulation techniques</p> <p>3) In Unit -3 added interface standards- DCE, DTE, Modems. and given a clarification on flow control and error control separately i.e Flow Control-Error Control:Stop and Wait, Go Back -N, selective repeat protocols,ARQ protocols.Error: Error Detection, and correction- Parity Check, VRC, CRC, Hamming code, Bit oriented protocol-HDLC,LAP,ATM-cell relay.</p> <p>4) In Unit-4 added LAN addressing, LAN Topologies, LAN Technologies and also added IEEE 802.5,Short Range networks: Bluetooth- Architecture and Services.</p> <p>roduction to IoT : Design principles, Architecture, Protocols, Applications.</p> <p>5) In R15 removed Modem and Modem circuits.</p> <p>Text Book details added: Raj kamal," Internet of Things – Architecture and Design principles" , Publisher: Tata McGraw-Hill Education India.</p> <p>Removed one book in reference book and me text book is added in text book i.e .Behrouz Forouzan, "Data Communications and networking", TMH, 2004, 4th Edition</p>	25 %
5	JAVA program ming lab	CSE218	JAVA PROGRAMMI NG LAB	CSE217	Experiments are added based on the scenarios	70%

6	Data Structures Lab	CSE 216	DATA STRUCTURES LAB USING C	CSE 218	1)Experiments are given in the scenario based 2) Three new experiments(Exp no 12,13,14) added related to the concepts of Graphs	10%
7	MICROPROCESSOR AND INTERFACING	CSE222	MICROPROCESSOR AND INTERFACING	CSE222	1.In UNIT-I Memory interfacing topic is removed which is already covered in CO subject. 2. UNIT-II NO change 3.Remove ADC/DAC topic 4. UNIT-IV, NO change 5. UNIT V added Interrupt service routines topic added	10%
8	Operating System	CSE223	OPERATING SYSTEMS	CSE223	1.In UNIT-I, Review of CO,Virtual Machines,Thread Libraries,Threading issues removed and OS Functions,Types of OS,Shell Programming: Commands and Shell Script added. 2.In UNIT-II,Multiple Processing Scheduling,Real Time Scheduling removed.added Mutex Locks and Case Study 3.In UNIT-III,Added Case Study 4.In UNIT-IV,No change 5.In UNIT-V,Capability Based System and Case Study Removed.	6%
9			COMPUTER NETWORKS			
10	COMPUTER GRAPHICS	CSE 313	COMPUTER GRAPHICS	CSE 225	unit-I: Removed Hard copy devices UNIT-II:No change UNIT-III:removed transformation functions and Structure and hierarchical models UNIT-IV: added three dimensional viewing from unit-V to unit-IV,removed 3D transformations functions. UNIT-V: included poly rendering Methods	10%
11			FORMAL LANGUAGES AND AUTOMETA THEORY			
12	MICROPROCESSOR AND INTERFACING	CSE226	MICROPROCESSOR AND INTERFACING	CSE227	1. NO change Cycle I and IV. 2. In Cycle 2,remove 2.2 experiment instead added the Hardware interrupts experiment	5%

	ACING LAB		LAB		using Mode 0 and 1 3.In Cycle III, remove 3.2 & 3.3 experiment instead added logic controller experiment with PC	
13	Operating Systems Lab	CSE227	OPERATING SYSTEM LAB	CSE228	1.Hardware and Software Specification Removed. 2.program for error reporting removed. 3.Dining Philosopher and Producer Consumer Problem and Contiguous file allocation method added.	10%
Average % of Change						14.28%

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Anil Neerukonda Institute of
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Sangivalasa, Visakhapatnam Dist.

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Principal
Anil Neerukonda Institute of
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Sangivalasa- 531 162
Visakhapatnam Dist



6th BOS Meeting

Created by: Dr. Rajya lakshmi Valluri

Time

9:30am - 11am (India Standard Time - Kolkata)

Date

Wed May 27, 2020

Description

6th meeting of the BOS, Department of ECE (UG) held on 27.05.2020 at 9.30 AM through video conference.

Agenda:

1. To finalize the 2nd year syllabus of R-19
2. New M.Tech Program in VLSI Design and Embedded Systems--Dept of ECE
2. Any other item with the permission of the chair

My Notes

Guests

- ✓ cbraokota.ece@jntukucev.ac.in
- ✓ Dr. Rajya lakshmi Valluri
- ✓ prakriya2212@gmail.com
director@iiitt.ac.in
ECE

**ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(UGC AUTONOMOUS)**

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Minutes of the 6th meeting of the Board of Studies, Dept. of ECE(UG) held on 27.05.2020 at
09:30 AM through video conference

S.No	Name of the member	Designation	Category
1.	Dr. V. Rajya Lakshmi	Head, ECE, ANITS	Chairman, BOS, ECE
2.	Dr.K.MuraliKrishna	Prof., ECE, ANITS	Member
3.	Dr. G.ManmadhaRao	Prof., ECE, ANITS	Member
4.	Mr. S. Balaramamurthy	Assoc. Prof., ECE, ANITS	Member
5.	Dr.B.SomaSekhar	Assoc. Prof., ECE, ANITS	Member
6.	Dr.ChPraveeenBabu	Assoc. Prof., ECE, ANITS	Member
7.	Dr.S.Srinivas	Assoc. Prof., ECE, ANITS	Member
8.	Dr.P.MurgaPandiyan	Assoc. Prof., ECE, ANITS	Member
9.	Dr.S.Ravi	Assoc. Prof., ECE, ANITS	Member
10.	Dr.D.EaswaraChaitanya	Asst. Prof. ECE, ANITS	Member
11.	Mr. D. Anilprasad	Asst. Prof. ECE, ANITS	Member
12.	Mr. J. BhaskaraRao	Asst. Prof. ECE, ANITS	Member
13.	Mr. A. Lakshminarayana	Asst. Prof. ECE, ANITS	Member
14.	Mr. Vijaya Kumar Sahu	Asst. Prof. ECE, ANITS	Member
15.	Mr.N.Srinivasa Naidu	Asst. Prof. ECE, ANITS	Member
16.	Prof. P. Ramakrishna Rao	Advisor, ANITS	Academic council nominee
17.	Prof K. Chandra BhusahanRao	Prof., Dept of ECE, JNTUV	Academic council nominee
18.	Prof.N.V.S.N.Sharma	Prof., Dept of ECE, NITW	University Nominee
19.	Mr.N.Srinivas	Avantel, Visakhapatnam	Industry
20.	Mr. M. Durga Prasad	JTO, BSNL	Alumni
21.	Prof.K.S.RangaRao	Prof., ECE, ANITS	Member
22.	D.Tarun Rama sai	Student	Member
23.	P.Harsha Vardhan	Student	Member
24.	R.Lahari	Student	Member

Approval for R-20 Scheme-F

Valluri <hod_ece@an

Thu, Dec 17, 2020 a
ece@jntukucev.ac.in>, L

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asa Naidu
, "Dr.A.Lakshmi Narayan
JITS
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Sangivalasa-531162, Bheemunipatnam Mandal, Visakhapatnam Dt.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Minutes of the 6th meeting of the BOS, Department of ECE (UG) held on 27.05.2020 at 9.30 AM through video conference.

1. To finalize the 2nd year syllabus of R-19
2. New M.Tech Program in VLSI Design and Embedded Systems—dept of ECE
3. Any other item with the permission of the chair

The chairperson, Dr.V.Rajya Lakshmi, HOD, dept of ECE, ANITS hosted the online meeting conducted through video conference and welcomed all the BOS members present. The Committee discussed the contents in the 2nd year syllabus of R-19 and made the following recommendations/suggestions subject wise.

1. a) EM-III

Prof. NVSN Sharma, Director IIIT, Trichy advised to modify Partial Differential Equations & Fourier series in view of applications of Electronic Circuits suggested including one URL link in references section.

b) Computer Architecture and Organization

Prof. NVSN Sharma, Director IIIT, Trichy advised to handle CAO course by ECE faculty. Prof.K.Chandrabhusan Rao, JNTUV, suggested to ensure that the prerequisites are to be met before commencement of any course. He also advised to check the mismatch in CO-PO Mapping table of CAO from that of other courses.

c) Digital Logic Design

Prof. NVSN Sharma, Director IIIT, Trichy advised to incorporate code converters in the syllabus that are being dealt in any DC course.

d) Signals & Systems

Prof. NVSN Sharma, Director IIIT, Trichy, suggested that faculty who handles that course need to discuss all the Time Varying Systems in advance and then linear time variant systems, DFT & DTFT in detail. He also advised to add topics on identifying a system and to how to diagnose it along with incorporating Matlab oriented Books in references.

He suggested discussing more about Under Sampling in Unit-V for its demand in recent applications.

Prof. P. Ramakrishna Rao, Advisor, ANITS, suggested to include the topic Complex variable theory in course EM-III.

e) ECA-I

Prof. NVSN Sharma, Director IIIT, Trichy, advised to elaborate the contents in topic attenuators.

f) ECA-I LAB

Prof. NVSN Sharma, Director IIIT, Trichy, advised to combine experiments 3,4 & 5 and name it as Rectifiers in different configurations and advised to remove reference books in Lab course.

g) Simulation LAB

Prof. NVSN Sharma, Director IIIT, Trichy, advised to include digital clock type of projects after all experiments. He advised to replace the title of VHDL with HDL.

Prof.K.ChandraBhusan Rao, JNTUV, suggested adding online resources in references.

h) Human Values and Professional Ethics

Prof. NVSN Sharma, Director IIIT, Trichy, advised to mention the name of department handling that course.

Prof. P. Ramakrishna Reddy, Advisor, ANITS, suggested to teach the course by guest lectures.

i) EM-IV

Prof. NVSN Sharma, Director IIIT, Trichy, advised to frame Mathematics syllabus in such a way that it should support the core branch Electronics and Communication Engineering. He suggested to finalizing the syllabus after undergoing a thorough discussion among faculty belonging to Mathematics and ECE.

j) Control Systems

It is informed by chairperson that the syllabus is framed by department of EEE in accordance with syllabus in GATE EXAM and it is being taught by EEE faculty

k) ECA-II

Prof. NVSN Sharma, Director IIIT, Trichy, informed that the faculty has to avoid Black Board and use ICT Teaching methods to cover syllabus in time, and also suggested to classify the Power Amplifiers & MOSFET's considering present applications.

l) Analog Communication

Prof. NVSN Sharma, Director IIIT, Trichy, advised to include the topics Pre-emphasis and De-emphasis at circuit level along with applications. He also suggested to add capturing effect in FM.

m) EMFT

Prof. NVSN Sharma, Director IIIT, Trichy, suggested modifying the title of the course as "Electromagnetic Waves & Transmission Lines". He also informed that starting the course with transmission lines is advisable and suggested to reorder the units accordingly.

n) MPMC

Prof. NVSN Sharma, Director IIIT, Trichy, suggested to include topics like interfacing video camera or communication related device instead of stepper motor.

o) ECA-II LAB

Prof. NVSN Sharma, Director IIIT, Trichy, suggested to rename the experiments related to feedback amplifiers in order avoid ambiguity. Also advised to include an experiment to determine the output impedance of a given amplifier and oscillator.

p) MPMC LAB

Prof. NVSN Sharma, Director IIIT, Trichy, suggested including experiments that enable better understanding of Micro controller in this lab.


q) Prof. NVSN Sharma, Director IIIT, Trichy, informed that specifying marks in the syllabus has no significance in credit-based programs and advised to write the maximum marks for which internal exams and external exams are being conducted with duration of time.

r) External BOS members advised to encourage students to consider this lockdown to be good opportunity for Startups to ask recruiters for conducting sessions to encourage students during this lockdown.

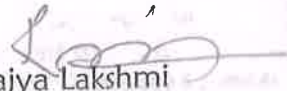
2. BOS recommended the proposal of starting an M.Tech course in VLSI Design and Embedded Systems in Electronics and Communication Engineering Department of the Institute.

3. Chairperson appraised all members about pass percentage of 19 batch & placements of 20 batch and activities of faculty during lockdown, she also informed members that mid2 exams, project viva voce conducted online.

Meeting concluded with a vote of thanks presented by Mr.D.Anil Prasad, Academic Coordinator, to all the members.


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Principal
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Dr.V.Rajya Lakshmi
Chairperson, BOS & HOD, EC
ANITS
Head of the Department
Department of ECE
anil Neerukonda Institute of Technology & Sciences
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6th meeting of the BOS, Department of ECE (UG) held on 27.05.2020 at 9.30 AM through video conference.

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ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(Permanently Affiliated to Andhra University, Approved by AICTE)
Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
Accredited by NBA

**Minutes of the online meeting of the Board of Studies, Department of
EEE (UG) held on 12th June 2020 at 3.00 PM.
(Under Autonomous System)**

MEMBERS PRESENT:

S. No.	Name	Designation	Category	Signature of the members
1	Dr. Guntu Raja Rao	Head, EEE, ANITS	Chairman,	Attended online
2	Dr. J. Vijaya Kumar	Professor, EEE,	Member	
3	Dr. V. Murali	Assoc. Prof., EEE,	Member	
4	Mr. S. Balamurali	Assoc. Prof., EEE,	Member	
5	Mrs. K.V.R. Swathi	Asst. Prof., EEE,	Member	
6	Mr. Kavala Kiran Kumar	Asst. Prof., EEE,	Member	
7	Mr. B. Rajasekhar	Asst. Prof., EEE,	Member	
8	Mr. R. Satish	Asst. Prof., EEE,	Member	
9	Mrs. Lavanya	Asst. Prof., EEE,	Member	
10	Dr. Ch. V. N. Raja	Asst. Prof., EEE,	Member	
11	Mr. M. Sudheer Kumar	Asst. Prof., EEE,	Member	
12	Mr. K. Trinadh Babu	Asst. Prof., EEE,	Member	
13	Mr. L. Dinesh	Asst. Prof., EEE,	Member	
14	Mr. S. Harish	Asst. Prof., EEE,	Member	
15	Mr. L. Vijay	Asst. Prof., EEE,	Member	
16	Mrs. D. Srilakshmi	Asst. Prof., EEE,	Member	
17	Mr. V. Anil Kumar	Asst. Prof., EEE,	Member	
18	Mr. N. Kiran	Asst. Prof., EEE,	Member	
19	Mrs. T. V. Subhashini	Asst. Prof., EEE,	Member	
20	Prof. Deba Priya Das	Professor	Academic Council Nominee	
21	Sri. B. Srinivasa Reddy	GM (Electrical), RINL	Industry	
22	Sri. P.Santosh Kumar	Sr.Manager, L&T	Alumni	



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
Accredited by NBA

**Minutes of the Board of Studies (BOS of EEE) online meeting held on
12th June 2020 (Friday) at 3.00 PM.**

MEMBERS PRESENT:

1. Prof. Debapriya Das, Professor, Dept. of Electrical Engg., IIT Kharagpur.
2. Sri B. Srinivasa Reddy, General Manager (Electrical), RINL, VSP.
3. Mr. P. Santosh Kumar, Sr. Manager, L&T.
4. Prof. J. Vijaya Kumar, Professor, ANITS.
5. Dr. V. Murali, Assoc. Prof., ANITS.
6. Mr. S. Balamurali, Assoc. Prof., ANITS.
7. Mrs. K.V.R. Swathi, Asst. Prof., ANITS.
8. Mr. Kavala Kiran Kumar, Asst. Prof., ANITS.
9. Mr. B. Rajasekhar, Asst. Prof., ANITS.
10. Mr. R. Satish, Asst. Prof., ANITS.
11. Mrs. K. Lavanya, Asst. Prof., ANITS.
12. Dr. Ch.V.N. Raja, Asst. Prof., ANITS.
13. Mr. M. Sudheer Kumar, Asst. Prof., ANITS.
14. Mr. K. Trinadh Babu, Asst. Prof., ANITS.
15. Mr. L. Dinesh, Asst. Prof., ANITS.
16. Mr. S. Harish, Asst. Prof., ANITS.
17. Mr. L. Vijay, Asst. Prof., ANITS.
18. Mrs. D. Srilakshmi, Asst. Prof., ANITS.
19. Mr. V. Anil Kumar, Asst. Prof., ANITS.
20. Mr. N. Kiran, Asst. Prof., ANITS.
21. Mrs. T. V. Subhashini, Asst. Prof., ANITS.
22. Prof. G. Raja Rao (Chairperson), Professor & HOD of EEE, ANITS.

1. Owing to the COVID-19 lock down, the BOS meeting is conducted online. The Chairperson welcomed all the BOS members and thanked the members for the support they have rendered.
2. The board has approved and ratified the online mode of internal/ sessional examinations conducted by the department/Institute in view of the lock down.

3. The Committee has mainly discussed on the scheme and syllabi of 2nd year 1st semester and 2nd semester courses to be taught by EEE faculty under R19 regulations. As resolved in last BOS meeting, introduction to BLDC motors is included in the PDMT course.
4. Mr. B. Srinivas Reddy suggested to include transducers topic in Electrical Measurements course.
5. Prof. Debapriya Das & Mr. B. Srinivas Reddy have suggested to include units of illumination and measurement of illumination in EPGU course.
6. The external members suggested to conduct objective type online examinations for the present final years so that the eligible students can get their degrees early as it got delayed already.

HOD of EEE




Dr. G. RAJA RAO


Principal
Anil Neerukonda Institute of
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Date: 13-06-2020

C/s to: 1. The Principal


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Principal
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26-05-2020

Minutes of Board of studies meeting held on 23-05-2020 via online Google Meet video conferencing

In View of Global Pandemic-Covid-19, Board of Studies Meeting is held online through video conferencing. At the outset, the chairman of BoS, Prof. B. Nagaraju, welcomed the expert members and the faculty of the department. The agenda for this meeting is the discussion to be held on the syllabus for II-year (both semesters) as per R-19 course structure.

In order to provide an exposure to the changing trends in the modern day industry the department has brought about a metamorphic change in the course structure of R19 regulations. The subjects were modified accordingly by introducing new and latest topics and also by including new courses. The list of new courses introduced in the II- year (R19) are as mentioned below:

1. **Metal cutting, Machine tools And Metrology**
2. **Basic Electrical Engineering.**
3. **Basic Electrical Engineering-Lab**

In terms of percentage, the new courses added in the 2nd year course structure is 25% approx. as compared to previous regulations (R15)

The syllabus for the pertinent subjects was framed by the concerned faculty and was put before the Board of Studies for their comments and suggestions. The following observations/suggestions made by the members are given below subject wise:

Semester - 1

1. Material Science & Metallurgy:

1.1 Unit-II

Along with Iron-Carbon Phase diagram, binary phase diagrams for Al-Cu , Cu-Zn may be included provided the quantum of syllabus is within limits.

1.2 Unit-III

Al and Mg based alloys may be included if feasible. It is also suggested to add micro structures of steel and Cast Iron in the same unit.

2. Mechanics of Solids :

2.1 It is suggested to add Stress-Strain curve for both ductile & brittle materials instead of stress-strain curve for mild steel alone.

3. Manufacturing Processes :

3.1 Unit II

It is suggested to rearrange the topics of this unit in this order:

Permanent mould casting- Die & Centrifugal casting; Investment casting & Vacuum casting; Continuous casting & Ingot casting.

3.1.1 It is advised to include the topics on

a. Vacuum casting & Melting and b. Furnaces- Electric arc furnace & Induction furnace.

These modifications will be duly considered in revising the syllabus.

These modifications will be duly considered in revising the syllabus.

3.2 UNIT III

It was advised by the members to include the topic on weld defects testing. It was also advised to rearrange the different welding processes in the order- MMAW, SAW, PAW etc.

4. MFT Lab :

4.1 It is suggested to add a demonstration experiment on 3-D printing as the students are learning it in the theory. It is also advised to look at the feasibility of including at least one experiment in Forming.

Semester - 2

5. Metal cutting & Machine tools And Metrology:

5.1 Manufacturing processes is a prerequisite for studying this subject and hence it may be included.

5.2 Unit-V:

a. It is suggested to add Line standards & End standards in this unit.

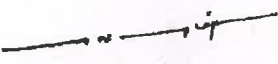
5.3 In the reference books, 1) Manufacturing engineering and technology by Serope Kalpakjian 2) Fundamentals of Modern Manufacturing by Mikell P. Groover may be included.

6. Machine Tools Lab:

It is suggested to modify the experiment titled " Study of chip formation" to include measurement of physical quantities pertaining to the chip.

The Chairman BoS informed the members that in view of lockdown due to COVID19, the Mid-II examinations for II and III Year II Semester students were conducted online through Moodle, as per UGC Lockdown guidelines. Further also informed that the Project work end semester Viva examination was conducted online through Google Meet based on UGC lockdown guidelines.

The meeting concluded with the chairman thanking the members of the Board for their valuable suggestions.


(HOD- Mechanical)

CC to: 1) Principal
2) Dean of examinations } for kind information


Convener, IQAC
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.

Go
File in Book of
B.O.S.
C.D.V. Nagalaja
23.5.20


Principal
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa- 531 162
Visakhapatnam Dist

Board of Studies (BOS)

AY 2019-20



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

'UGC AUTONOMOUS'

(Permanently Affiliated to Andhra University, Approved by AICTE, Accredited by NBA & NAAC with 'A' Grade)

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Website : www.anits.edu.in

e-mail : principal@anits.edu.in

Ref: ANITS/Gen-12/BOS Meeting Notice /2018-19

Date: 16th March, 2019

MEETING NOTICE

The fifth meeting of the Board of Studies is scheduled to be held on Saturday the 30th March, 2019 in our college premises at Visakhapatnam as per the following schedule. All the members are requested to attend the meeting.

Agenda:

1. To finalize the course structure of R - 2019
2. To finalize the 1st year syllabus of R - 2019
3. Any other item with the permission of the chair

Common Board of Studies: 09:30 AM, venue: D - 108, Chemical Engineering Block

Individual Departments' Board Meeting: 10:30 AM to 01:00 PM in the respective Depts.

Lunch: 01:00 PM to 02:00 PM

Concluding Session: 02:00 PM

T. Akula
PRINCIPAL

To:

All the Members of BOS

Special Invitees

Deans, All HoDs

Placement & Library

Master file & BOS file



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DEPARTMENT OF CHEMICAL ENGINEERING

30-03-2019

Minutes of the meeting of the Board of Studies, Department of Chemical engineering (UG) held on 30th March, 2019 at 10.30 AM.

Members present:

- | | |
|---------------------------|-------------------------------------|
| 1. Prof. S. Subba Rao | Chairman, BOS, Chemical Engineering |
| 2. Dr. Ch. Anil | Member |
| 3. Dr. M. Shiva Naresh | Member |
| 4. Prof. P.S.T. Sai | Member, Academic council nominee |
| 5. Prof S. V. Naidu | Member, Andhra University nominee |
| 6. Dr. A. Srinivasa Kumar | Member, Industry / Research |

Resolutions:

- 1) Structure for B. Tech. Chemical Engineering and Syllabus for I/IV B. Tech. Chemical Engineering I and II Semester were discussed and the experts felt satisfactory about the same.
- 2) Prof P.S.T Sai and Prof. S. V. Naidu felt that it would be good to students if Engineering Physics and Engineering Physics lab are shifted from I Sem to II Sem and English and Language lab are shifted from II Sem to I Sem.
- 3) The external members felt happy about the inclusion of "Biology for Engineers" which is a mandatory course in AICTE and APSCHE syllabus of Chemical Engineering. Prof S. V. Naidu informed the board that they also included "Biology for Engineers" in the curriculum of Dept of Chemical Engineering, Andhra University.
- 4) The committee felt that "Process Instrumentation" can be removed and combined with Process Dynamics and Control. They also felt that the load for students in final semester should be either minimized or the subjects in eighth semester can be shifted to seventh semester, so that students can focus on internships and projects.
- 5) The committee suggested to conduct an induction programme for one week before commencement of the I year class work.

S. Subba Rao
(Prof. S. Subba Rao)
Chairman, BOS

R. Sankar
Convener, IQAC
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.

[Signature]
Principal
Anil Neerukonda Institute of
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Visakhapatnam Dist



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DEPARTMENT OF CIVIL ENGINEERING

Minutes of Board of Studies Meeting held on 30-03-2019
 Autonomous Regulations (2019)

Date : March 30, 2019
 Time : 11:00 AM
 Venue : Civil Engineering Department, ANITS



- Agenda:
- To finalize the course structure of R - 2019
 - To finalize the 1st year syllabus of R - 2019
 - Any other item with the permission of the chair

Members Present:

- Dr. C.N.V. Sakanarayana Reddy, Professor, Civil, Andhra University
- Dr. G. Appa Rao, Professor of Civil Engg., IIT Chennai
- Dr. B.V.S. Vijwanadhram, Professor of Civil Engg., IIT Bombay
- Prof. A. Ram Mohana Rao, Professor of Civil Engg.
- Sri. J. Vikranth, Associate Professor of Civil Engg.
- Sri. T.V.V. Teja, Assistant Professor of Civil Engg.
- Sri. T. Kiran Kumar, Assistant Professor of Civil Engg.
- Mrs. P.V.R. Savya, Assistant Professor of Civil Engg.
- Sri. M. Premchand, Assistant Professor of Civil Engg.
- Dr. B.N.D. Narasinga Rao, Professor and HoD, Dept. of Civil Engg. (In Chair)

Minutes:

- Considered the **Four years Course Structure under R-19 Regulations** and resolved the following
 - To move Open Elective Course from III - I to IV - I as there are more subjects in III - I.
 - To give 1 extra credit to the subject RCS - II.
 - To approve the revised Course Structure as enclosed.
- Considered the list of paper setters for I year courses and approved the same. The HoD-Civil is however authorized to add or modify the list when necessary.

(Dr. B.N.D. Narasinga Rao)
 Chairman - Board of Studies
 Civil Engineering - ANITS

R. Srikanta,
 Convener, IQAC
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 Visakhapatnam Dist.

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Minutes of the meeting of the Board of Studies Dept. of CSE(UG&PG)

30.08.2014

Members Present:

Dept. Of CSE

S. No	Name	Designation	Category	Signature of the member
1	Dr. R.Sivaranjani	HoD&Professor, CSE, ANITS	Chairman, BOS, CSE	
2	Mr. S. Ratan Kumar	Assoc. Prof., CSE, ANITS	Member	
3	Dr. Tusarkanti Mishra	Assoc. Prof., CSE, ANITS	Member	
4	Dr M Rama Krishna Murthy	Assoc. Prof., CSE, ANITS	Member	
5	Dr J Hyma	Assoc. Prof., CSE, ANITS	Member	
6	Mr. B.Ravi kiran	Asst. Prof., CSE, ANITS	Member	
7	Dr K S Deepthi	Asst. Prof., CSE, ANITS	Member	
8	Mr. G.Jagadish	Asst. Prof., CSE, ANITS	Member	
9	Mr. Ch. SeshadriRao	Asst. Prof., CSE, ANITS	Member	
10	Mr. K. Suresh	Asst. Prof., CSE, ANITS	Member	
11	Dr. B. Majhi	Professor, CSE, NIT, Rourkela	Academic Council Nominnee	
12	Dr. Rajib Mall	Professor, CSE, IIT Khargpur	Academic Council Nominnee	
13	Dr. B Prajna	Professor, CSE, AUCE	University Nominnee	
14	Dr. KSVN RAJU	Professor Department of Computer Science And Engineering, GVPC Degree & PG Courses	Member	
15	Mr. T. Shyam Vamsi	IBM, Chennai	Alumni	
16	Dr. S. Raja.	Scientist "G", Associate Director, NSTL, Visakhapatnam	Industry	
17	Roy Antony Arnold George Charles	Manager, Campus Connect, Infosys Technologies, Hyd	Industry	

**Anil Neerukonda Institute of Technology and Sciences
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Minutes of Board of Studies Meeting

Department of CSE

Minutes of the Meeting:

Subject	:	Board of Studies-Bachelor of Technology (CSE)
Venue	:	LAB 2, Dept. of CSE
Date	:	30-3-2019
Agenda	:	1)Overview of B Tech Course Structure –R15 2)Overview of B Tech Course Structure –R19 3)Revising Course Outcomes –R15

The following members were present in the meeting:

- Dr. R.Sivaranjani, HoD&Professor, CSE, ANITS Chairman, BOS, CSE
- Mr. S. Ratan Kumar ,Assoc. Prof., CSE, ANITS,Member
- Dr. Tusarkanti Mishra. Assoc. Prof., CSE, ANITS,
- Dr M Rama Krishna Murthy,Assoc. Prof., CSE, ANITS,Member
- Dr J Hyma,Assoc. Prof., CSE, ANITS,Member
- Mr. B.Ravi kiran,Sr.Asst. Prof., CSE, ANITS Member
- Dr K S Deepthi,Asst. Prof., CSE, ANITS, Member
- Mr. G.Jagadish, Asst. Prof., CSE, ANITS, Member
- Mr. Ch. SeshadriRao.Asst. Prof., CSE, ANITS .Member
- Mr. K. Suresh,Asst. Prof., CSE, ANITS ,Member
- Dr. B Prajna,Professor, CSE,AUCE University Nominee
- Dr. KSVSN RAJU,Professor,Department of Computer Science And Engineering.GVPC Degree & PG Courses Member
- Mr. T. Shyam Vamsi,IBM ,Chennai,Alumni,Industry
- Dr. S. Raja,Scientist "G",Associate Director,NSTL, Visakhapatnam ,Industry
- Roy Antony Arnold George Charles,Manager, Campus Connect,,Infosys Technologies ,Hyd, Industry

Apologies:

1. Dr.B.Majhi, Professor,CSE, NIT-Rourkela, Academic Council Nominee
2. Dr.Rajib Mall, Professor, CSE, IIT-Kharagpur, Academic Council Nominee

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Chairman BOS officially welcomed all the members for the BOS B. Tech-CSE, B. Tech. She also informed the house, the absents of other members due to some unavoidable circumstances.

Mr. S. Ratan Kumar, Assoc. Prof., Dept. of CSE presented the details of B Tech Program offered in R15 and Proposed B Tech Course Structure in R19. Members deliberated on the design of the curriculum based on resolutions taken on the joint board of studies of all departments.

Following the resolutions are taken after a rigorous discussion, debate among the members.

All members approved vision & mission statements, program educational objectives (PEO), program outcomes (PO) and program specific outcomes (PSO) of CSE department.

SUMMARY OF BTECH COURSE

- The overall summary of the B.Tech course is presented for feedback.
- Comparison of CSE curriculum with APSCHE(2019), AICTE-(2018) proposals is displayed.
- The total credits offered is 160 as per the guidelines of AICTE, APSCHE.

SEMESTER- I

- No changes mentioned

SEMESTER- 2

- No changes mentioned

SEMESTER- 3

- Introduction of JAVA theory & Lab in place of C++ theory & Lab to accommodate Python programming in Semester 5.

SEMESTER- 4

- Placing OS theory & Lab in place of JAVA theory & Lab

SEMESTER- 5

- Introduction of Python Programming theory & Lab in place of OS Theory & Lab.
- Python syllabus must be framed including Python Structured Programming & Object Oriented Programming Concepts

SEMESTER- 6

- OS must be completed before DBMS.
- STL in C++ (Version 17) must be introduced in CP (Competitive Programming Course)

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SEMESTER- 7

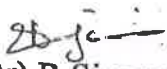
- In WT course HTML5,CSS3 must be covered.
- Project 1 deliverables must include SRS and Test Cases.
- Application oriented projects must be encouraged along with Research Oriented Project

SEMESTER- 8

- Electives presented in Tracks was well taken by the members.
- Freedom must be given in selecting any elective from any track.
- Introduction of User Experience Design in Track 1
- Introduction of Business Intelligence and Social Network Analysis in Track 2.
- Introduction of IOT in Track 3.
- Introduction of Edge Computing in Track 4.
- Introduction of Dockers in the course " Virtual machine Essentials".
- Introduction of Gamification in Track 5.
- If possible introduce "Digital Signal Processing " Course .
- No repetition must be there in any of the tracks.

All members approved the revised course outcomes for the courses offered in R15.

Finally the meeting ended with vote of thanks BOS chairman.


Prof. (Dr) R Sivaranjai
Chairman
BOS-CSI

1.1.3 % of changes in syllabus content in the line with AU (19-20)

Sl. No	R-14 (AU-Regulation)		R-15 (Autonomous-Regulation)		Remarks	% of syllabus content added / replaced
	Course Name	Course code	Course Name	Course Code		
1	DATA STRUCTURES	CSE 2.1.3	DATA STRUCTURES & ALGORITHMS	CSE211	Unit 1- Small Changes Unit 2- No Change Unit 3 -No Change UNit 4- Major Change UNit 5- Minor Change	20
2			DIGITAL LOGIC DESIGN	CSE212		
3			DISCRETE MATHEMATICAL STRUCTURES	CSE213		
4			OBJECT ORIENTED PROGRAMMING WITH JAVA	CSE214		40
5			PROBABILITY, STATISTICS & QUEUING THEORY	CSE215		
6	DATA STRUCTURES LAB.	CSE 2.1.8	DATA STRUCTURES LAB	CSE216	Experiments 3,9,11,13, Added 2 New Programs	45
7			DIGITAL ELECTRONICS LAB	CSE217		
8	OBJECT ORIENTED PROGRAMMING LAB	CSE 2.2.8	JAVA LAB	CSE218	<p>Program on JDBC connectivity where database is Oracle . Program to send messages across two machines using simple sockets.</p> <p>Program on hierarchical inheritance. Program on JDBC connectivity where database is Oracle . Program to send messages across two machines using simple sockets</p> <p>Programs added : Write a program to find the factorial of a given number. Write a program to print numbers in sorting order. Create a class Odometer that displays the number of kilometers a vehicle run. Give samples as trip information like number of kilometers travelled, fuel consumption per litre. The task is to find the mileage of the vehicle running at different samples of trip information. Create a class Day that represents day, month and year of the calendar day. The class Day should be able to accept the date, update the date, delete the date from a calendar</p>	45

					list of activities. Create a class Time that represents hours, minutes, seconds of a clock. The class Time should accept the time, update the time, delete the time from a list of events created for a day using the Day Class. Write a program to implement interfaces. Write a program that implements a stack ADT that converts infix expression into postfix expression Write a program to read a file and displays the file on the screen within line number before each line	
9	Data Communication	CSE 3.2.4	DATA COMMUNICATIONS	CSE221	<p>Unit-1 added history of data communication , and Removed transmission impairments .</p> <p>2) In unit2 : added transmission impairments along with representation of signals contains Amplitude, Frequency, Phase, Data/Signal Encoding Techniques, Modulation and Demodulation techniques</p> <p>3) In Unit -3 added interface standards- DCE, DTE, Modems. and given a clarification on flow control and error control separately i.e Flow Control-Error Control:Stop and Wait, Go Back -N, selective repeat protocols,ARQ protocols.Error: Error Detection, and correction-Parity Check, VRC, CRC, Hamming code, Bit oriented protocol- HDLC,LAP,ATM-cell relay.</p> <p>4) In Unit-4 added LAN addressing, LAN Topologies, LAN Technologies and also added IEEE 802.5,Short Range networks: Bluetooth-Architecture and Services. Introduction to IoT : Design principles, Architecture, Protocols, Applications.</p> <p>5) In Unit 5 - R19 removed Modem and Modem circuits</p>	25
10	Microprocessors – I MICROPROCESSORS - II	CSE 2.2.3 CSE 3.1.1	MICROPROCESSORS AND INTERFACING	CSE222	<p>unit-I: no change from MP-I and memory interfacing from MP-II</p> <p>Unit-II: no change from MP-I</p> <p>Unit-III:No change from MP-II</p> <p>Unit-IV:No change from MP-I</p> <p>Unit-V: removal of Microcontroller and introduction to hardware and software of PC's</p>	20%
11	OPERATING SYSTEMS	CSE 3.1.6	OPERATING SYSTEMS	CSE223	<p>UNIT-1 1&2 combine as 1UNIT-2: aD</p> <p>ALGORITHM EVALUATIONS</p> <p>UNIT-3:NC</p> <p>UNIT4:NC</p> <p>UNIT:5 ADD GOALS OF PROTECTION,IMPLEMENTATION OF ACCESS MATRIX</p>	20

12	COMPUTER ORGANIZATION	CSE 2.2.4	COMPUTER ORGANIZATION	CSE224	UNIT-1 Booth's Multiplication Algorithm UNIT-3 Hardwired & Micro-programmed control unit, UNIT-4 Program Interrupts, Types of Interrupts, RISC & CISC characteristics, Introduction to Parallel Processing & Pipelining- general considerations.	18%
13	FORMAL LANGUAGES AND AUTOMATA THEORY	CSE 3.1.4	FORMAL LANGUAGES AND AUTOMATA THEORY	CSE225	Extensions to the basic Turing Machines; Turing Machine and Computers. Church's hypothesis. The classes P and NP; NP-Completeness; Satisfiability and Cook's theorem; Polynomial reduction and some NP-complete problems. These topics are extra compare to AU syllabus.	10
14	Microprocessors - I LAB MICROPROCESSORS - II Lab	CSE 2.2.7 CSE 3.1.8.	MICROPROCESSOR & INTERFACING LAB	CSE226	1. Deletion of Serial Monitors, 2. DLD from MP-I 3. Memory interface from MP-II 4. Removal of Microcontroller programming	30%
15	OPERATING SYSTEMS LAB	CSE 3.1.7	OPERATING SYSTEMS LAB	CSE227	Add 3 new experiments	45
16			HARDWARE LAB	CSE228	Newly Introduced Course	100
			OPEN ELECTIVE I	CSE311		
17			File Systems & Data Bases	CSE311(A)	Newly Introduced Course	100
18			Computer Operating Systems	CSE311(B)	Newly Introduced Course	100
19			Fundamentals of Computer Networks	CSE311(C)	Newly Introduced Course	100
20	OBJECT ORIENTED PROGRAMMING	CSE 2.2.5	Concepts of Object Oriented Programming	CSE311(D)	Unit I: Minor changes, removed Templates, Exception handling, console I/O and File I/O concepts Unit II: No change Unit III: No change Unit IV: No Change Unit V: completely changed. Applets, Event Handling and AWT Controls concepts were introduced in unit 5,	18%
21	DATABASE MANAGEMENT SYSTEMS	CSE 3.2.3	DATABASE MANAGEMENT SYSTEMS	CSE312	Unit 1, chapter 1 Introduction to DBMS: Three Schema architecture of DBMS, Data Models, Database Languages, Client/Server Architecture, Database Administrator and Users (All Topics Added) Unit 1, chapter 2 Entity-Relationship Model: Design Issues (All Topics Added) Unit 2 Relational Model: Structure of Relational Databases, Basics of Relational Model (All Topics Added) Unit 3 SQL: Concept of DDL, DML, DCL, Referential Integrity Constraints, assertions, views, Stored Procedures (All Topics Added) Unit 4, chapter 1 Database Design: Normalization using multivalued dependencies, 4NF, 5NF (All Topics	20%

					<p>Added)Unit 4, chapter 2Security:Access Control, Discretionary Access Control - Grant and Revoke on Views and IntegrityConstraints, Mandatory Access Control. (All Topics Added)Unit 5, chapter 1TransactionManagement:The ACID Properties, (All Topics Added)Unit 5, chapter 2Concurrency Control:2PL,Serializability and Recoverability, LockConversions, Dealing with Deadlocks(All Topics Added)Unit 5, chapter 3Crash Recovery: The Log, Other Recovery-Related Structures, The Write-Ahead LogProtocol, Check pointing. (All Topics Added)</p>	
22	COMPUTER GRAPHICS	CSE 3.1.3	COMPUTER GRAPHICS	CSE313	<p>Unit 3 - Raster Methods for transformation, Hierarchical Modelinwith Structures-GUI and Interactive Input Methods, Windows and Icons- Virtual Reality Environment(Removed)</p> <p>Unit 5 - Visible Surface Detection Methods: Classification of visible-surface detection algorithm, Bach face method, Depth buffer method, Scan line method.(Added)</p>	10%
23	COMPUTER NETWORKS	CSE 3.1.4	COMPUTER NETWORKS	CSE314	<p>Unit-II-Medium Access sub layer: Channel Allocation Problems Static and Dynamic, Multiple Access protocols: ALOHA - CSMA-CSMACD- IEEE Standard803.3 Ethernet ,802.4 Token bus. Unit-III- Routing Algorithms, Congestion controlling Algorithms, Traffic shaping, Tunneling, protocols in network layer,IPV4,IPV6,DHCP. Unit-IV-Transport layer services, Application Layer:</p>	40%
24	DESIGN & ANALYSIS OF ALGORITHMS	CSE 3.2.2	DESIGN & ANALYSIS OF ALGORITHMS	CSE315	<p>Unit 1 - Case Study: Pseudo code Conventions, Time and Space Complexities, Unit 2 - Binary Tree Traversals and Related Properties, Depth-First Search and Breadth-First Search, Topological Sorting, AVL Trees, Unit 5 - Case study for Backtracking: Graph Coloring</p>	15%
25	DBMS LAB	CSE 3.2.8	DATABASE MANAGEMENT SYSTEMS LAB	CSE316	NA	NA
26	COMPUTER NETWORK LAB		COMPUTER NETWORK LAB	CSE317	Newly Introduced Course	100

27			SOFT SKILLS LAB	CSE318		
28			QUANTITATIVE VERBAL APTITUDE I	CSE319		
29	COMPILER DESIGN	CSE 3.2.1	COMPILER DESIGN	CSE321	YACC Tool is added in UNIT-3	4%
30	OBJECT ORIENTED SOFTWARE ENGINEERING	CSE 4.1.1	SOFTWARE ENGINEERING	CSE322	UNI-1:RA,DELETED UML UNIT-2: ADD SOFTWARE PROCESS,SRS ,SA UNIT-3: ADD FD,OOD UNIT-4: NC UNIT-5: S/W PROJECT PLANING	50%
31	WEB TECHNOLOGI ES	4.1.6	WEB TECHNOLOGIES	CSE323	UNIT-1 HTML5 UNIT-2 PHP added complete unit UNIT-5 JSON half part of unit added	30%
32	COMPUTER ARCHIECTUR E	CSE 326	COMPUTER ARCHITECTURE	CSE324	Overview of Computer organization, Introduction, classes of computer, defining computer architecture, trends in technology and power, measuring and reporting performance, quantitative principles of computer design. Memory hierarchy design: Introduction, ten advanced optimizations of cache performance, memory technology and optimizations, virtual memory and virtual machines, the design of memory hierarchy, memory hierarchies in Arm Cortex-A8 and Intel Core i7. Instruction-Level Parallelism and its Exploitation: Instruction-level parallelism(ILP) - concepts and challenges, basic compiler techniques for exposing ILP, reducing branch costs, overcoming data hazards and dynamic scheduling, hardware based speculation, exploiting ILP using multiple issue and static scheduling, exploiting ILP using dynamic scheduling, multiple issue and speculation, studies of the limitations of ILP, multi-threading, Intel Corei7 and ARM CORTEX A-8. Introduction, shared-memory architectures, performance of shared-memory multiprocessors, distributed shared-memory and directory-based coherence, synchronization, models	80

					of memory consistency, multicore processors and their performance Introduction, programming models and workloads for warehouse-scale computers, computer architecture, physical infrastructure and costs, A Google warehouse-scale computer.	
			PROFESSIONAL ELECTIVE I	CSE325		
33			Smart Systems Design & Programming	CSE325A	Newly Introduced Course	100
34			High Performance Computing	CSE325B	Newly Introduced Course	100
35	Principles Of Programming Languages	CSE 3.2.5	Principles Of Programming Languages	CSE325C	UNIT-1 deleted impact of machine architecture unit-2: NC unit-3:Nc unit-4 file system added unit-5:Add exception handling	25%
36			Advanced Data Structures	CSE325D	Newly introduced course	100%
37	IMAGE PROCESSING	CSE 3.2.5	Digital Image Processing	CSE325E	UNIT-1:NC UNIT2:NC UNIT-3 DELETED IMAGE ENHANCEMENT UNIT-4 DELETED IMAGE COMPRESSION UNIT 5:NC	20
38			NoSQL DataBases	CSE325F	Newly Introduced Course	100
39			OPEN SOURCE TECHNOLOGIES LAB	CSE326	Newly Introduced Course	100
40	OBJECT ORIENTED SOFTWARE ENGINEERING LAB	CSE 4.1.8	SOFTWARE ENGINEERING LAB/MINI PROJECT LAB	CSE327	ADD MINI PROJECT LAB	50%
41			QUANTITATIVE & VERBAL APTITUDE II	CSE328	New Course	100
			OPEN ELECTIVE II	CSE411		
42			CRYPTOGRAPHY & NETWORK SECURITY	CSE412	UNIT-1: No Change UNIT-2: Cryptography standards like XML, PK UNIT-3: WAP security GSM removed UNIT-4: Kereberos versions added UNIT-5: Firewalls and Intrusion	35

					detection added.	
43			OBJECT ORIENTED ANALYSIS & DESIGN	CSE413	NEWLY ADDED COURSE	80%
44			PROFESSIONAL ELECTIVE II	CSE414		
45			Mobile Computing	CSE414A	Newly added course/ Newly introduced course	100
46			Distributed Operating Systems	CSE414B	<p>Contents that are added in R15</p> <p>Design Requirements for Distributed Architectures, Fundamental Models- Interaction Model, Failure Model, Security Model.</p> <p>Design Issues for RMI, Implementation of RMI, Distributed Garbage Collection</p> <p>Concurrency Control in Distributed Transactions, Transaction Recovery; Replication-Introduction, Passive (Primary) Replication, Active Replication.</p> <p>Contents that are deleted from AU</p> <p>Distributed Shared Memory, Introduction, What is Shared memory?, Consistency models, Page based Distributed Shared memory, Shared – variable Distributed Shared memory, Object based Distributed Shared Memory</p> <p>Lay red Protocols, ATM networks, The Client – server model, Remote</p>	40
47	Neural Network and Fuzzy system(Elective -II)	CSE 4.2.3	Neural Networks & Deep Learning	CSE414C	Newly introduced course	100
48			Human Computer Interaction	CSE414D	Newly added course/ Newly introduced course	100
49			Pattern Recognition	CSE414E	Newly introduced course	100
			PROFESSIONAL ELECTIVE III	CSE415		
50			Computer vision	CSE415A	Newly introduced course	100
51	Embedded System	CSE 4.1.5	Embedded Systems	CSE415B	DMA, UART and PLD	1

52	Data Warehousing and Data Mining	CSE 4.2.3	DATA WAREHOUSING & DATA MINING	CSE415C	No Change	0
53			Machine Learning	CSE415D	Newly introduced course	100
54			Cyber Security	CSE415E	Newly added course/ Newly introduced course	100
55		CSE 416	CRYPTOGRAPHY & NETWORK SECURITY LAB	CSE416	Newly added course/ lab	100
56			INDUSTRIAL TRAINING & SEMINAR	CSE417		
57			PROJECT I	CSE418	Newly Introduced Course	100
			PROFESSIONAL ELECTIVE- IV	CSE421		
58			Client Server Computing	CSE421A	Newly added course/ Newly introduced course	100
59			Augmented Reality	CSE421B	Newly added course/ Newly introduced course	100
60			Semantic Web	CSE421C	Newly introduced course	100
61			Big Data Analytics	CSE421D	Newly introduced course	100
62			Information Security & Auditing	CSE421E	Newly introduced course	100%
63			Social Network Analysis	CSE421F	Newly introduced course	100%
64			PROFESSIONAL ELECTIVE - V	CSE422		
65			Network Management	CSE422A	Newly introduced course	100
66			Fuzzy Computing	CSE422B	Newly introduced course	100
67			Wireless Sensor Networks	CSE422C	Newly Introduced course	
68			Cloud Computing	CSE422D	Newly Introduced course	100
69			Computing Optimization	CSE422E	Newly introduced course	100
70			PROJECT II	CSE423	Newly Introduced course	100
71			MOOC	CSE424	Newly Introduced course	100
Average % change						

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Head of the Department of
Computer Science & Engineering
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Minutes of the 5th meeting of the Board of Studies, Dept. of ECE (UG) held on 30.03.2019 at 10:30 AM.

Name of the member	Designation	Category	Signature of the member
Dr. V. Rajya Lakshmi	Head, ECE, ANITS	Chairman, BOS, ECE	
Dr.K.MuraliKrishna	Prof., ECE, ANITS	Member	
Dr. G.Manmadha Rao	Prof., ECE, ANITS	Member	
Mr. S. Balaramamurthy	Assoc. Prof., ECE, ANITS	Member	
Dr.B.SomaSekhar	Assoc. Prof., ECE, ANITS	Member	
Dr. C Praveen Babu	Assoc. Prof., ECE, ANITS	Member	
Dr.S.Srinivas	Assoc. Prof., ECE, ANITS	Member	
Dr.P.MurgaPandiyan	Assoc. Prof., ECE, ANITS	Member	
Dr.S.Ravi	Assoc. Prof., ECE, ANITS	Member	
Dr.D.Easwara Chaitanya	Asst. Prof. ECE, ANITS	Member	
Dr. D. Anilprasad	Asst. Prof. ECE, ANITS	Member	
Dr. J. Bhaskara Rao	Asst. Prof. ECE, ANITS	Member	
Dr. A. Lakshminarayana	Asst. Prof. ECE, ANITS	Member	
Dr. Vijaya Kumar Sahu	Asst. Prof. ECE, ANITS	Member	
Dr.N.Srinivasa Naidu	Asst. Prof. ECE, ANITS	Member	
Dr. P. P. Makrishna Rao	Advisor, ANITS	Academic council nominee	
Dr K. Chandra Bhusahan Rao	Prof., Dept of ECE, JNTUV	Academic council nominee	
Dr.N.V.S.N.Sharma	Prof., Dept of ECE, NITW	University Nominee	
Dr.Srinivas G. BHASKAR	Avantel, Visakhapatnam	Industry	NOT ATTENDED
Dr. M. Durga Prasad	JTO, BSNL	Alumni	

Dr. K. P. Ranga Rao

Dr. Sujatha

Dr. Vinay

Dr. Deepthi

Student

Student

Student

member

member

member

Dr. Sujatha

R. Vinay

S. Deepthi



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
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Sangivalasa-531162, Bheemunipatnam Mandal, Visakhapatnam Dt.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Minutes of the 5th meeting of the BOS, Department of ECE (UG) held on 30.03.2019 at 10.30 AM in the DSP lab with the following agenda.

1. To finalize the course structure of R-2019
2. To finalize the 1st year syllabus of R-2019
3. Any other item with the permission of the chair

The chairperson, Dr.V.Rajya Lakshmi, HOD, dept of ECE, ANITS welcomed all the BOS members present in the meeting. The Committee discussed the points given in the agenda submitted by the Dr.V.Rajyalakshmi and made the following recommendations/suggestions.

1. a) Prof. P. Ramakrishna Rao and Prof.K.Chandra Bhusahan Rao, expressed that Engineering is an extension of physics and it would be helpful to the students if course "Physics" is studied in First year I semester rather than in II semester.
b) Prof.K.Chandra Bhusahan Rao suggested the course "Basic Electronics Engineering" should be in First year II semester
c) Prof.P. Ramakrishna Rao, expressed that it will be difficult to ensure maximum student participation in Mandatory non-credit course. Prof. V.Rajya Lakshmi replied that maximum student participation in any Mandatory non-credit course can be achieved through preparation of the timetable in such a way that Mandatory non credit course is in between any other two credit courses.
d) Prof.K.Chandra Bhusahan Rao suggested the name of the "simulation lab" has to be very specific such that student's specific skills can be evident in their marks sheet for the purpose of getting into higher studies/placements.
e) Prof.K.MuraliKrishna, expressed that ICA Lab may be interchanged with AC & DC Lab as Analog Communications and Digital communications are covered in previous semesters.
f) Mr.G.Bhaskar, Aventel, expressed that "Speech processing" Professional Elective-3 can be interchanged with "WSN" in Professional Elective-5 as Speech processing required to be studied after Digital signal processing which is in Third year II semester.

i) Prof. K. Chandra Bhusahan Rao suggested that prescribed textbooks need to be followed by faculty and in order to ensure the same, it is advised to ask the faculty to submit coverage plan for the courses of all basic sciences in advance signed by head of department.

j) Prof. K. Chandra Bhusahan Rao expressed that physics syllabus is heavy and suggested the text book Halliday / Resnick, to be made as prescribed text book in the course ECE 122 (Physics) and to ensure redundancy of the contents is not present.

k) Prof. V. Rajya Lakshmi informed the members that in the course "Workshop" soldering and PCB Design are introduced keeping in view of ECE graduates and all members agreed that it is very essential to the ECE students in the current trend.

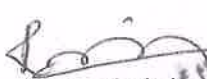
l) Prof. K. S. Ranga Rao, expressed that PCB design can be renamed as Layout design on PCB.


m) Prof. K. Murali Krishna, said that soldering can be done in the Electronic circuits Laboratory

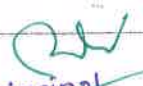
n) Prof. P. Ramakrishna Rao, expressed that the faculty who are likely to teach course "Ethics" should have good communication skills.

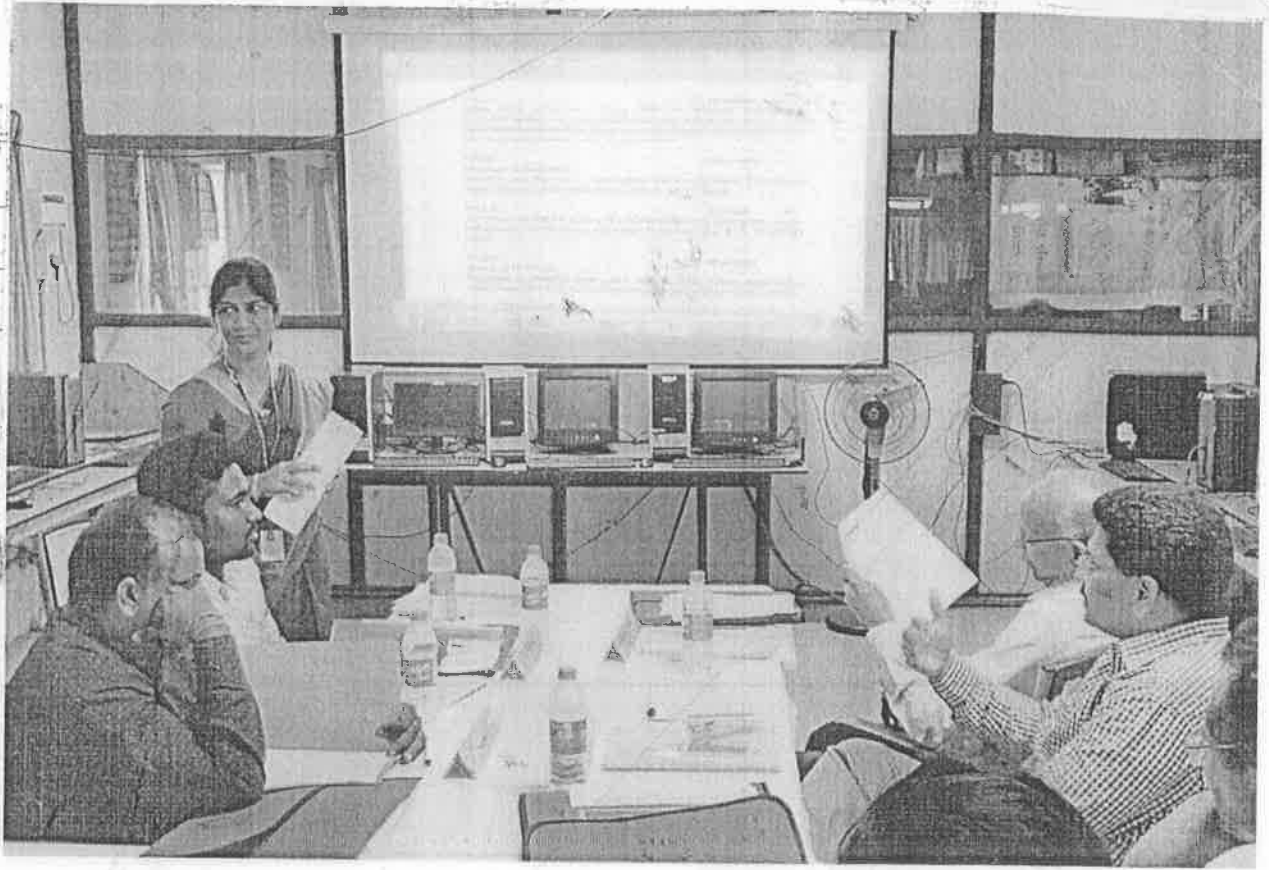
The chairperson thanked all the members for their active participation and valuable suggestions. She informed that all modifications suggested will be incorporated in the proposed structure for curriculum regulations 2019 and sent to the members for their approval.

Mr. S. Balaramamurthy, proposed the vote of thanks.

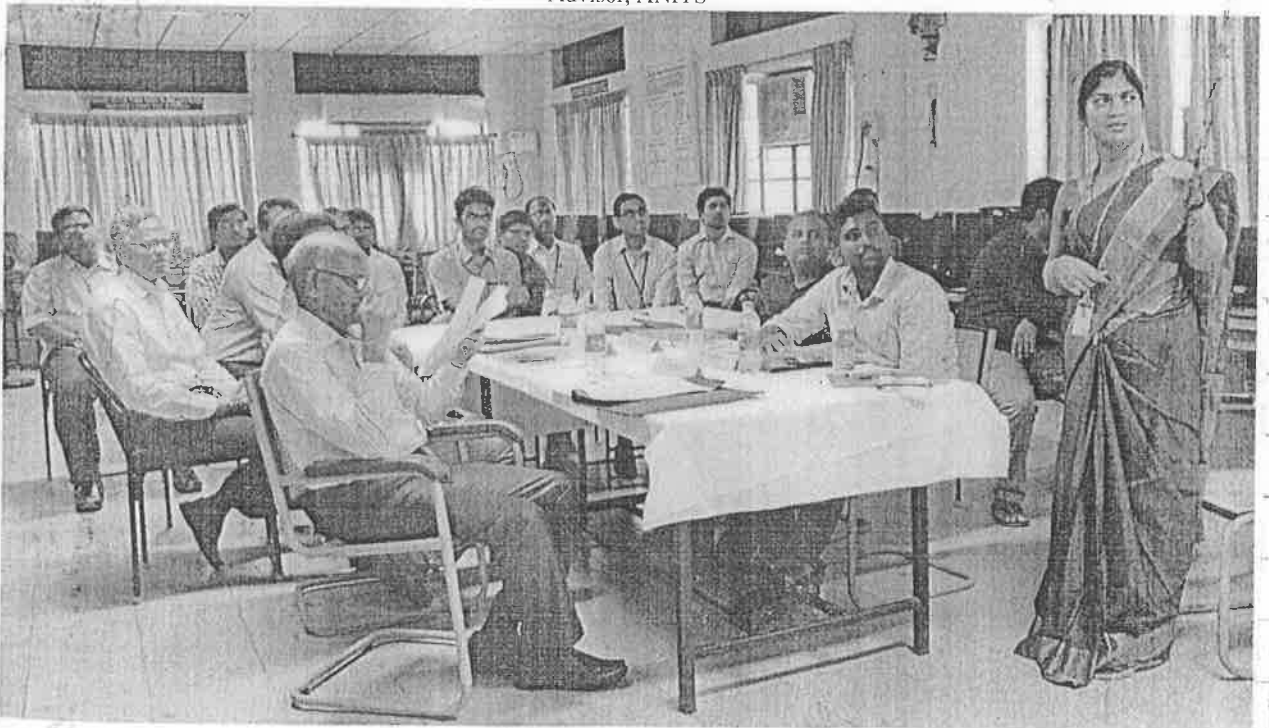

Dr. V. Rajya Lakshmi
Head of the Department
Chairperson, BOS & HOD, ECE
ANITS
Anil Neerukonda Institute of Technology & Sciences
Sangivalasa - 531 162


R. Sridhar
Convener, IQAC
Anil Neerukonda Institute of
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Visakhapatnam Dist.


Principal
Anil Neerukonda Institute of
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Visakhapatnam Dist



5th BOS Meeting of ECE held on 30-03-2019 : left: Mr.G.Bhaskar, Aventel, Mr.M.DurgaPrasad, JTO, BSNL , Prof.V.Rajyalakshmi, Chairperson. Right: Prof.K.Chandra Bhusahan Rao, Professor, JNTUV, Prof. P. Ramakrishna Rao, Advisor, ANITS



5th BOS Meeting of ECE held on 30-03-2019 at , DSP Lab, department of ECE



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(Permanently Affiliated to Andhra University, Approved by AICTE)
Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
Accredited by NBA

Minutes of the meeting of the Board of Studies, Department of EEE (UG)
held on 30th March 2019 at 11.30 AM.
(Under Autonomous System)

MEMBERS PRESENT:

S. No.	Name	Designation	Category	Signature of the members
1	Dr. Guntu Raja Rao	Head, EEE, ANITS	Chairman, BOS	
2	Mr. V. Murali	Assoc. Prof., EEE, ANITS	Member	
3	Mr. S. Balamurali	Assoc. Prof., EEE, ANITS	Member	Absent
4	Dr. J. Vijaya Kumar	Assoc. Prof., EEE, ANITS	Member	
5	Mrs. K.V.R. Swathi	Asst. Prof., EEE, ANITS	Member	
6	Mr. Kavala Kiran Kumar	Asst. Prof., EEE, ANITS	Member	
7	Mr. B. Rajasekhar	Asst. Prof., EEE, ANITS	Member	
8	Mr. R. Satish	Asst. Prof., EEE, ANITS	Member	
9	Mrs. Lavanya	Asst. Prof., EEE, ANITS	Member	
10	Mr. Ch. V. N. Raja	Asst. Prof., EEE, ANITS	Member	
11	Mr. M. Sudheer Kumar	Asst. Prof., EEE, ANITS	Member	
12	Mr. L. Dinesh	Asst. Prof., EEE, ANITS	Member	
13	Mr. L. Vijay	Asst. Prof., EEE, ANITS	Member	
14	Mr. A. Dhanamjay	Asst. Prof., EEE, ANITS	Member	
15	Mr. K. Trinadh Babu	Asst. Prof., EEE, ANITS	Member	
16	Mr. J. Uday Venkatesh	Asst. Prof., EEE, ANITS	Member	
17	Mrs. V. Rangavalli	Asst. Prof., EEE, ANITS	Member	
18	Mr. V. Anil Kumar	Asst. Prof., EEE, ANITS	Member	Absent
19	Mr. S. Harish	Asst. Prof., EEE, ANITS	Member	
20	Mrs. T. V. Subhashini	Asst. Prof., EEE, ANITS	Member	
21	Ms. D. Srilakshmi	Asst. Prof., EEE, ANITS	Member	
22	Mr. N. Kiran	Asst. Prof., EEE, ANITS	Member	
23	MR. T. Subrahmanyam	Asst. Prof., EEE, ANITS	Member	
24	Prof. Deba Priya Das	Professor	Academic Council Nominee	
25	Prof. B.M. Mohan	Professor	Academic Council Nominee	
26	Prof. G.V. Siva Krishna Rao	Professor	University Nominee	Absent
27	Sri. B. Srinivasa Reddy	AGM (Electrical), RINL	Industry	
28	Sri. K. Anil Kumar	Asst. Manager (Electrical), RINL	Special Invitee & Alumnus	



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Accredited by NBA

Minutes of the Board of Studies (BOS of EEE) meeting held on 30th March 2019 (Saturday) at 11.30 AM.

MEMBERS PRESENT:

1. Prof. Debapriya Das, Professor, Dept. of Electrical Engg., IIT Kharagpur.
2. Prof. B.M. Mohan, Professor, Dept. of Electrical Engg., IIT Kharagpur.
3. Sri B. Srinivasa Reddy, Asst. General Manager (Electrical), RINL, VSP.
4. Sri K. Anil Kumar, Asst. Manager (Electrical), RINL, VSP.
5. Mr. V. Murali, Assoc. Prof., ANITS.
6. Mr. S. Balamurali, Assoc. Prof., ANITS.
7. Mr. J. Vijaya Kumar, Assoc. Prof., ANITS.
8. Mrs. K.V.R. Swathi, Asst. Prof., ANITS.
9. Mr. Kavala Kiran Kumar, Asst. Prof., ANITS.
10. Mr. B. Rajasekhar, Asst. Prof., ANITS.
11. Mr. R. Satish, Asst. Prof., ANITS.
12. Mrs. K. Lavanya, Asst. Prof., ANITS.
13. Mr. Ch.V.N. Raja, Asst. Prof., ANITS.
14. Mr. M. Sudheer Kumar, Asst. Prof., ANITS.
15. Mr. L. Dinesh, Asst. Prof., ANITS.
16. Mr. L. Vijay, Asst. Prof., ANITS.
17. Mr. A. Dhanamjay, Asst. Prof., ANITS.
18. Mr. K. Trinadh Babu, Asst. Prof., ANITS.
19. Mr. J. Uday Venkatesh, Asst. Prof., ANITS.
20. Mrs. V. Rangavalli, Asst. Prof., ANITS.
21. Mr. V. Anil Kumar, Asst. Prof., ANITS.
22. Mr. S. Harish, Asst. Prof., ANITS.
23. Mrs. T. V. Subhashini, Asst. Prof., ANITS.
24. Ms. D. Srilakshmi, Asst. Prof., ANITS.
25. Mr. N. Kiran, Asst. Prof., ANITS.
26. Mr. T. Subrahmanyam, Asst. Prof., ANITS.
27. Prof. G. Raja Rao (Chair person), Professor & HOD of EEE, ANITS.

* * *

1. The Chair person welcomed all the BOS members of the department and thanked the members for the support they have rendered to the department during the last four years.
2. The board has approved the course 'Competitive Programming' which was offered as an additional elective in Professional Elective – 1 in 3rd year 2nd semester during 2018-19. It is also resolved to continue to offer the same course for the coming batches.

3. The Committee has mainly discussed on the scheme and syllabi of 1st year 1st semester and 2nd semester courses to be taught by EEE faculty.
4. The external members from IIT Kharagpur have suggested to introduce NPTEL course on C – programming in support of course “Programming for Problem Solving” in 1st year 2nd semester.
5. The board has discussed and resolved to include BLDC motors in the syllabus of PDMT course in 2nd year 2nd semester.
6. As the future power demand will mostly be met by non conventional energy sources, the board has resolved to give special emphasize on fuel cells and batteries by including these topics in RET course or some other appropriate course.
7. Mr. B. Srinivasa Reddy and Prof. Debapriya Das have suggested to offer Power Quality, HVDC & FACTS, Smart Grid as professional electives.
8. Prof. B.M. Mohan & Mr. K. Anil Kumar have suggested to include ‘Machine Learning’ as one of the PEs or OEs.
9. The board has discussed in full length and resolved to introduce ‘Comprehensive Viva’ for 2 credits at the end of 4th year 2nd semester. However, to accommodate these 2 credits the final project work credits have been reduced from 8 to 6 credits.
10. The board members were happy about the modifications and the scheme & syllabi of 1st year.

Date: 01-04-2019

Principal
Anil Neerukonda Institute of
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Visakhapatnam Dist.

C/s to: 1. The Principal

R. Jeyanth
Convener, IQAC
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Visakhapatnam Dist.

HOD of EEE

S. Raja Rao
Dr. G. RAJA RAO

Head of the Department
ELECTRICAL & ELECTRONICS ENGG
ANITS, Sangivalasa
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R. Jeyanth
Principal
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Members of Board of studies (Dept. of Mechanical Engineering)

(UG&PG held on 30-03-2019 at 10:30AM)

S.No	Name	Designation	Category	Signature
1	PROF. D. RAVI KUMAR	Prof., Dept. of Mech. Engg, IIT-Delhi	Academic Council Nominee	<i>[Signature]</i>
2	PROF. N. RAMANAIAH	Professor, Dept. of Mech. Engg., AUCE(A). Vishakapatnam.	University Nominee	<i>[Signature]</i> 30/3/19
3	PROF. CH. RATNAM	Prof. & HOD, Dept. of Mech. Engg. AUCE(A). Vishakapatnam.	Academic Council Nominee	<i>[Signature]</i>
4	MR. K. VENKAT POORNESH	Sr. Engineer, Production Division, BHEL, Vishakapatnam	Alumni & Industry Nominee	<i>[Signature]</i> 30.03.19
5	PROF. T.V. HANUMANTHA RAO	Dean Academics, ANITS & Professor of Mechanical Engineering	Honorary Member	<i>[Signature]</i>
6	PROF. D. PRASADA RAO	Prof., Dept. of Mech. Engg., Dean and Controller of Examination, ANITS	Honorary Member	<i>[Signature]</i> 28/3/19
7	Dr. N. INDRAKIRAN	Prof., Dept. of Mech. Engg., ANITS	Member	<i>[Signature]</i>
8	Dr. K. SIVA PRASAD	Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
9	Dr. M. RAJA ROY	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
10	Dr. RAJESH GHOSH	Assoc. Prof., Dept. of Mech. Engg., ANITS	Member	<i>[Signature]</i>
11	R. CHANDRAMOULI	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i> 30/3/19
12	G. UMAMAHESWARA RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
13	M.S.S. SRINIVAS RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
14	M PRASANTH KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
15	J.V. BHANU TEJ	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
16	M PREM DHEERAJ	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	<i>[Signature]</i>
17	PROF. B. NAGARAJU	HOD, Dept. of Mech. Engg., ANITS	Chairman- Board of Studies (Mechanical)	<i>[Signature]</i> 30-3-19

30-3-19
PROFESSOR & HEAD
Department of Mechanical Engineering

Principal



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES (A)

DEPARTMENT OF MECHANICAL ENGINEERING

(Permanently Affiliated to Andhra University, AICTE, Accredited by NBA NAAC with 'A' Grade)

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Minutes of Board of studies meeting held on 30-03-2019

Agenda:

Review and ratification of B.Tech and M.Tech (Machine design) course structures and B.Tech first year syllabus under autonomous scheme.

Suggestions & Resolutions:

The members of board of studies met on this day in metrology lab, Mechanical engineering department, ANITS to review the course structures (R-19 regulations) and B.Tech I year syllabus under autonomous scheme and suggest suitable modifications wherever necessary. At the outset, the chairman of BOS Prof. P. Nagaraju, welcomed the gathering and initiated the process. The review of the course structure was taken up as an immediate agenda and was done semester wise. The following observations/suggestions were made by the members:

1. It was suggested by the expert members not to include extended contact hours and outside contact hours in the curriculum as they do not carry any credits. But the extended contact hours may be included in the time table to cover the syllabus holistically.
2. It was suggested to transfer **Engineering Workshop** from first semester to second semester in the first year curriculum so as to reduce the number of labs from 3 to 2 in the beginning semester. Hence the total number of credits for first semester is **18.5** and **19.5** for the second semester of the first year.
3. The titles of the following courses were suggested to be modified which was accepted by the board.
 - a) 'Elements of Mechanical Engineering' changed to '**Basics of Mechanical Engineering**'.
 - b) 'Production technology' modified to '**Manufacturing Processes**'.
 - c) 'Production Technology Lab' modified to '**Manufacturing Lab**'.
 - d) 'Metal cutting & Machine Tools' modified to '**Metal cutting, Machine Tools & Metrology**'.
 - e) 'Machine and Production Drawing' modified to '**Mechanical Engineering Drawing**'.
 - f) 'Applied Mechanics Lab' modified to '**Machines and Mechanisms Lab**'.

19

PROFESSOR & HEAD
Department of Mechanical Engineering
30.3.19


4. It is strongly observed by the expert members that 'Verbal Aptitude' and 'Quantitative Aptitude' cannot be considered as Mechanical Engineering courses and hence they cannot be part of Mechanical Engineering curriculum. However, if these two courses are required for placement drives, the number of credits shall be limited to 1 credit each. The chairman BOS said that this will be conveyed to the Principal and the decision on this suggestion has to be taken at institution level.
5. The following suggestions were given by the external members with regards to professional electives.
- Dr Ravi Kumar said that the list of professional electives may be reorganised to the maximum possibility such that every professional elective has one subject each from the four specialisations.
 - 'Managerial Economics & Financial Analysis' course shall be replaced by 'Supply Chain Management'.
 - 'Advanced Materials' course shall be replaced by 'Advanced Mechanics of Materials'.
 - 'Rapid Prototyping' course shall be replaced by 'Unconventional Machining'.
 - 'Energy Conversion & Management' course shall be replaced by 'Processing of Plastics & Composites'.
6. The expert members opined that since 'Material Science & Metallurgy' is one of the courses being offered by the department, it will be worthwhile to include few experiments on metallurgy in the Mechanics of Solids Lab. This was accepted by the board for implementation.
7. Some minor modifications / suggestions were given by the external members with regards to the syllabus of Engineering drawing, Advanced Engineering drawing & engineering work shop which has to be reviewed.
8. It was suggested by the external members to include a unit on basics of materials instead of principles of steel making. They further suggested to include steel making processes in Metallurgy and Material science in the 2nd year 1st semester.

17 30.3.19

PROFESSOR & HEAD
Department of Mechanical Engineering
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9. Regarding M.Tech course structure external members suggested to include **Theory of Elasticity & Plasticity** as a core subject in the first year first semester. They also suggested to introduce **Research Methodology** as a non-credit course.


The chairman thanked the members of the board for their valuable suggestions. The UG & PG course structures were ratified by the board of studies after including the minor corrections.


(HOD, Mechanical)

Head of the Department
Department of Mechanical Engineering
Anil Neerukonda Institute of Technology & Sciences
Sangivalasa - 531162

CC to: 1) Principal
2) Dean of examinations } for the kind information


Convener, IQAC
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Visakhapatnam Dist.


Principal
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Department of Mechanical Engineering

List of new courses introduced in the Board of Studies (BoS) meeting held on 30-03-2019 for the academic year 2019-20


S. No	Name of the Course	Course Code	Year & Semester
1.	Biology for Engineers	MEC 114	I/IV, Sem -1
2.	Basic Electronics Engineering	MEC 124	I/IV, Sem -2
3.	Problem Solving with C	MEC 125	I/IV, Sem- 1
4.	Problem Solving with C Lab	MEC 127	I/IV, Sem -1
5.	Research Methodology	MECMD117	I/II M.Tech, Sem-1
6.	Seminar-II	MECMD128	I/II M.Tech, Sem-2


(Ch. Ratanam)

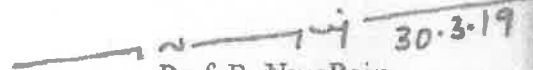

(Prof. N. Ramanaiyah)


30/3/19


30/3/19


(Kalla. Venkata Poornesh)


30/3/19

 30-3-19
Prof. B. NagaRaju,
Chairman BOS,
Mech. Engg. Dept.

PROFESSOR & HEAD
Department of Mechanical Engineering
ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
Sangivalasa 531 162 VISAKHAPATNAM Dist. A.P.

Board of Studies
(BOS)

AY 2018-19



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

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SANGIVALASA - 531 162, BHEEMUNIPATNAM MANDAL, VISAKHAPATNAM DIST.,

Phones : 08933 - 225083, 225084, 226131, Fax: 08933 - 226395

Website : www.anits.edu.in

e-mail : principal@anits.edu.in

Ref: ANITS/Gen-12/BOS Meeting Notice /2017-18

Date: 17th April, 2018

MEETING NOTICE

The fourth meeting of the Board of Studies is scheduled to be held on Saturday the 28th April, 2018 at our college premises at Visakhapatnam as per following schedule. All the members are requested to attend the meeting.

Agenda:

1. To finalize the 4th year scheme of instruction of curriculum and the syllabus for 2018-2019 academic year
2. Implementation of AICTE proposed model curriculum – structure and first year syllabus.

Common Board of Studies: 09:30 AM, venue: D - 108, Chemical Engineering Block

Individual Departments' Board Meeting: 10:30 AM to 01:00 PM in the respective Depts.

Lunch: 01:00 PM to 02:00 PM

Concluding Session: 02:00 PM

Principal
PRINCIPAL

To:

All the Members of BOS

Special Invitees

Directors & Deans

All HoDs

Placement & Library

Master file & BOS file



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Sangivalasa 531 162, Bheemunipatnam Mandal, Visakhapatnam Dist

DEPARTMENT OF CHEMICAL ENGINEERING

Minutes of the meeting of the Board of Studies, Department of Chemical engineering (UG) held on 28th April, 2018 at 11.00 AM.

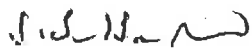
Members present:

- | | |
|----------------------------|-------------------------------------|
| 1. Prof. S. Subba Rao | Chairman, BOS, Chemical Engineering |
| 2. Prof. G. Hanumantha Rao | Member |
| 3. Dr. Ch. Anil | Member |
| 4. Dr. M. Shiva Naresh | Member |
| 5. Prof. P.S.T. Sai | Member, Academic council nominee |
| 6. Prof. S.V. Naidu | Member, Andhra University nominee |
| 7. Dr. A. Srinivasa Kumar | Member, Industry/Research |

Resolutions:

1. Autonomous Syllabi for IV/IV B.Tech. Chemical Engineering I and II semesters were discussed and the experts felt satisfactory about the overall contents.
2. The committee felt that few topics like mass transfer with chemical reaction may be added in the course CHE 412 Transport phenomena. The committee also suggested to delete some books in the reference section of the subject Transport phenomena.
3. The committee recommended removing the references 4 and 5 in the course CHE 413 Process Dynamics and Control and also in the course CHE 414 Process Modelling and Simulation as they are not so relevant to UG level.
4. Prof. P.S.T. Sai suggested to recheck the syllabus of the elective CHE 422 (B) Process Optimization to avoid the repetition of the topics covered in the previous semester mathematics subjects.
5. Dr. A. Srinivas Kumar suggested to include topics like refining of hard carbon in Unit II in elective CHE 422(C) Energy Engineering.

6. The committee felt that the title of CHE 423 Chemical Process Equipment Design Laboratory be modified as Process Equipment Design Laboratory.
7. The committee discussed in detail the curriculum of AICTE for Chemical Engineering. The committee felt that there are no major changes with the existing structure of chemical engineering.
8. The committee suggested to modify the syllabi of physics and chemistry. Topics like electrochemistry, few topics on physical and inorganic chemistry were suggested to be included in Chemistry –I syllabus and organic chemistry in Chemistry –II.
9. The committee suggested to modify the physics syllabus with more orientation to chemical engineers like introduction to thermodynamics and basic electronics. After rigorous discussion the committee felt the existing autonomous physics syllabus may be preferable.
10. The committee finally discussed the Biology syllabus which is to be introduced for first year AICTE curriculum and suggested to add few more prescribed books oriented to engineering.



(Prof. S. Subba Rao)
Chairman, BOS


Convener, IQAC
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.


Principal
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa- 531 162
Visakhapatnam Dist



DEPARTMENT OF CIVIL ENGINEERING

Minutes of Board of Studies Meeting held on 28-04-2018
Autonomous Regulations (2015)

Date : April 28, 2018
Time : 10:30 AM
Venue : Civil Engineering Department, ANITS

Agenda:

1. To Consider IV/IV B.Tech I semester and II semester (Civil Engineering) Syllabus
2. To Discuss the AICTE Model Curriculum and the Course Structure prepared based on these guidelines
3. Any other item with the permission of the chair

Members Present:

1. Dr.C.N.V.Satyanarayana Reddy, Professor, Civil, Andhra University - *C.N.V. Satyanarayana*
2. Dr. G.Appa Rao, Professor of Civil Engg., IIT Chennai - *G.Appa Rao*
3. Sri.D.Kasiweswara Rao, Chief Engineer, Visakhapatnam - *Absence on leave*
4. Prof. A.Rama Mohana Rao, Professor of Civil Engg. - *A.Rama Mohana Rao*
5. Sri.J.Vikranth, Associate Professor of Civil Engg. - *J.Vikranth*
6. Sri T.V.V.Teja, Assistant Professor of Civil Engg. - *T.V.V. Teja*
7. Sri.T.Kiran Kumar, Assistant Professor of Civil Engg. - *T.Kiran Kumar*
8. Mrs.P.V.R.Sravva, Assistant Professor of Civil Engg. - *P.V.R. Sravva*
9. Dr.B.N.D.Narasinga Rao, Professor and HoD, Dept. of Civil Engg. (In Chair) - *B.N.D. Narasinga Rao*

Minutes:

1. Considered the detailed syllabus for IV Year I semester and II semester B.Tech Civil Engineering for discussion and approved the same.
2. Dr. G. Appa Rao and Dr. C.N.V. Satyanarayana Reddy suggested deferring implementation of AICTE Model Curriculum by One year to enable through discussion of the course structure keeping the interest and limitations of students of ANITS (A).

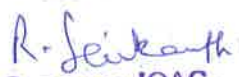
B.N.D. Narasinga Rao
(Dr.B.N.D.Narasinga Rao)
Chairman – Board of Studies
Civil Engineering – ANITS
Dr. B.N.D. Narasinga Rao
ME PhD FIE FIGS
Professor & Head
Department of Civil Engineering
Anil Neerukonda Institute of Technology & Sciences

3. List of paper setters for IV Year B.Tech Civil Engineering is considered and approved. The Board, however, has authorized the Head of Department, Civil Engineering, ANITS (A) to add or modify the list wherever necessary.
4. Discussed the innovative Teaching and Evaluation Techniques.



(Dr. B.N.D. Narasinga Rao)
Chairman – Board of Studies
Civil Engineering - ANITS

Dr. B.N.D. Narasinga Rao
ME PhD FIE FIGS
Professor & Head
Department of Civil Engineering
Anil Neerukonda Institute of Technology and Sciences
Sangivalasa, Bheemunipatnam Mandal
Visakhapatnam - 531162


Convener, IQAC
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.


Principal
Anil Neerukonda Institute of
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Website : www.anits.edu.in

e-mail : principal@anits.edu.in

Minutes of the meeting of the Board of Studies Dept. of CSE(UG&PG)
Held on 28.4.2018

Department of computer Science & Engineering

Members Present:

S. No	Name	Designation	Category	Signature of the member
1	Dr. R.Sivaranjani	HoD&Professor, CSE, ANITS	Chairman, BOS, CSE	
2	Dr. Tusarkanti Mishra	Assoc. Prof., CSE, ANITS	Member	
3	Mr. S. Ratan Kumar	Assoc. Prof., CSE, ANITS	Member	
4	Dr. M.Rama Krishna Murthy	Assoc. Prof., CSE, ANITS	Member	
5	Mr. Ch. SeshadriRao	Asst. Prof., CSE, ANITS	Member	
6	Mrs. PriteeParwekar	Asst. Prof., CSE, ANITS	Member	
7	Mr. B.Ravi kiran	Asst. Prof., CSE, ANITS	Member	
8	Mr. K. Suresh	Asst. Prof., CSE, ANITS	Member	
9	Mrs. Keerthi Lingam	Asst. Prof., CSE, ANITS	Member	
10	Mr. G.jagadish	Asst. Prof., CSE, ANITS	Member	
11	Ms. K.S.Deepthi	Asst. Prof., CSE, ANITS	Member	
12	Dr. B. Majhi	Director, IIT , Kanchipuram	Academic Council Nominee	
13	Dr. Prajna Bodapati	Professor, CSE,AUCE	University Nominee	
14	Dr. DVLN SOMAYAJULU	Professor NIT, Warangal	Member	
15	Mr. T. Shyam Vamsi	IBM ,Chennai	Alumni	
16	Dr. S. Raja,	Scientist "G",Associate Director,NSTL, Visakhapatnam	Special Invitee	
17	Dr KSVN Raju	Professor, CSE, GVPDC	Special Invitee	
18	Dr. C. Srinagesh	Manager, Campus Connect, Infos Technologies .Hvd	Industry	



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DEPT OF COMPUTER SCIENCE AND ENGINEERING

Date : 28-04-2018

Minutes of Board of Studies Meeting

Department of CSE

Minutes of the Meeting

Subject : Board of studies / Bachelor of Technology (CSE)
Venue : LAB 2, Dept of CSE
Date : 28-04-2018

- 1. To finalize 4th year scheme of instruction of curriculum and syllabus for 2018-2019 academic year.
2. Implementation of AICTE proposed model curriculum - structure and first year syllabus.

The following members were present in the meeting:

- Dr. R.Sivaranjani HoD&Professor, CSE. ANITS Chairman. BOS. CSE
Dr. Tusarkanti Mishra Assoc. Prof.. CSE. ANITS Member
Mr. S. Ratan Kumar Assoc. Prof.. CSE. ANITS Member
Dr. M.Rama Krishna murthy Assoc. Prof.. CSE. ANITS Member
Mr. Ch. SeshadriRao Asst. Prof.. CSE. ANITS Member
Mrs.K.S.Deepthi, Asst. Prof., CSE. ANITS Member
Mrs. PriteeParwekar Asst. Prof., CSE. ANITS Member
Mr. B.Ravi kiran Asst. Prof.. CSE. ANITS Member
Mr. K. Suresh Asst. Prof.. CSE. ANITS Member
Mrs. Keerthi Lingam Asst. Prof.. CSE. ANITS Member
Mr. G.jagadish Asst. Prof.. CSE. ANITS Member
Dr. B. Maijhi, Director, IIT, Kanchipuram, Academic council nominee
Dr. Prajna Bodapati, Professor, CSE, AUCE, University Nominee
Dr. DVLLN Somayajulu, Professor, NIT Warangal, Member
Mr. T Shyam Vamsi, IBM Chennai, Alumni
Dr. S. Raja, Scientist "G" Associate Director, NSTL, Visakhapatnam, Special Invitee
Dr. KVSVN Raju, Professor CSE, GVPDC, Special Invitee

Apologies:

- Dr. C. Srinagesh, Manager, Campus Connect, Infosys Technologies, Hyderabad, Industry.

Before start of the meeting

Handwritten signatures of meeting participants including Dr. R. Sivaranjani, Dr. Tusarkanti Mishra, Mr. S. Ratan Kumar, Dr. M. Rama Krishna Murthy, Mr. Ch. Seshadri Rao, Mrs. K. S. Deepthi, Mrs. Pritee Parwekar, Mr. B. Ravi Kiran, Mr. K. Suresh, Mrs. Keerthi Lingam, Mr. G. Jagadish, Dr. B. Maijhi, Dr. Prajna Bodapati, Dr. DVLLN Somayajulu, Mr. T. Shyam Vamsi, Dr. S. Raja, and Dr. KVSVN Raju.



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DEPT OF COMPUTER SCIENCE AND ENGINEERING

- Overview was given about the syllabus is given.
- Made a comparison on 2015 data with various colleges, total credits in ANITS 189
- Parent university comparison also made with AU.
- Shown the syllabus of all years' semester wise

Suggestions given by BOS members

In Open elective II

Cloud computing title correction need to remove overview

3 /4 DEM-II Department elective

Remove space between No SQL

It was proposed to add AI subject in elective

4th year SEM-II

CNS

Spelling mistakes in CNS course need to be corrected

Include Year of publication for books

Also include MOOC for the course

CNS – LAB

Some topics can be given as case studies will be experiment 9& 10.

Mention algorithm names as DES,RSA etc

Allow the student choose the programming language for the algorithms

Experiment 5 has suggestions as server setup has to be done

OOAD

- No suggestions

Elective

- Year of publication need to be mentioned for all books of all electives

Mobile Computing

- No suggestions

DOS

- No suggestions

AOS

- Don't offer DOS & AOS both, only offer one

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Neural Networks

- Neural Networks and deep learning is a better course
- Or AI and Deep Learning is a better course
- You should ignite the minds of student
- Add Fundamentals of deep learning concepts in other chapters also
- Information security and auditing

Human Computer Interaction (HCI)

- No suggestions

Pattern Recognition

- Total classes reduced to 58

Computer Vision

- No suggestions

Embedded Systems: Case study title in Embedded Systems need to be added

Data warehousing and Data Mining (DWDM)

- DWDM itself is heavy course its suggested not to add too many things into like 'R' language instead of making student making program, teacher can show demo in tutorials in 'R' language.
- Ask students to implement the concepts in JAVA instead of 'R' for better understanding and verify results in 'R'.
- Give them assignment and give some weightage as 30% or 20%
- Give tutorials for solving problems
- Remove 'R' from syllabus
- What defines a data mining tasks? – need to be remove

Machine Learning

- Make sub group of electives to avoid duplication

Cyber Security

- Encourage students through this course and send them to Hackathons based on security
- In unit -IV add ethical hacking

1/4 SEM-II – ELECTIVES

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DEPT OF COMPUTER SCIENCE AND ENGINEERING

Client Server Computing

- No suggestions

Augmented Reality

- No suggestions

Semantic Web

- Check course outcomes for spelling mistakes
- CO4- correction in language
- Include word net in semantic web

Big data

- Give a proper title – Big data analytics
- All should be covered as Hadoop, Map Reduce, HDFS
- Some tools can be given , need to include lab , for map reduce function
- Instruction hours need to be changed to 1+3
- Ask the students and faculty to take training and certification for this course

Information Security and Auditing

- No suggestions

Social Network Analysis

- No suggestions

Network Management

- No suggestions

Fuzzy Computing

- No suggestions

Wireless Sensor Networks (WSN)

- No suggestions

Cloud Computing (CC)

- Case studies to be added Monolithic architecture Vs Micro services

4/4 SEM-I OPEN ELECTIVES

Cloud Computing overview

- Suggested to remove the word overview

Digital Image Processing

Shyamkansi.T
J.P. (Am)

Ww *Buwa* *Du* *BA*



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DEPT OF COMPUTER SCIENCE AND ENGINEERING

- No suggestions

Introduction to soft computing

- No suggestions

Web Designing

- Suggested to change the title to Web Design

General Suggestions

- Put some MOOC courses which is not part of the syllabus
- Ask them to listen to videos and come to class and let them solve problems
- Encourage students and faculties to join MOOC courses
- Do not give too many credits initially to MOOC , slowly you can increase the credits.
- Cloud Computing and introduction to soft computing will be tough for the other branch students – need to think on it
- In computer vision add some topics of Robotics vision.

Board suggested to send a mail for comparison with the AICTE & autonomous syllabus after seeing the mail they will give suggestions.

At the end of the meeting, all board members were thanked for their suggestions

26/4/2018
B. S. R.

Shyam Vamsi .T

J. S. Ramy

B. S. R.

1.1.3 % of changes in syllabus content in the line with AU(2018-19)

Sl. No	R-14 (AU-Regulation)		R-15 (Autonomous-Regulation)		Remarks	% of syllabus content added / replaced
	Course Name	Course code	Course Name	Course Code		
1	DATA STRUCTURES	CSE 2.1.3	DATA STRUCTURES & ALGORITHMS	CSE211	Unit 1- Small Changes Unit 2- No Change Unit 3 -No Change UNit 4- Major Change UNIT 5- Minor Change	20
2			DIGITAL LOGIC DESIGN	CSE212		
3			DISCRETE MATHEMATICAL STRUCTURES	CSE213		
4			OBJECT ORIENTED PROGRAMMING WITH JAVA	CSE214		40
5			PROBABILITY, STATISTICS & QUEUING THEORY	CSE215		
6	DATA STRUCTURES LAB.	CSE 2.1.8	DATA STRUCTURES LAB	CSE216	Experiments 3,9,11,13, Added 2 New Programs	45
7			DIGITAL ELECTRONICS LAB	CSE217		
8	OBJECT ORIENTED PROGRAMMING LAB	CSE 2.2.8	JAVA LAB	CSE218	<p>Program on JDBC connectivity where database is Oracle .</p> <p>Program to send messages across two machines using simple sockets.</p> <p>Program on hierarchical inheritance.</p> <p>Program on JDBC connectivity where database is Oracle . Program to send messages across two machines using simple sockets</p> <p>Programs added :Write a program to find the factorial of a given number.</p> <p>Write a program to print numbers in sorting order. Create a class Odometer that displays the number of kilometers a vehicle run. Give samples as trip information like number of kilometers travelled, fuel consumption per litre. The task is to find the mileage of the vehicle running at different samples of trip information. Create a class Day that represents day, month and year of the calendar day. The class Day should be able to accept the date, update the date, delete the date from a calendar</p>	45

					list of activities. Create a class Time that represents hours, minutes, seconds of a clock. The class Time should accept the time, update the time, delete the time from a list of events created for a day using the Day Class. Write a program to implement interfaces. Write a program that implements a stack ADT that converts infix expression into postfix expression Write a program to read a file and displays the file on the screen within line number before each line	
9	Data Communication	CSE 3.2.4	DATA COMMUNICATIONS	CSE221	<p>Unit-1 added history of data communication , and Removed transmission impairments .</p> <p>2) In unit2 : added transmission impairments along with representation of signals contains Amplitude, Frequency, Phase, Data/Signal Encoding Techniques, Modulation and Demodulation techniques</p> <p>3) In Unit -3 added interface standards- DCE, DTE, Modems. and given a clarification on flow control and error control separately i.e Flow Control-Error Control:Stop and Wait, Go Back -N, selective repeat protocols,ARQ protocols.Error: Error Detection, and correction- Parity Check, VRC, CRC, Hamming code, Bit oriented protocol- HDLC,LAP,ATM-cell relay.</p> <p>4) In Unit-4 added LAN addressing, LAN Topologies, LAN Technologies and also added IEEE 802.5,Short Range networks: Bluetooth-Architecture and Services. Introduction to IoT : Design principles, Architecture, Protocols, Applications.</p> <p>5) In Unit 5 - R19 removed Modem and Modem circuits</p>	25
10	Microprocessors – I MICROPROCESSORS - II	CSE 2.2.3 CSE 3.1.1	MICROPROCESSORS AND INTERFACING	CSE222	<p>unit-I: no change from MP-I and memory interfacing from MP-II</p> <p>Unit-II: no change from MP-I</p> <p>Unit-III:No change from MP-II</p> <p>Unit-IV:No change from MP-I</p> <p>Unit-V: removal of Microcontroller and introduction to hardware and software of PC's</p>	20%
11	OPERATING SYSTEMS	CSE 3.1.6	OPERATING SYSTEMS	CSE223	<p>UNIT-1 1&2 combine as I</p> <p>UNIT-2: aD</p> <p>ALGORITHM EVALUATIONS</p> <p>UNIT-3:NC</p> <p>UNIT4:NC</p> <p>UNIT:5 ADD GOALS OF PROTECTION,IMPLEMENTATION OF ACCESS MATRIX</p>	20

12	COMPUTER ORGANIZATION	CSE 2.2.4	COMPUTER ORGANIZATION	CSE224	UNIT-1 Booth's Multiplication Algorithm UNIT-3 Hardwired & Micro-programmed control unit, UNIT-4 Program Interrupts, Types of Interrupts, RISC & CISC characteristics, Introduction to Parallel Processing & Pipelining- general considerations.	18%
13	FORMAL LANGUAGES AND AUTOMATA THEORY	CSE 3.1.4	FORMAL LANGUAGES AND AUTOMATA THEORY	CSE225	Extensions to the basic Turing Machines; Turing Machine and Computers. Church's hypothesis. The classes P and NP; NP-Completeness; Satisfiability and Cook's theorem; Polynomial reduction and some NP-complete problems. These topics are extra compare to AU syllabus.	10
14	Microprocessors - I LAB MICROPROCESSORS - II Lab	CSE 2.2.7 CSE 3.1.8.	MICROPROCESSOR & INTERFACING LAB	CSE226	1. Deletion of Serial Monitors, 2. DLD from MP-I 3. Memory interface from MP-II 4. Removal of Microcontroller programming	30%
15	OPERATING SYSTEMS LAB	CSE 3.1.7	OPERATING SYSTEMS LAB	CSE227	Add 3 new experiments	45
16			HARDWARE LAB	CSE228	Newly Introduced Course	100
			OPEN ELECTIVE I	CSE311		
17			File Systems & Data Bases	CSE311(A)	Newly Introduced Course	100
18			Computer Operating Systems	CSE311(B)	Newly Introduced Course	100
19			Fundamentals of Computer Networks	CSE311(C)	Newly Introduced Course	100
20	OBJECT ORIENTED PROGRAMMING	CSE 2.2.5	Concepts of Object Oriented Programming	CSE311(D)	Unit I: Minor changes, removed Templates, Exception handling, console I/O and File I/O concepts Unit II: No change Unit III: No change Unit IV: No Change Unit V: completely changed. Applets, Event Handling and AWT Controls concepts were introduced in unit 5,	18%
21	DATABASE MANAGEMENT SYSTEMS	CSE 3.2.3	DATABASE MANAGEMENT SYSTEMS	CSE312	Unit 1, chapter 1 Introduction to DBMS: Three Schema architecture of DBMS, Data Models, Database Languages, Client/Server Architecture, Database Administrator and Users (All Topics Added) Unit 1, chapter 2 Entity-Relationship Model: Design Issues (All Topics Added) Unit 2 Relational Model: Structure of Relational Databases, Basics of Relational Model (All Topics Added) Unit 3 SQL: Concept of DDL, DML, DCL, Referential Integrity Constraints, assertions, views, Stored Procedures (All Topics Added) Unit 4, chapter 1 Database Design: Normalization using multivalued dependencies, 4NF, 5NF (All Topics	20%

					<p>Added)Unit 4, chapter 2Security:Access Control, Discretionary Access Control - Grant and Revoke on Views and IntegrityConstraints, Mandatory Access Control. (All Topics Added)Unit 5, chapter 1TransactionManagement:The ACID Properties, (All Topics Added)Unit 5, chapter 2Concurrency Control:2PL,Serializability and Recoverability, LockConversions, Dealing with Deadlocks(All Topics Added)Unit 5, chapter 3Crash Recovery: The Log, Other Recovery-Related Structures, The Write-Ahead LogProtocol, Check pointing. (All Topics Added)</p>	
22	COMPUTER GRAPHICS	CSE 3.1.3	COMPUTER GRAPHICS	CSE313	<p>Unit 3 - Raster Methods for transformation, Hierarchical Modelinwith Structures-GUI and Interactive Input Methods, Windows and Icons- Virtual Reality Environment(Removed)</p> <p>Unit 5 - Visible Surface Detection Methods: Classification of visible-surface detection algorithm, Bach face method, Depth buffer method, Scan line method.(Added)</p>	10%
23	COMPUTER NETWORKS	CSE 3.1.4	COMPUTER NETWORKS	CSE314	<p>Unit-II-Medium Access sub layer: Channel Allocation Problems Static and Dynamic, Multiple Access protocols: ALOHA - CSMA-CSMACD- IEEE Standard803.3 Ethernet ,802.4 Token bus. Unit-III- Routing Algorithms, Congestion controlling Algorithms, Traffic shaping,Tunneling, protocols in network layer,IPV4,IPV6,DHCP. Unit-IV-Transport layer services, Application Layer:</p>	40%
24	DESIGN & ANALYSIS OF ALGORITHMS	CSE 3.2.2	DESIGN & ANALYSIS OF ALGORITHMS	CSE315	<p>Unit 1 - Case Study: Pseudo code Conventions, Time and Space Complexities, Unit 2 - Binary Tree Traversals and Related Properties, Depth-First Search and Breadth-First Search, Topological Sorting, AVL Trees, Unit 5 - Case study for Backtracking: Graph Coloring</p>	15%
25	DBMS LAB	CSE 3.2.8	DATABASE MANAGEMENT SYSTEMS LAB	CSE316	NA	NA
26	COMPUTER NETWORK LAB		COMPUTER NETWORK LAB	CSE317	Newly Introduced Course	100

27			SOFT SKILLS LAB	CSE318		
28			QUANTITATIVE VERBAL APTITUDE I	CSE319		
29	COMPILER DESIGN	CSE 3.2.1	COMPILER DESIGN	CSE321	YACC Tool is added in UNIT-3	4%
30	OBJECT ORIENTED SOFTWARE ENGINEERIN G	CSE 4.1.1	SOFTWARE ENGINEERING	CSE322	UNI-1:RA,DELETED UML UNIT-2: ADD SOFTWARE PROCESS,SRS ,SA UNIT-3: ADD FD,OOD UNIT-4: NC UNIT-5: S/W PROJECT PLANING	50%
31	WEB TECHNOLOGI ES	4.1.6	WEB TECHNOLOGIES	CSE323	UNIT-1 HTML5 UNIT-2 PHP added complete unit UNIT-5 JSON half part of unit added	30%
32	COMPUTER ARCHIECTUR E	CSE 326	COMPUTER ARCHITECTURE	CSE324	Overview of Computer organization, Introduction, classes of computer, defining computer architecture, trends in technology and power, measuring and reporting performance, quantitative principles of computer design. Memory hierarchy design: Introduction, ten advanced optimizations of cache performance, memory technology and optimizations, virtual memory and virtual machines, the design of memory hierarchy, memory hierarchies in Arm Cortex-A8 and Intel Core i7. Instruction-Level Parallelism and its Exploitation: Instruction-level parallelism(ILP) - concepts and challenges, basic compiler techniques for exposing ILP, reducing branch costs, overcoming data hazards and dynamic scheduling, hardware based speculation, exploiting ILP using multiple issue and static scheduling, exploiting ILP using dynamic scheduling, multiple issue and speculation, studies of the limitations of ILP, multi-threading, Intel Corei7 and ARM CORTEX A-8. Introduction, shared-memory architectures, performance of shared-memory multiprocessors, distributed shared-memory and directory-based coherence, synchronization, models	80

					of memory consistency, multicore processors and their performance Introduction, programming models and workloads for warehouse-scale computers, computer architecture, physical infrastructure and costs, A Google warehouse-scale computer.	
			PROFESSIONAL ELECTIVE I	CSE325		
33			Smart Systems Design & Programming	CSE325A	Newly Introduced Course	100
34			High Performance Computing	CSE325B	Newly Introduced Course	100
35	Principles Of Programming Languages	CSE 3.2.5	Principles Of Programming Languages	CSE325C	UNIT-1 deleted impact of machine architecture unit-2: NC unit-3:Nc unit-4 file system added unit-5:Add exception handling	25%
36			Advanced Data Structures	CSE325D	Newly introduced course	100%
37	IMAGE PROCESSING	CSE 3.2.5	Digital Image Processing	CSE325E	UNIT-1:NC UNIT2:NC UNIT-3 DELETED IMAGE ENHANCEMENT UNIT-4 DELETED IMAGE COMPRESSION UNIT 5:NC	20
38			NoSQL DataBases	CSE325F	Newly Introduced Course	100
39			OPEN SOURCE TECHNOLOGIES LAB	CSE326	Newly Introduced Course	100
40	OBJECT ORIENTED SOFTWARE ENGINEERING LAB	CSE 4.1.8	SOFTWARE ENGINEERING LAB/MINI PROJECT LAB	CSE327	ADD MINI PROJECT LAB	50%
41			QUANTITATIVE & VERBAL APTITUDE II	CSE328	New Course	100
			OPEN ELECTIVE II	CSE411		
42			CRYPTOGRAPHY & NETWORK SECURITY	CSE412	UNIT-1: No Change UNIT-2: Cryptography standards like XML, PK UNIT-3: WAP security GSM removed UNIT-4: Kereberos versions added UNIT-5: Firewalls and Intrusion	35

					detection added.	
43			OBJECT ORIENTED ANALYSIS & DESIGN	CSE413	NEWLY ADDED COURSE	80%
44			PROFESSIONAL ELECTIVE II	CSE414		
45			Mobile Computing	CSE414A	Newly added course/ Newly introduced course	100
46			Distributed Operating Systems	CSE414B	<p>Contents that are added in R15</p> <p>Design Requirements for Distributed Architectures, Fundamental Models- Interaction Model, Failure Model, Security Model.</p> <p>Design Issues for RMI, Implementation of RMI, Distributed Garbage Collection</p> <p>Concurrency Control in Distributed Transactions, Transaction Recovery; Replication-Introduction, Passive (Primary) Replication, Active Replication.</p> <p>Contents that are deleted from AU</p> <p>Distributed Shared Memory, Introduction, What is Shared memory?, Consistency models, Page based Distributed Shared memory, Shared – variable Distributed Shared memory, Object based Distributed Shared Memory</p> <p>Lay red Protocols, ATM networks, The Client – server model, Remote</p>	40
47	Neural Network and Fuzzy system(Elective -II)	CSE 4.2.3	Neural Networks & Deep Learning	CSE414C	Newly introduced course	100
48			Human Computer Interaction	CSE414D	Newly added course/ Newly introduced course	100
49			Pattern Recognition	CSE414E	Newly introduced course	100
			PROFESSIONAL ELECTIVE III	CSE415		
50			Computer vision	CSE415A	Newly introduced course	100
51	Embedded System	CSE 4.1.5	Embedded Systems	CSE415B	DMA, UART and PLD	1

52	Data Warehousing and Data Mining	CSE 4.2.3	DATA WAREHOUSING & DATA MINING	CSE415C	No Change	0
53			Machine Learning	CSE415D	Newly introduced course	100
54			Cyber Security	CSE415E	Newly added course/ Newly introduced course	100
55		CSE 416	CRYPTOGRAPHY & NETWORK SECURITY LAB	CSE416	Newly added course/ lab	100
56			INDUSTRIAL TRAINING & SEMINAR	CSE417		
57			PROJECT I	CSE418	Newly Introduced Course	100
			PROFESSIONAL ELECTIVE- IV	CSE421		
58			Client Server Computing	CSE421A	Newly added course/ Newly introduced course	100
59			Augmented Reality	CSE421B	Newly added course/ Newly introduced course	
60			Semantic Web	CSE421C	Newly introduced course	100
61			Big Data Analytics	CSE421D	Newly introduced course	100
62			Information Security & Auditing	CSE421E	Newly introduced course	100%
63			Social Network Analysis	CSE421F	Newly introduced course	100%
64			PROFESSIONAL ELECTIVE – V	CSE422		
65			Network Management	CSE422A	Newly introduced course	100
66			Fuzzy Computing	CSE422B	Newly introduced course	100
67			Wireless Sensor Networks	CSE422C	Newly Introduced course	100
68			Cloud Computing	CSE422D	Newly Introduced course	100
69			Computing Optimization	CSE422E	Newly introduced course	100
70			PROJECT II	CSE423	Newly Introduced course	100
71			MOOC	CSE424	Newly Introduced course	100
Average % change						

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[Signature]
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4th

Minutes of the meeting of the Board of Studies, Dept of ECE (UG) held on 28-04-2018 at 10:30 AM.

Members present:

S. No	Name	Designation	Category	Signature of the member
1.	Dr. V. Rajya Lakshmi	Head, ECE, ANITS	Chairman, BOS, ECE	
2.	Dr. Shankar Prakriya	Professor, IIT, Delhi	Special invitee	
3.	Prof.N.V.S.N.Sharma	Prof., Dept of ECE, NITW	University Nominee	
4.	Prof. P. Ramakrishna Rao,	Advisor, ANITS	Academic council nominee	
5.	Mr.N.Srinivas	Avantel, Visakhapatnam	Industry	
6.	Mr. M. Durga Prasad	JTO, BSNL	Alumni	
7.	Dr.K.MuraliKrishna	Prof., ECE, ANITS	Member	
8.	Dr. K. S. Ranga Rao,	Prof., ECE, ANITS	Member	
9.	Mr. S. Balaramamurthy	Assoc. Prof., ECE, ANITS	Member	
10.	Dr.B.SomaSekhar	Assoc. Prof., ECE, ANITS	Member	
11.	Dr.Praveen Babu Choppala	Assoc. Prof., ECE, ANITS	Member	
12.	Mr. D. Anilprasad	Asst. Prof. ECE, ANITS	Member	
13.	Mr. J. Bhaskara Rao	Asst. Prof. ECE, ANITS	Member	
14.	Mr. A. Lakshminarayana	Asst. Prof. ECE, ANITS	Member	
15.	Mr. Vijaya Kumar Sahu	Asst. Prof. ECE, ANITS	Member	
16.	Mr.N.Srinivasa Naidu	Asst. Prof. ECE, ANITS	Member	
17.	Dr.D.Easwara Chaitanya	Asst. Prof. ECE, ANITS	Member	

18. D. Bhargavi student member

19. N. Sravanti student member

20. U. Bhavana student member



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Minutes of the 4th meeting of the BOS, Department of ECE (UG) held on 28.04.2018 at 10.30 AM in the DSP lab with the following agenda.

1. Review of Autonomous syllabus(4th year semester-I & II)

2. AICTE Model Curriculum

The Committee discussed the various points given in the agenda submitted by the Dr.V.Rajyalakshmi and made the following recommendations/suggestions.

The chairperson, Dr.V.Rajya Lakshmi, HOD, dept of ECE, ANITS welcomed all the BOS members present in the meeting and appraised the members about the department through power point presentation. During the presentation, the agenda has been discussed by the members in detail.

1. a) Prof. NVSN Sharma suggested the text book William Stallings, "Data and Computer Communication" to be made as prescribed text book instead of reference book in the course ECE 412 (Computer Network Engineering).

Mr. DurgaPrasad, JTO, BSNL suggested to introduce contents related to network administration and accommodate the topics such as MPLS in the course if possible.

b) Prof. NVSN Sharma suggested to include hardware related experiments with respect to Software Defined Radio (which are KITS based experiment) for both Communication Laboratory and DSP Laboratory. He suggested to advise the students to do experiments in Matlab before they do experiments using Kits.

c) Prof. NVSN Sharma suggest to revise UNIT-IV and UNIT-V in the course ECE 414(a) (Advanced Digital Signal Processing) and introduce signal Processing Algorithms and Processors. Prof. Shankar Prakriya expressed that concepts of Filters is missing in UNIT-II of the course. He suggested to replace the text book S. M .Kay, "Modern Spectral Estimation" as prescribed text book instead of reference book in the course and to remove the text book authored by Salivahanan.

d) Prof. NVSN Sharma suggested to change the title of the course ECE 414(c) "Digital IC Design through verilog" as Digital IC Design using HDL. He suggested to ensure that only two text books were prescribed for each course to the maximum extent possible.

e) Prof. NVSN Sharma & Prof. Shankar Prakriya advised to introduce video processing in UNIT-V of the course ECE 414(d) (Digital Image Processing). They also suggested to include compression standard in the course.

f) Prof. V.Rajya Lakshmi informed the members that Elective lab is introduced for the first time to facilitate the students necessary background with respect to modern simulation tools which will help them in improving their performance in doing their project work. She said that Elective lab consists of four(4) labs such as VLSI Design Laboratory, Signal & Image Processing Laboratory, Virtual Instrumentation Laboratory and Antenna Design Laboratory. Prof. NVSN Sharma suggested to replace the title of course ECE 416(a) "VLSI Design Lab" to "VLSI Lab" as the list of experiments does not relate to design.

Prof. NVSN Sharma suggested to buy at least 15 No's of Signal Processing Kits and advised to introduce experiments based on Software Defined Radio in the course ECE 416(b) "Signal and Image Processing Lab". He added that the same kits can be used to perform all the experiment related to Communication Laboratory and DSP Laboratory also.

Prof. Shankar Prakriya asked about the advantage of the elective lab ECE 416(c) "Virtual Instrumentation Lab". Mr. R. Ravikumar explained the importance of it.

Prof. NVSN Sharma suggested to include a one demo type of Virtual Lab collaboration with IIT's. Prof. NVSN Sharma suggested to procure ADS simulation software for the elective lab ECE 416(d) "Antenna Design Lab"

g) Prof. NVSN Sharma suggested to accommodate experiments related to the course ECE 421 (Cellular and Mobile Communication) in any of the laboratories. He also advised to remove the topics such as Integrating GEO, LEO, MEO satellite and terrestrial mobile systems from UNIT-V and to introduce the basics of OFDM.

h) Prof. NVSN Sharma recommended to purchase the network analyzer and suggested to buy mixed domain oscilloscope which gives digital as well as analog signals. He also suggested to buy Microstrip component to be used in the course ECE 424 Microwave Engineering Laboratory. Also said WDM demo kit should also be purchased for the department.

i) Prof. NVSN Sharma expressed the syllabus of the course ECE 422(a) Phased Array Systems is heavy for UG level and advised to modify the syllabus and make it as simple as possible. He suggested the text book Peter J. Kahrilas, " Electronics Scanning Radar Systems Design Handbook" to be made as prescribed text book instead of reference book.

While text book R.C.Hansen, "Phased Array Antennas" should be made as reference text book.

j) Prof. NVSN Sharma suggested to include defibrillators, pulse oximeters in the course ECE 422(c) and to remove smart sensors from UNIT-II. He also suggested to interchange the ordering of the text books.

k) Prof. NVSN Sharma suggested to replace the text book Qing Li, Caroline Yao, Real-Time Concepts for Embedded Systems as reference text book instead of prescribed text book in the course and to remove the text book authored by Raj Kamal

l) Prof. NVSN Sharma suggested text book by K. Raja Rao which includes numerous problems. He also suggested to include Satellite phone as topic in the last UNIT-V of the course and advised to reduce GPS. Prof. Shankar Prakriya has suggested to introduce the

INRSS which is better than GPS

m) Prof. NVSN Sharma suggested to include text book by Md. Jhao and juih as the 1st text book of the course ECE 423(c). He also suggested to modify the content of the course as it

is too heavy for the students at UG level and to introduce the concepts like C. Tiny OS, Lite OS, Synchronization, TDOA, energy management and concepts like Leech.

n) Prof. NVSN Sharma suggested to change title of the course ECE 423(d) Principles of Software Defined Radio as "Cognitive Radio" or as "Software Defined Radio". He advised to introduce the concepts like white spaces, Black spaces, Cognitive Radio and suggested the text book Paul Burns, "Software Defined Radio for 3G" to be made a prescribed text book instead of reference book in the course ECE 423(d)(Principles of Software Defined Radio).

o) Prof. NVSN Sharma suggested to follow some guidelines, standards in choosing MOOCS course by the students. He suggested to follow some pre-screening process before a student can opt for the course.

2. Prof. NVSN Sharma & Prof. Shankar Prakriya provided their remarks and suggestions. AICTE Model Curriculum which are as follow:

a) To introduce a course on Basics of Measurements and Instrumentation as an optional elective which is generic such that there would be more scope for the students to opt.

b) To change the title of the course "Wavelets" as Transform Techniques which would enhance the scope of discussing various transform techniques.

- c) To change the title of the course "Error correcting codes" as Coding Theory
- d) To reduce the credits that are being awarded to Project Stage -I
- e) To replace the elective course MEMS (course offered by Mechanical) with "W Technology" or "APP Development" offered by CSE such that all electives are from C department.
- f) To change the title of the courses related to Digital Signal Processing Laboratory as Signal Processing Laboratory and Microwave Laboratory as Microwave Engineering Laboratory
- g) To include text book by Annapurna Das & Sisir K Das in the course Microwave Engineering
- h) Skill development course should be conducted by faculty of the respective department on technical aspect of various subjects which will enhance the technical skills of the students and help them in facing the technical interview during the Campus Placement Selections.
- i) Prof. NVSN Sharma suggested to change the course code of the courses taught by other department with their domain. Prof. V. Rajya Lakshmi, HOD, ECE, clarified that it is common practice being followed within the Institute.
- j) Prof. Shankar Prakriya enquired about the coverage of gate syllabus in the new ANITS model curriculum by the 3rd Year 2nd Sem.
- k) To change the titles of course Antenna & Wave Propagation as Antennas & Propagations and Simulation Laboratory as Electronic Design and Automation Laboratory
- l) The concepts of Probability in this particular course PTRP should be taught by faculty from Dept. of Mathematics for their Strong foundation in the subject.
- m) To take the statistical data about the Alumni (regarding their area of the work) and the feed back in preparing the syllabus as per the industry needs

The chairperson thanked all the members for their active participation and valuable suggestions.

Mr. S. Balaramamurthy, proposed the vote of thanks.

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 Principal
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[Signature]
 Dr. V. Rajya Lakshmi
 Chairperson
 Head of Department
 Department of ECE
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2018-2019



ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
 (Permanently Affiliated to Andhra University, Approved by AICTE)
 Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
 Accredited by NBA

Minutes of the meeting of the Board of Studies, Department of EEE (UG)
held on 28th April 2018 at 10.30 AM.
(Under Autonomous System)

MEMBERS PRESENT:

S. No.	Name	Designation	Category	Signature of the members
1	Dr. Guntu Raja Rao	Head, EEE, ANITS	Chairman, BOS	
2	Prof. R. Govardhana Rao	Professor, EEE, ANITS	Member	
3	Mr. V. Murali	Assoc. Prof., EEE, ANITS	Member	
4	Mr. S. Balamurali	Assoc. Prof., EEE, ANITS	Member	
5	Dr. J. Vijaya Kumar	Assoc. Prof., EEE, ANITS	Member	
6	Mrs. K.V.R. Swathi	Asst. Prof., EEE, ANITS	Member	
7	Mr. Kavala Kiran Kumar	Asst. Prof., EEE, ANITS	Member	
8	Mr. B. Rajasekhar	Asst. Prof., EEE, ANITS	Member	
9	Mr. R. Satish	Asst. Prof., EEE, ANITS	Member	
10	Mr. Ch.V.N. Raja	Asst. Prof., EEE, ANITS	Member	
11	Mr. M. Sudheer Kumar	Asst. Prof., EEE, ANITS	Member	
12	Mr. L. Dinesh	Asst. Prof., EEE, ANITS	Member	
13	Mr. L. Vijay	Asst. Prof., EEE, ANITS	Member	
14	Prof. B.M. Mohan	Professor, IIT- Kharagpur	Academic Council Nominee	
15	Prof. Debapriya Das	Professor, IIT- Kharagpur	Academic Council Nominee	
16	Prof. G.V. Siva Krishna Rao	Professor, Andhra University	University Nominee	
17	Sri B. Srinivasa Reddy	AGM (Electrical), RINL, Visakhapatnam.	Industry	
18	Sri P. Santosh Kumar	Manager, L&T, Chennai.	Alumni	
19	Sri K. Anil Kumar	Asst. Manager (Electrical), RINL, VSP.	Special Invitee	



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
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**Minutes of the Board of Studies (BOS of EEE) meeting held on
28th April 2018 (Monday) at 10.30 AM.**

MEMBERS PRESENT:

1. Prof. R. Govardhana Rao, Professor, ANITS.
2. Prof. B.M. Mohan, Professor, Dept. of Electrical Engg., IIT Kharagpur.
3. Prof. Debapriya Das, Professor, Dept. of Electrical Engg., IIT Kharagpur.
4. Prof. G.V. Siva Krishna Rao, Professor, Andhra University.
5. Sri B. Srinivasa Reddy, Asst. General Manager (Electrical), RINL, VSP.
6. Sri P. Santosh Kumar, Manager, L&T, Chennai.
7. Sri K. Anil Kumar, Asst. Manager (Electrical), RINL, VSP.
8. Mr. V. Murali, Assoc. Prof., ANITS.
9. Mr. S. Balamurali, Assoc. Prof., ANITS.
10. Mr. J. Vijaya Kumar, Assoc. Prof., ANITS.
11. Mrs. K.V.R. Swathi, Asst. Prof., ANITS.
12. Mr. Kavala Kiran Kumar, Asst. Prof., ANITS.
13. Mr. B. Rajasekhar, Asst. Prof., ANITS.
14. Mr. R. Satish, Asst. Prof., ANITS.
15. Mr. Ch.V.N. Raja, Asst. Prof., ANITS.
16. Mr. M. Sudheer Kumar, Asst. Prof., ANITS.
17. Mr. L. Dinesh, Asst. Prof., ANITS.
18. Mr. L. Vijay, Asst. Prof., ANITS.
19. Prof. G. Raja Rao (Chair person), Professor & HOD of EEE, ANITS.

* * *

1. The Chair person welcomed all the BOS members of the department and thanked the members for the support they have rendered to the department.
2. The Committee has mainly discussed on two points. One on finalization of fourth year first & second semesters courses under Autonomous Scheme. Second one on finalization of four years scheme and first year syllabus under new AICTE structure.
3. The board discussed on the topics / units mentioned in all courses of the IV/IV Semester-I & II. The external members were mostly satisfied with the topics proposed for various courses and suggested some additional text / reference books for some courses. They suggested to change the name of EEE 423 course from Energy Control & Management to **Energy Management & Control**.
4. Mr. B. Srinivasa Reddy and Mr. P. Santosh Kumar have suggested to offer a course on 'Project Management' for all final years of all branches as a mandatory course or as an open elective.

5. Prof. B.M. Mohan has suggested to include some experiments on transducers either in control systems lab or in measurements lab.
6. Regarding the AICTE new scheme the committee discussed on the overall four year scheme and first year courses in particular. Under this, the committee discussed on the syllabus framed in BEE for all branch students in their first year. It is resolved not to include electronics chapter in BEE as it gets diluted.
7. In this regard, Prof. Debapriya Das has suggested to remove three phase circuits for the Unit-II on A.C. Circuits.
8. Prof. B.M. Mohan has suggested to include 'Electrical Instrumentation' as one of the courses in PE-I with a brief introduction on Transducers, Sensors, Signal Conditioning, Encoders & Decoders, etc.

Date: 01-05-2018

Principal
Principal
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.

C/s to: 1. The Principal

HOD of EEE

S. Raja Rao
Dr. G. RAJA RAO

Dr. G. RAJA RAO
Professor & HOD of EEE,
ELECTRICAL & ELECTRONICS ENGG.,
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R. Srinath
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DEPARTMENT OF INFORMATION TECHNOLOGY

2nd BOS MEETING TO BE HELD ON 28-04-2018.

BOS Meeting Agenda:-

1. 4th Year syllabus finalization.
2. Open Electives.
3. Professional Electives.
4. Scheme for 2018 admitted batch.
5. Any other item with the permission of the chair.

Members to be present:

Sl No	Name	Designation	Signature
1	Prof. Suresh Chittineni	Chairman, BOS, IT. HoD, IT, ANITS	
2	Prof. Kasukurthi Venkata Rao	Professor, Department of CS&SE, A.U. College of Engineering (A).	
3	Prof. S Krishna Rao	Professor & HoD of IT, CRR College of Engineering.	
4	Mr. Varadha Sri Harsha	Technical Lead, IBM, Visakhapatnam.	—
5	Dr. G. Srinivas	Assoc. Prof., IT, ANITS.	
6	Mr. Ch. Demudu. Naidu	Sr. Asst. Prof., IT, ANITS.	—
7	Mrs. B. Meena	Asst. Prof., IT, ANITS.	
8	Mrs. I S L Sarwani	Asst. Prof., IT, ANITS.	
9	Mrs. N. Sharada	Asst. Prof., IT, ANITS.	—

SI No	Name	Designation	Signature
6	Mr. Ch. Demudu. Naidu	Sr. Asst. Prof., IT, ANITS.	
7	Mrs. B. Meena	Asst. Prof., IT, ANITS.	<i>Non</i>
8	Mrs. I S L Sarwani	Asst. Prof., IT, ANITS.	<i>[Signature]</i>
9	Mrs. N. Sharada	Asst. Prof., IT, ANITS.	<i>[Signature]</i>
10	Mr. Pandit Samuel	Asst. Prof., IT, ANITS.	
11	Mr. N. Aditya Sundar	Asst. Prof., IT, ANITS.	<i>[Signature]</i>
12	Mr. M. V. Kishore	Asst. Prof., IT, ANITS.	<i>[Signature]</i>
13	Mr. V. Sairam	Asst. Prof., IT, ANITS.	<i>[Signature]</i>

Discussions:

Dr.G.Srinivas , Associate Professor and I/C HoD welcomed all the members for the second BOS B.Tech-IT. He also informed the house, the absents of other members due to some unavoidable circumstances.

Mrs. B. Meena, Assistant Professor presented the syllabus for IV/IV B. Tech IT and proposed curriculum for 2018 batch

Members deliberated on the design of the curriculum for 2018 batch based on resolutions taken on the Joint Board of Studies of all departments and final year syllabus for 2015 batch.

Following are the resolutions are taken after a rigorous discussion among the members.

MODIFICATIONS FROM BOS FOR NEW CURRICULUM:

B.Tech IT

- The members suggested offering "Object Oriented Programming through C++" in place of Analog Electronic circuits course and lab respectively which is required for IT students in II/IV – SEM 1 for 2018 batch
- The members suggested offering Computer Graphics & Multimedia and Computer Graphics & Multimedia lab in place of the course Design Analysis & Algorithms and lab respectively in II/IV – SEM 2, Python Programming Lab is replaced with Computer Organization & Architecture lab.

III/IV B.Tech IT

- The members suggested offering Design & Analysis of Algorithms in place of Signals & Systems in III/IV – SEM 1.
- The course Object Oriented Programming to be offered with Java
- The members suggested offering Web Technologies lab in place of the course Compiler Design lab in III/IV – SEM 2 and syllabus framed

Suggestions from BOS for IV/IV B.Tech :

- The members suggested to combine the experiments and make it feasible for 12 weeks to 16 weeks in Data Analytics Lab and Network Security lab .
- The professional Elective –II – Software Project Management to be swapped with Professional Elective –IV – Cognitive Computing.

Resolution:

With the above **modifications and suggestions** the curriculum of new batch (2018) and syllabus for IV/IV B.Tech IT is approved by BOS.

The BOS members approved the list of panel members for paper setting and advised to add more names to the list in future.

Dr.G.Srinivas Associate Professor and I/C HoD, IT thanked all the external members and internal members for their valuable time and suggestions.


Chairman, BOS, IT.
HoD, IT, ANITS



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DEPARTMENT OF INFORMATION TECHNOLOGY

% Change in course content of R-19(Autonomous) regulation compared to R-15 (Autonomous) regulation

Sl.No	Course Code	Name of the Course	Remarks	% of syllabus content added / replaced	Number of courses with change in syllabus >=20%/new courses added
1	IT111	Engineering Mathematics - I	Unit-I minor changes(removed),Unit-II,III removed and Two new Units are added	30%	1
2	IT112	Communicative English	Text reading comprehension changed for all the Units	20%	1
3	IT113	Basic Electronics Engineering	around 70% of syllabus is changed	70%	1
4	IT114	Fundamentals of information technology	NEW course	100%	1
5	IT115	Problem solving with C	new course	100%	1
6	IT116	English Language Lab	Major changes Unit II and Unit IV are included to develop analytical skills and listening skills	30%	1
7	IT117	Problem solving with C - lab.	all problems are modified	100%	1
8	IT118	Environmental Science (Mandatory non-credit course)	Focused on activity based learning on environmental issues	20%	1
9	IT121	Engineering Mathematics - II	Unit-I,II removed and Two new Units are added	30%	1
10	IT122	Engineering Physics	no change	0%	0
11	IT123	Engineering Chemistry	Introduced advanced topics such as photo galvanic cells, characterization of nano materials by SEM, TEM and smart polymers	20%	1
12	IT124	Digital logic design	SMALL CHANGE	20%	1
13	IT125	Engineering Drawing	Auto Cad part is shifted to AED syllabus.	5%	0
14	IT126	Engineering Physics Lab.	around 20% of syllabus is changed	20%	1
15	IT127	Engineering Chemistry Lab.	New experiments such as estimation of iron is and strength of lead acid battery were introduced	10%	0
16	IT128	Engineering Workshop	Soldering experiments were added.	20%	1
17	IT129	Human Values and Professional Ethics(Mandatory non-credit course)	new course	100%	1
Number of courses having >=20% change in syllabus					18/235
Total number of subjects of R-19					235
% OF SUBJECTS HAVING >=20% CHANGE IN SYLLABUS					7.66%

R. Subrah

Convener, IQAC

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Visakhapatnam Dist.

Principal

Anil Neerukonda Institute of Technology & Sciences
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CDR-M. Rekha Sundari



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Minutes of the meeting of the **Board of Studies, Dept. of mechanical Engineering**
(UG & PG) held on **28th April 2018** at 10:00AM

S.No	Name	Designation	Category	Signature
1	PROF. D. RAVI KUMAR	Prof., Dept. of Mech. Engg, IIT-Delhi	Academic Council Nominee	
2	PROF. CH. RATNAM	Prof. & HOD, Dept. of Mech. Engg. AUCE(A).	Academic Council Nominee	
3	PROF. N. RAMANAIAH	Professor, Dept. of Mech. Engg., AUCE(A). Vishakapatnam.	University Nominee	
4	Dr. A. SHYAM SUNDAR	Dy. General Manger, R&D, RINL, Vishakapatnam.	Industry Nominee	
5	VENKATA POORNESH	Sr. Engineer, BHEL, Visakhapatnam	Almini Member	
6	PROF. T.V. HANUMANTHA RAO	Principal, ANITS & Professor of Mechanical Engineering	Honorary Member	
7	PROF. D. PRASADA RAO	Prof., Dept. of Mech. Engg., Dean and Controller of Examination, ANITS	Honorary Member	 28/4/18
8	PROF. N. INDRAKIRAN	Prof., Dept. of Mech. Engg. ANITS	Member	 28/4/18
9	R. CHANDRAMOULI	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	 25/4/18
10	Dr. K. SIVA PRASAD	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	
11	Dr. RAJESH GHOSH	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	
12	G. UMAMAHESWARA RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
13	M. RAJA ROY	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
14	M.S.S. SRINIVAS RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
15	J.V. BHANU TEJ	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
16	M. PREM DHEERAJ	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
17	BASA NAGARAJU	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
18	PROF. B. NAGARAJU	HOD, Dept. of Mech. Engg., ANITS	Chairman- Board of Studies (Mechanical)	



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MECHANICAL ENGINEERING DEPARTMENT

Minutes of Board of studies meeting held on 28-04-2018

Agenda: Review and ratification of Final year syllabus under autonomous scheme.

The members of board of studies met on this day in metrology lab. Mechanical engineering department. ANITS to review the syllabus and suggest suitable modifications wherever necessary for ratification. At the outset, the chairman of BOS Prof. B. Nagaraju, welcomed the gathering and initiated the process. The review of the syllabus was taken up as **an immediate agenda** and was done semester wise. The following observations were made by the members:

1. It was suggested by Prof. D. Ravi Kumar that the minimum number of tutorial classes should be one for every unit.
2. The following comments were made regarding the theory subject **"Product Design and Manufacturing"**:
 - 2.1 **The criteria for material selection should be included in the first unit before studying about product design.**
 - 2.2 **The unit II which is concerned with "Failure theories" seems to be highly fundamental in nature and should be modified.**
 - 2.3 **The Units III, IV & V are not framed properly and have to be elaborated by including sub topics.**
3. **It was observed by the experts that the syllabus of "Finite Element Analysis" needs to be reviewed to remove such topics which are advanced for UG course.**
4. The syllabus of CNCM&CAM requires minor modifications as suggested by the expert team which are elaborated below.
 - 4.1 The contents of Unit-I have to be reduced.
 - 4.2 A topic on **Automatic part programming** to be included in Unit-II.
 - 4.3 Some of the sub topics in unit-V are abbreviated, which have to be elaborated.
5. It is suggested by Dr. Ravi Kumar that since Nano-Technology is being offered by the physics department as an open elective, it is need less to offer the same course as

professional elective by the department. It may be replaced by a suitable contemporary course when the course structure comes for review.

6. It was felt by the members to remove the topic PLC and its applications from the syllabus of **Instrumentation & control systems.**

The chairman thanked the members of the board for their valuable suggestions, which will be given due consideration in modifying the syllabus. The 4th year Mechanical Engineering syllabus with these modifications included was finally ratified.

CC to: 1) Principal
2) Dean of examinations

} for the kind information

28.4.18
(HOD, Mechanical)
Dr. B. Naga Raju
M.Tech, M.E., Ph. d
Professor & HOD
Dept. of Mechanical Engineering
ANITS, Sangivalasa,
Visakhapatnam-531 162.

R. Subbaraj
Convener, IQAC
Anil Neerukonda Institute of
Technology & Sciences
Sangivalasa-531 162
Visakhapatnam Dist.

Principal
Anil Neerukonda Institute of
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Department of Mechanical Engineering

List of new courses introduced in the Board of Studies (BoS) meeting held on 28-04-2018 for the academic year 2018-19

S. No	Name of the Course	Course Code	Year & Semester
1.	Product Design and Manufacturing	MEC 415(B)	IV/IV, Sem -1
2.	Entrepreneurship Development	MEC 416 (D)	IV/IV, Sem -1
3.	Nano Technology	MEC 416 (E)	IV/IV, Sem- 1
4.	Project Phase-I	MEC 420	IV/IV, Sem -1
5.	Condition Monitoring	MEC 422(B)	IV/IV, Sem -2
6.	MOOCS	MEC 424	IV/IV, Sem -2

Charan
(Ch. Raman)

N. Ramanaiah
(Prof. N. Ramanaiah)

G. Venkatesh
28/4/2018

R. S.
28/4/18

K. Venkata Poorush
(Kalla Venkata Poorush)

28-4-18
Prof. B. NagaRaju,
Chairman BOS,
Mech. Engg. Dept.

PROFESSOR & HEAD
Department of Mechanical Engineering
ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
Sangivalasa-531 162 VISAKHAPATNAM Dist A.P.

Board of Studies (BOS)

AY 2017-18

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ANITS

DEPARTMENT OF CHEMICAL ENGINEERING

Minutes of the meeting of the Board of Studies, Department of **Chemical engineering** (UG) held on 25th March, 2017 at 10.30 AM.

Members present:

- | | |
|----------------------------|-------------------------------------|
| 1. Prof. S. Subba Rao | Chairman, BOS, Chemical Engineering |
| 2. Prof. G. Hanumantha Rao | Member |
| 3. Dr. Ch. Anil | Member |
| 4. Dr. M. Shiva Naresh | Member |
| 5. Prof. P.S.T. Sai | Member, Academic council nominee |
| 6. Prof. S.V. Naidu | Member, Andhra University nominee |
| 7. Dr. A. Srinivasa Kumar | Member, Industry/Research |

Resolutions:

1. As per the decision taken in the combined Board of Studies, it is resolved to go with other branches of engineering with the changes suggested by the experts in the subjects CHE 319 and CHE 329 Quantitative and Verbal Aptitude I and II respectively.
2. Syllabi for III/IV B.Tech. Chemical Engineering I and II semesters including Open Electives were discussed and the experts felt satisfactory about the content.
3. The experts suggested to earmark the periods separately as Lectures (L) and Tutorials (T) instead of total periods in the syllabi.
4. The committee felt that the title of the course CHE 328 Chemical Technology and Pollution control Laboratory be changed to "Chemical Technology Laboratory". Similarly the title of the professional elective CHE 316 (E) Technology of Soaps and Detergents be changed to "Soap and Detergent Technology" in line with the titles of other technologies in the list of electives.
5. The committee felt that the case studies in all the units of the subject CHE321 Mass Transfer-II, may be grouped together and mentioned at the end of the syllabus which should be dealt for internal assessment only.

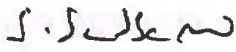
6. Prof P.S.T. Sai suggested to delete the reference of reading material prepared for AU School of Distance Education for the subject CHE323 Material Science and Engineering.


7. Prof S. V. Naidu suggested to include the text book authored by Dr. B. Viswanadthan for Open Elective-I : CHE 311(C) Fuel Cell Technology.

8. Dr. A. Srinivas Kumar suggested to include some more topics in *electric safety* in Open Elective-I: CHE 311(A) Industrial Safety and Hazard Management.

9. The committee felt that the book Shreve's, *Chemical Process Industries*, be included as reference instead of prescribed text book for the subject CHE 324 Chemical Technology.

10. The committee felt that **Open Elective-I: CHE 311(D) Design of Experiments** be excluded as it is too advanced for B.Tech. students. In this context, Prof G. Hanumantha Rao suggested to explore the possibility of offering the courses like **"Applied Statistics for Engineers and Environmental Biotechnology"** as Open Electives.


(Prof. S. Subba Rao)
Chairman, BOS


Convener, IQAC
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Principal
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DEPARTMENT OF CIVIL ENGINEERING

Minutes of Board of Studies Meeting held on 25-03-2017
Autonomous Regulations (2015)

Date : March 25, 2017
Time : 10:30 AM
Venue : Civil Engineering Department, ANITS

Agenda:

1. Draft syllabus for III Year I semester and II semester B.Tech (Civil Engineering)
2. List of Electives for III/IV and IV/IV B.Tech
3. Paper setters for III Year I semester and II semester B.Tech (Civil Engineering)
4. Innovative Teaching and Evaluative Techniques
5. Any other item with the permission of the chair

Members Present:

1. Dr. B.V.S.Viswanadham, Professor of Civil Engg., IIT Mumbai *BVS Viswanadham 25/3/17*
2. Dr.T.V.Praveen, Professor, Civil, Andhra University
3. Dr. G.Appa Rao, Professor of Civil Engg., IIT Chennai *G Appa Rao 25/3/17*
4. Sri.R.Nageswara Rao, Superintending Engineer, Visakhapatnam *R Nageswara Rao 25/03/17*
5. Prof. A.Rama Mohana Rao, Professor of Civil Engg. *A Rama Mohana Rao*
6. Sri.J.Vikranth, Associate Professor of Civil Engg. *J Vikranth*
7. Sri T.V.V.Teja, Assistant Professor of Civil Engg. *T.V.V Teja*
8. Sri.T.Kiran kumar, Assistant Professor of Civil Engg. *T.Kiran kumar 25/03/17*
9. Ms.P.V.R.Sravya, Assistant Professor of Civil Engg. *P.V.R Sravya 25/3*
10. Dr.B.N.D.Narasinga Rao, Professor and HoD, Dept. of Civil Engg. (In Chair) *B.N.D. Narasinga Rao*

Minutes:

1. Considered the detailed syllabus for III Year I semester and II semester B.Tech Civil Engineering for discussion and approved the same.
2. Considered the List of Electives, including Open Electives, for III/IV and IV/IV B.Tech Civil Engineering along with detailed syllabus for discussion and approved the same.
3. List of paper setters for III Year B.Tech Civil Engineering is considered and approved. The Board, however, has authorized the Head of Department, Civil Engineering, ANITS to add or modify the list wherever necessary.
4. Discussed the innovative Teaching and Evaluation Techniques.

B.N.D. Narasinga Rao
(Dr. B.N.D.Narasinga Rao)
Chairman - Board of Studies
Civil Engineering - ANITS

5. Members suggested to increase the weekly load to 4 + 1 for the subject Fluid Mechanics - II in III Year - I Semester and also to increase the credits to 4 from 3 in view of the quantum of syllabus involved. It is proposed to maintain the total credits for the program constant by decreasing the credits for Project Work - I (IV Year - I Semester) from 4 to 3.
6. Considered the Course structure and detailed syllabus for M.Tech. (Soil Mechanics), which is proposed to be introduced w.e.f. 2017-18, and approved the same after discussion

[Handwritten Signature]

(Dr. B. N. D. Narasinga Rao)
Chairman - Board of Studies
Civil Engineering - ANITS
Head of the Department
Department of Civil Engineering
Anil Neerukonda Institute of Technology and Sciences
Sangivalasa, Bheemunipatnam
Visakhapatnam - 531162

R. Sivakumar
Convener, IQAC
Anil Neerukonda Institute of
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Sangivalasa-531 162
Visakhapatnam Dist.

[Handwritten Signature]
Principal
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Minutes of the meeting of the Board of Studies Dept. of CSE(UG&PG) held on 25.03.2017

Members Present:

Dept. Of CSE

S. No	Name	Designation	Category	Signature of the member
1	Dr. R.Sivaranjani	HoD&Professor, CSE, ANITS	Chairman, BOS, CSE	
2	Dr. K.VSVN Raju	Professor, CSE, ANITS	Member	
3	Dr. Tusarkanti Mishra	Assoc. Prof., CSE, ANITS	Member	
4	Mr. S. Ratan Kumar	Assoc. Prof., CSE, ANITS	Member	
5	Mr. Ch. Seshadri Rao	Asst. Prof., CSE, ANITS	Member	
6	Mrs. Priyee Parwekar	Asst. Prof., CSE, ANITS	Member	
7	Mr. B. Ravi kiran	Asst. Prof., CSE, ANITS	Member	
8	Mr. K. Suresh.	Asst. Prof., CSE, ANITS	Member	
9	Mrs. Keerthi Lingam	Asst. Prof., CSE, ANITS	Member	
10	Mr. G. Jagadish	Asst. Prof., CSE, ANITS	Member	
11	Dr. D. Majhi	Professor, CSE, NIT, Rourkela	Academic Council Nominee	Board
12	Dr. Rajib Mall	Professor, CSE, IIT Khargpur	Academic Council Nominee	
13	Dr. D. Lalitha Bhaskari	Professor, CSE, AUCE(W)	University Nominee	
14	Dr. C. Srinagesh	Manager, Campus Connect, Infosys Technologies, Hyd	Industry	
15	Mr. T. Shyam Vamsi	IBM, Chennai	Alumni	
16	Sri. K. Lakshminarayana	Former Regional Offices, AICTE	Special Invitee	
17	Sri. K.V.S.S Rajeswara Rao	General Manager, IT, Vizag Steel Plant	Special Invitee	

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Minutes of Board of Studies Meeting

Department of CSE

Minutes of the Meeting:

Subject	:	Board of Studies-Bachelor of Technology (CSE)
Venue	:	LAB 2, Dept. of CSE
Date	:	25-3-2016
Agenda	:	III/ IV B. Tech Syllabus & Contents. IV/IV Sem-I Open Electives

The following members were present in the Meeting:

- Prof. (Dr.) R Sivaranjani- Chairperson-Board of Studies- CSE-ANITS.
- Prof. K.V.S.V.N.Raju- Member- CSE-ANITS.
- Prof. D. Lalitha Bhaskari- Professor-University Nominee-Dept. of CS&SE-AUCOEW
- Dr. Tusar Kanti Mishra - Member - CSE-ANITS.
- Mr. S. Ratan Kumar-Member- CSE-ANITS.
- Mr. Ch. SeshadriRao-Member- CSE-ANITS
- Mrs. PriteeParwekar-Member- CSE-ANITS.
- Mr:B.Ravi Kiran- Member- CSE-ANITS.
- Mrs. Keerthi Lingam -Member- CSE-ANITS.
- Mr.G.Jagadish- Member- CSE-ANITS.
- Dr. S. Lakshminarayana- Special Invitee-Principal Scientist-CSIR-NIO, Vizag.
- Sri KVSS RajeswaraRao-Special Invitee- GM-IT-Vizag Steel Plant, VSP.
- Mr.T.Shyam Vamsi –IBM, Chennai – Alumni
- Dr. B. Majhi-Professor-Academic Council Nominee-Dept. of CSE-NIT Rourkela.

Apologies:

- Dr. C. Sri Nagesh-Industry-Manager- Campus Connect-Infosys Technologies, Hyd.
- Dr. Rajib Mall- Professor-Academic Council Nominee-Dept. of CSE-IIT Kharagpur.
- Mr.K.Suresh- Member- CSE-ANITS.

Chairman BOS officially welcomed all the members for the BOS B. Tech-CSE, B. Tech. He also informed the house, the absents of other members due to some unavoidable circumstances.

Mr. S. Ratan Kumar, Assoc. Prof., Dept. of CSE presented the draft curriculum and syllabus for III/ IV B. Tech CSE. Members deliberated on the design of the curriculum for the third year based on resolutions taken on the joint board of studies of all departments. Following the resolutions are taken after a rigorous discussion, debate among the members.

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VISION & MISSION

ANITS and CSE department vision and mission statements are presented to the committee for their feedback.

- In the college vision instead of "ANITS envisions to emerge" it can be stated as "To emerge" as it is being stated as vision in heading so it will be duplication.
- In the department vision instead of changing Computer Science technology it can be stated as challenges of CST.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

Committee has suggested to change the order of the PEO's which is as follows:

- Lifelong
- Entrepreneur
- Higher Studies
- Employability

PROGRAM OUTCOMES (PO)

The PO's are presented for the feedback and they suggested to include Research word in them.

PROGRAM SPECIFIC OUTCOMES

No suggestions given by the committee.

SUMMARY OF BTECH COURSE

- The overall summary of the B.Tech course is presented for feedback. Committee enquired about the process of final year projects. 90% of projects are handled by the faculty and rest 10% outside (internships).
- Comparison of CSE curriculum with NIT Warangal , NIT Rourkela etc are displayed
- Committee suggested to include summer course same as BITS Pilani.
- Project Part I, Project Part B can be changed to Project I, Project II.

3/ 4 SEM- I SYLLABUS

3/4 B.tech Sem-1 syllabus is presented for suggestions.
Departmental electives must be named as Professional Electives.

Data Communications

- Data Communications title should be changed to Data Communication if possible.

Computer Operating Systems

- Title to be changed to Operating Systems instead of Computer Operating Systems if possible.

II

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DBMS (Open Elective)

- As DBMS in regular and open elective syllabus are different then the title should be different like DBMS and File Systems
- This elective is for non-cse branch students so the syllabus can be kept simple. Objective is to get the knowledge of the subject. Functional dependency can be included and other details of transactions can be removed.

Computer Operating Systems (Open Elective)

- Suggestions were given not to keep the references of youtube links.
- Go for online courses as a reference.
- Instead of windows XP specify as windows OS scheduling.
- Give students assignment as case study to know the current operating systems.

OOP (Open Elective)

- Syllabus is very heavy for non-cse branch students.
- Suggestion was given to divide the subject in two parts.

CG (Open Elective)

- Suggestions were given to add Books of Indian authors i.e Zhigang Xiang, Roy A.Plastock, "Computer graphics", schaum's outline series, adapter by P.S.Avadhani, The McGrawHill companies.

Design and Analysis of Algorithms

- Syllabus should not be same for core and open electives.
- Can give this subject as open elective- as algorithm analysis as it is very important subject for other branches to understand. It forms the base of engineering subject.

CN Lab

- Instead of writing software – suggestion was given to write simulator or open source tools.

3/4 SEM-II SYLLABUS

3/4 B.tech Sem-2 syllabus is presented for suggestions.

- Suggested to include Business Analytics in electives

Compiler Design

- Need to remove the youtube link
- Suggested to add the book authored by Ravi Sethi as reference.

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Software Engineering

- Need to remove youtube links
- Project Management can be given as a separate unit.

Web Technologies

- Check for difference between of syllabus in WT and web designing subject.
- Suggested to refer IMAD open courses developed by IITs.

Advance Computer Architecture

- Suggested to remove the word advance in the title and make it computer architecture.

Advanced Data Structure (Professional Elective)

- Change the title to Advanced Data Structures

Advanced Microprocessors (Professional Elective)

- Unit 4 & 5 syllabus are good.
- Suggested to add Introduction of ES and make it as regular subject in 4/4 sem-I and make space for new elective and it can be named as
 - Smart System Design & Programming

PPL

- Suggested to modify web references

OST Lab

- Include advanced microprocessors concepts in this lab contents if possible.

CC (Open Elective)

- Give demo about how to load VMWare, how to do virtualization in class.

4/4 SEM-I OPEN ELECTIVES SYLLABUS


- Committee has suggested to replace python programming with Business Analytics or Web designing or Mobile Security or Cyber security in the electives which will be more useful for students.
- Also suggested to club all the electives and leave the option to students to choose any two of them.
- Instead of project part 1 it should be specified as project 1 and project 2

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M.Tech SYLLABUS

- A new course (Information Security & Management) is added in M.tech Sem-2 to balance with the number of credits of other departments.
- Change the title of ISM to Security & Management and contents can be as follows :
 - Unit 1 : Threat Analysis
 - Unit 2 : Risk Management
 - Unit 3 : Information retrieval mechanism
 - Unit 4 : Cyber laws & IT Act
 - Unit 5 : ISO Standards
- Syllabus should be reframed and asked to mail the same to the committee for approval.
- Suggested to remove DOS as elective as the topics are already discussed in AOS and replace it with new elective like Approximation Algorithms.
- Include RTOS topics in ES subject.


Prof. (Dr) R Sivaranjani
Chairman
BOS-CSE

1.1.3 % of changes in syllabus content in the line with AU(2017-18)

Sl. No	R-14 (AU-Regulation)		R-15 (Autonomous-Regulation)		Remarks	% Of syllabus content added / replaced
	Course Name	Course code	Course Name	Course Code		
1	DATA STRUCTURES	CSE 2.1.3	DATA STRUCTURES & ALGORITHMS	CSE211	Unit 1- Small Changes Unit 2- No Change Unit 3 -No Change Unit 4- Major Change Unit 5- Minor Change	20
2			DIGITAL LOGIC DESIGN	CSE212		
3			DISCRETE MATHEMATICAL STRUCTURES	CSE213		
4			OBJECT ORIENTED PROGRAMMING WITH JAVA	CSE214		40
5			PROBABILITY, STATISTICS & QUEUING THEORY	CSE215		
6	DATA STRUCTURES LAB.	CSE 2.1.8	DATA STRUCTURES LAB	CSE216	Experiments 3,9,11,13, Added 2 New Programs	45
7			DIGITAL ELECTRONICS LAB	CSE217		
8	OBJECT ORIENTED PROGRAMMING LAB	CSE 2.2.8	JAVA LAB	CSE218	<p>Program on JDBC connectivity where database is Oracle.</p> <p>Program to send messages across two machines using simple sockets.</p> <p>Program on hierarchical inheritance.</p> <p>Program on JDBC connectivity where database is Oracle. Program to send messages across two machines using simple sockets</p> <p>Programs added: Write a program to find the factorial of a given number.</p> <p>Write a program to print numbers in sorting order. Create a class Odometer that displays the number of kilometres a vehicle run. Give samples as trip information like number of kilometres travelled, fuel consumption per litre. The task is to find the mileage of the vehicle running at different samples of trip information. Create a class Day that represents day, month and year of the calendar day. The class Day should be able to accept the date, update the date, delete the date from a calendar</p>	45

					list of activities. Create a class Time that represents hours, minutes, seconds of a clock. The class Time should accept the time, update the time, delete the time from a list of events created for a day using the Day Class. Write a program to implement interfaces. Write a program that implements a stack ADT that converts infix expression into postfix expression Write a program to read a file and displays the file on the screen within line number before each line	
9	Data Communication	CSE 3.2.4	DATA COMMUNICATIONS	CSE221	<p>Unit-1 added history of data communication , and Removed transmission impairments .</p> <p>2) In unit2 : added transmission impairments along with representation of signals contains Amplitude, Frequency, Phase, Data/Signal Encoding Techniques, Modulation and Demodulation techniques</p> <p>3) In Unit -3 added interface standards- DCE, DTE, Modems. and given a clarification on flow control and error control separately i.e Flow Control-Error Control: Stop and Wait, Go Back -N, selective repeat protocols,ARQ protocols.Error: Error Detection, and correction- Parity Check, VRC, CRC, Hamming code, Bit oriented protocol- HDLC,LAP,ATM-cell relay.</p> <p>4) In Unit-4 added LAN addressing, LAN Topologies, LAN Technologies and also added IEEE 802.5, Short Range networks: Bluetooth-Architecture and Services. Introduction to IoT: Design principles, Architecture, Protocols, Applications.</p> <p>5) In Unit 5 - R19 removed Modem and Modem circuits</p>	25
10	Microprocessors – I MICROPROCESSORS - II	CSE 2.2.3 CSE 3.1.1	MICROPROCESSORS AND INTERFACING	CSE222	<p>unit-I: no change from MP-I and memory interfacing from MP-II</p> <p>Unit-II: no change from MP-I</p> <p>Unit-III: No change from MP-II</p> <p>Unit-IV: No change from MP-I</p> <p>Unit-V: removal of Microcontroller and introduction to hardware and software of PC's</p>	20%
11	OPERATING SYSTEMS	CSE 3.1.6	OPERATING SYSTEMS	CSE223	<p>UNIT-1 1&2 combine as 1</p> <p>UNIT-2: aD</p> <p>ALGORITHM EVALUATIONS</p> <p>UNIT-3:NC</p> <p>UNIT4:NC</p> <p>UNIT:5 ADD GOALS OF PROTECTION, IMPLEMENTATION OF ACCESS MATRIX</p>	20

12	COMPUTER ORGANIZATION	CSE 2.2.4	COMPUTER ORGANIZATION	CSE224	UNIT-1 Booth's Multiplication Algorithm UNIT-3 Hardwired & Micro-programmed control unit, UNIT-4 Program Interrupts, Types of Interrupts, RISC & CISC characteristics, Introduction to Parallel Processing & Pipelining- general considerations.	18%
13	FORMAL LANGUAGES AND AUTOMATA THEORY	CSE 3.1.4	FORMAL LANGUAGES AND AUTOMATA THEORY	CSE225	Extensions to the basic Turing Machines; Turing Machine and Computers, Church's hypothesis. The classes P and NP; NP-Completeness; Satisfiability and Cook's theorem; Polynomial reduction and some NP-complete problems. These topics are extra compare to AU syllabus.	10
14	Microprocessors - I LAB MICROPROCESSORS - II Lab	CSE 2.2.7 CSE 3.1.8.	MICROPROCESSOR & INTERFACING LAB	CSE226	1. Deletion of Serial Monitors, 2. DLD from MP-I 3. Memory interface from MP-II 4. Removal of Microcontroller programming	30%
15	OPERATING SYSTEMS LAB	CSE 3.1.7	OPERATING SYSTEMS LAB	CSE227	Add 3 new experiments	45
16			HARDWARE LAB	CSE228	Newly Introduced Course	100
			OPEN ELECTIVE I	CSE311		
17			File Systems & Data Bases	CSE311(A)	Newly Introduced Course	100
18			Computer Operating Systems	CSE311(B)	Newly Introduced Course	100
19			Fundamentals of Computer Networks	CSE311(C)	Newly Introduced Course	100
20	OBJECT ORIENTED PROGRAMMING	CSE 2.2.5	Concepts of Object Oriented Programming	CSE311(D)	Unit I: Minor changes, removed Templates, Exception handling, console I/O and File I/O concepts Unit II: No change Unit III: No change Unit IV: No Change Unit V: completely changed. Applets, Event Handling and AWT Controls concepts were introduced in unit 5,	18%
21	DATABASE MANAGEMENT SYSTEMS	CSE 3.2.3	DATABASE MANAGEMENT SYSTEMS	CSE312	Unit 1, chapter 1 Introduction to DBMS: Three Schema architecture of DBMS, Data Models, Database Languages, Client/Server Architecture, Database Administrator and Users (All Topics Added) Unit 1, chapter 2 Entity-Relationship Model: Design Issues (All Topics Added) Unit 2 Relational Model: Structure of Relational Databases, Basics of Relational Model (All Topics Added) Unit 3 SQL: Concept of DDL, DML, DCL, Referential Integrity Constraints, assertions, views, Stored Procedures (All Topics Added) Unit 4, chapter 1 Database Design: Normalization using multivalued dependencies, 4NF, 5NF (All Topics	20%

					<p>Added)Unit 4, chapter 2Security: Access Control, Discretionary Access Control - Grant and Revoke on Views and Integrity Constraints, Mandatory Access Control. (All Topics Added)Unit 5, chapter 1Transaction Management: The ACID Properties, (All Topics Added)Unit 5, chapter 2Concurrency Control: 2PL, Serializability and Recoverability, Lock Conversions, Dealing with Deadlocks (All Topics Added)Unit 5, chapter 3Crash Recovery: The Log, Other Recovery-Related Structures, The Write-Ahead Log Protocol, Check pointing. (All Topics Added)</p>	
22	COMPUTER GRAPHICS	CSE 3.1.3	COMPUTER GRAPHICS	CSE313	<p>Unit 3 - Raster Methods for transformation, Hierarchical Model in with Structures-GUI and Interactive Input Methods, Windows and Icons- Virtual Reality Environment (Removed)</p> <p>Unit 5 - Visible Surface Detection Methods: Classification of visible-surface detection algorithm, Back face method, Depth buffer method, Scan line method. (Added)</p>	10%
23	COMPUTER NETWORKS	CSE 3.1.4	COMPUTER NETWORKS	CSE314	<p>Unit-II-Medium Access sub layer: Channel Allocation Problems Static and Dynamic, Multiple Access protocols: ALOHA - CSMA-CSMACD- IEEE Standard 803.3 Ethernet, 802.4 Token bus. Unit-III- Routing Algorithms, Congestion controlling Algorithms, Traffic shaping, Tunneling, protocols in network layer, IPV4, IPV6, DHCP. Unit-IV-Transport layer services, Application Layer:</p>	40%
24	DESIGN & ANALYSIS OF ALGORITHMS	CSE 3.2.2	DESIGN & ANALYSIS OF ALGORITHMS	CSE315	<p>Unit 1 - Case Study: Pseudo code Conventions, Time and Space Complexities, Unit 2 - Binary Tree Traversals and Related Properties, Depth-First Search and Breadth-First Search, Topological Sorting, AVL Trees, Unit 5 - Case study for Backtracking: Graph Coloring</p>	15%
25	DBMS LAB	CSE 3.2.8	DATABASE MANAGEMENT SYSTEMS LAB	CSE316	NA	NA
26	COMPUTER NETWORK LAB		COMPUTER NETWORK LAB	CSE317	Newly Introduced Course	100

27			SOFT SKILLS LAB	CSE318		
28			QUANTITATIVE VERBAL APTITUDE I	CSE319		
29	COMPILER DESIGN	CSE 3.2.1	COMPILER DESIGN	CSE321	YACC Tool is added in UNIT-3	4%
30	OBJECT ORIENTED SOFTWARE ENGINEERING	CSE 4.1.1	SOFTWARE ENGINEERING	CSE322	UNI-1:RA,DELETED UML UNIT-2: ADD SOFTWARE PROCESS,SRS ,SA UNIT-3: ADD FD,OOD UNIT-4: NC UNIT-5: S/W PROJECT PLANING	50%
31	WEB TECHNOLOGI ES	4.1.6	WEB TECHNOLOGIES	CSE323	UNIT-1 HTML5 UNIT-2 PHP added complete unit UNIT-5 JSON half part of unit added	30%
32	COMPUTER ARCHIECTUR E	CSE 326	COMPUTER ARCHITECTURE	CSE324	Overview of Computer organization, Introduction, classes of computer, defining computer architecture, trends in technology and power, measuring and reporting performance, quantitative principles of computer design. Memory hierarchy design: Introduction, ten advanced optimizations of cache performance, memory technology and optimizations, virtual memory and virtual machines, the design of memory hierarchy, memory hierarchies in Arm Cortex-A8 and Intel Core i7. Instruction-Level Parallelism and its Exploitation: Instruction-level parallelism(ILP) - concepts and challenges, basic compiler techniques for exposing ILP, reducing branch costs, overcoming data hazards and dynamic scheduling, hardware based speculation, exploiting ILP using multiple issue and static scheduling, exploiting ILP using dynamic scheduling, multiple issue and speculation, studies of the limitations of ILP, multi-threading, Intel Corei7 and ARM CORTEX A-8. Introduction, shared-memory architectures, performance of shared-memory multiprocessors, distributed shared-memory and directory-based coherence, synchronization, models	80

					of memory consistency, multicore processors and their performance Introduction, programming models and workloads for warehouse-scale computers, computer architecture, physical infrastructure and costs, A Google warehouse-scale computer.	
			PROFESSIONAL ELECTIVE I	CSE325		
33			Smart Systems Design & Programming	CSE325A	Newly Introduced Course	100
34			High Performance Computing	CSE325B	Newly Introduced Course	100
35	Principles Of Programming Languages	CSE 3.2.5	Principles Of Programming Languages	CSE325C	UNIT-1 deleted impact of machine architecture unit-2: NC unit-3: Nc unit-4 file system added unit-5: Add exception handling	25%
36			Advanced Data Structures	CSE325D	Newly introduced course	100%
37	IMAGE PROCESSING	CSE 3.2.5	Digital Image Processing	CSE325E	UNIT-1: NC UNIT2: NC UNIT-3 DELETED IMAGE ENHANCEMENT UNIT-4 DELETED IMAGE COMPRESSION UNIT 5: NC	20
38			NoSQL DataBases	CSE325F	Newly Introduced Course	100
39			OPEN SOURCE TECHNOLOGIES LAB	CSE326	Newly Introduced Course	100
40	OBJECT ORIENTED SOFTWARE ENGINEERING LAB	CSE 4.1.8	SOFTWARE ENGINEERING LAB/MINI PROJECT LAB	CSE327	ADD MINI PROJECT LAB	50%
41			QUANTITATIVE & VERBAL APTITUDE II	CSE328	New Course	100

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Minutes of the 3rd meeting of Board of Studies, Dept. of ECE (UG)
held on 25.03.2017 at 10.30AM.

S. No	Name	Designation	Category	Signature
1	Dr. V. Rajya Lakshmi	Head, ECE, ANITS	Chairperson, BOS, ECE	
2	Dr.K.Raja Rajeswari	Prof., ECE, ANITS	Member	
3	Dr.K.S.Ranga Rao	Prof., ECE, ANITS	Member	
4	Dr.K.MuraliKrishna	Prof., ECE, ANITS	Member	
5	Mr. S. Balaramamurthy	Assoc. Prof, ECE,ANITS	Member	
6	Dr.L.Ganesh	Asst. Prof., ECE,ANITS	Member	
7	Mr.D.Anil Prasad	Asst. Prof., ECE,ANITS	Member	
8	Mr. J. Bhaskara Rao	Asst. Prof. ECE, ANITS	Member	
9	Mr. A. Lakshminarayana	Asst. Prof. ECE, ANITS	Member	
10	Mr. Vijaya Kumar Sahu	Asst. Prof. ECE, ANITS	Member	
11	Mr.N.Srinivasa Naidu	Asst. Prof. ECE, ANITS	Member	
12	Mr.Eswar Chaitanya	Asst. Prof., ECE, ANITS	Member	
13	Dr. Shankar Prakriya	Professor, IIT, Delhi	Special invitee	NOT ATTENDED
14	Prof. P. Ramakrishna Rao,	Advisor, ANITS	Academic council nominee	
15	Dr. P. Rajesh Kumar,	Prof. & HoD, ECE, AUCE(A), VSP	Academic council nominee	
16	Prof. A. Mallikarjuna Prasad	Dept. of ECE, JNTU, Kakinada	University Nominee	
17	Mr.N.Srinivas	Avantel, Visakhapatnam	Industry	
18	Mr. M. Durga Prasad	JTO, BSNL	Alumni	



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Minutes of the 3rd meeting of the BOS, Department of ECE (UG) held on 25.03.2017 at AM in the DSP lab with the following agenda.

1. Finalization of Autonomous syllabus (3rd year, semester-I & II)
2. Any other item

The Committee discussed various points given in the agenda submitted by the HOD, Dr.V.Rajyalakshmi and made the following recommendations/suggestions.

The chairperson, Dr.V.Rajya Lakshmi, HOD of ECE, ANITS welcomed all the BOS members present in the meeting and appraised the members about the department through a point presentation. During the presentation, the agenda has been discussed by the members in detail.

1. Dr.V.Rajya Lakshmi, chairperson showed the Autonomous scheme of the 3rd year semester I & semester II to the members and said that it was discussed in the department advisory Committee meeting held on 20-02-2017 in the department of ECE. Also said that with the acceptance of the members in the Department Advisory Committee (DAC) meeting, slight modifications were made in the 3rd year semester I & semester II syllabus. The modifications were as follows:

3rd year, semester-I (Earlier scheme)		3rd year, semester-I (Modified scheme)	
Course code	Name of the course	Course code	Name of the course
ECE 311	Antennas & Wave Propagation	ECE 311	Open Elective-I
ECE 313	Advanced Microprocessors	ECE 313	Microprocessors and applications
ECE 316	Open Elective- I	ECE 316	Antennas & Wave Propagation
ECE 317	VHDL Laboratory	ECE 317	Microprocessors and applications laboratory

3rd year, semester-II (Earlier scheme)		3rd year, semester-II (Modified scheme)	
Course code	Name of the course	Course code	Name of the course
ECE 321	Microwave Engineering	ECE 321	Microwave & Radar Engineering
ECE 327	Microprocessors and Microcontrollers lab	ECE 327	Microcontrollers and Embedded systems lab

2. Dr.V.Rajya Lakshmi, chairperson said that course ECE 311 is the open elective to be offered by each department and showed the open electives offered by the department of ECE.
3. Dr.V.Rajya Lakshmi, chairperson said that as suggested by Prof.P.R.K. Rao, satellite communications systems is included in unit-IV of course ECE 312 (communication system engineering). Also said that course ECE 321 is renamed as Microwave and Radar engineering as Radar engineering is included in unit-V at an introductory level in the course.
4. Dr.V.Rajya Lakshmi, chairperson said that the syllabus is framed by the respective research groups giving similar weightage to each of the units present in the course. Also requested to see the modifications made in the scheme and to give suggestions and recommendations for its appropriateness.
5. Prof. A. Mallikarjuna Prasad, suggested to include "Introduction to Embedded systems" as an open elective instead of "Optoelectronics" in 3rd year semester-I.

Prof. A. Mallikarjuna Prasad, advised to interchange some of the contents in unit-IV and unit-V of the course ECE 313 (Microprocessors and applications) for better delivery of the content. Mr.G.Bhaskar, Project leader, R&D group, Avantel, expressed that no of hours in unit-V need to be increased. Prof.P. Rajesh Kumar, suggested to include 8257 if possible. Dr.V.Rajya Lakshmi, chairperson enquired about the possibility of including course ECE 313 as open elective. Prof. A. Mallikarjuna Prasad replied not to include as an open elective as it is at advanced level.

Prof.P. Rajesh Kumar, advised to combine the contents in unit-I and unit-II as one unit so as to facilitate Digital IC's as one unit in the course ECE 315 (Integrated circuits and applications). Prof. A. Mallikarjuna Prasad suggested text book Digital Design: Principles and Practices by John F.Wakerly for the Digital ICs.

Prof. K.Raja Rajeswari, Dean(Projects), ANITS advised to increase the no of hours in unit – III and unit-IV of the course ECE 322.

0. Prof. A. Mallikarjuna Prasad suggested to include Arduino related topics in the course ECE 323. Mr.G.Bhaskar, Project leader, R&D group, Avantel, replied that as basics were already included, topics related to Arduino may not be essential. Also said that experiments related to Arduino may be included in the concerned laboratory.

1. Mr. M. Durga Prasad, JTO, BSNL, said that the channel length modulation is missing in the course ECE 324 (Analog IC design). Mr.D.Anil Prasad, Asst.Professor replied that the content will be taught in the topic second order effects which is in unit-I.

2. Prof. K.S.Ranga Rao enquired about the contents of unit-V in the course ECE 324(Analog Integrated circuits Design). Mr.Anil Prasad, Asst.Professor replied that ECE 324 deals with MOSFET based op-amp design.

3. Mr. M. Durga Prasad, JTO, BSNL, enquired about contents like OFDM, GSM , MIMO etc whether included in the Digital communications course and suggested to include atleast OFDM in digital communications.

4. Prof.P.R.K. Rao expressed that including OFDM without coverage of transforms is not appropriate. Prof.K.Murali Krishna said these topics can be included in the course "Cellular and Mobile Communications"

5. Prof.P.R.K. Rao suggested to replace name of unit-II in course "Digital Communications" as Data reception instead of data transmission. Also advised to include cyclic codes in unit-V

6. Prof.P. Rajesh Kumar, advised to mention the list of experiments to be done on breadboard and through simulations separately stating minimum no of experiments to be done by the students in the course ECE 326.

The chairperson thanked all the members for their active participation and valuable suggestions.

Mr. Mr. S. Balaramamurthy, proposed the vote of thanks.

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Dr. V. Rajya Lakshmi
Dr.V.Rajya Lakshmi
Chairperson, DAS & HOD, ECE
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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
 Accredited by NBA

Minutes of the meeting of the Board of Studies, Department of EEE (UG)
held on 25th March 2017 at 10.30 AM.
(Under Autonomous System)

MEMBERS PRESENT:

S. No.	Name	Designation	Category	Signature of the members
1	Dr. Guntu Raja Rao	Head, EEE, ANITS	Chairman, BOS	<i>[Signature]</i>
2	Prof. R. Govardhana Rao	Director (Admn), ANITS	Member	<i>[Signature]</i>
3	Mr. V. Murali	Assoc. Prof., EEE, ANITS	Member	on special leave
4	Mr. S. Balamurali	Assoc. Prof., EEE, ANITS	Member	<i>[Signature]</i>
5	Dr. J. Vijaya Kumar	Assoc. Prof., EEE, ANITS	Member	<i>[Signature]</i>
6	Mrs. K.V.R. Swathi	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
7	Mr. Kavala Kiran Kumar	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
8	Mr. B. Rajasekhar	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
9	Mr. R. Satish	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
10	Mr. M. Sudheer Kumar	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
11	Mr. L. Dinesh	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
12	Mr. A. Dhanamjaya Apparao	Asst. Prof., EEE, ANITS	Member	<i>[Signature]</i>
12	Prof. B.M. Mohan	Professor, IIT- Kharagpur	Academic Council Nominee	<i>[Signature]</i>
13	Prof. Debapriya Das	Professor, IIT- Kharagpur	Academic Council Nominee	- ABSENT -
14	Prof. Jayanta Pal	Professor, IIT- Bhubaneswar	University Nominee	- ABSENT -
15	Sri B. Srinivasa Reddy	BGM (Electrical), RINL, Visakhapatnam.	Industry	<i>[Signature]</i>
16	Sri P. Santosh Kumar	Deputy Manager, L&T, Chennai.	Alumni	- ABSENT -
18	Sri K. Anil Kumar	Asst. Manager (Electrical), RINL, VSP.	Special Invitee	<i>[Signature]</i>



**Minutes of the Board of Studies (BOS) meeting held on 25-03-2017
(Saturday) at 10.30 AM.**

MEMBERS PRESENT:

1. Prof. R. Govardhana Rao, Director (Admn.), ANITS.
2. Prof. B.M. Mohan, Professor, Dept. of Electrical Engg., IIT Kharagpur.
3. Sri B. Srinivasa Reddy, Asst. General Manager (Electrical), RINL, VSP.
4. Sri K. Anil Kumar, Asst. Manager, RINL, Visakhapatnam.
5. Mr. S. Balamurali, Assoc. Prof., ANITS.
6. Mr. J. Vijaya Kumar, Assoc. Prof., ANITS.
7. Mrs. K.V.R. Swathi, Asst. Prof., ANITS.
8. Mr. Kavala Kiran Kumar, Asst. Prof., ANITS.
9. Mr. B. Rajasekhar, Asst. Prof., ANITS.
10. Mr. R. Satish, Asst. Prof., ANITS.
11. Mr. M. Sudheer Kumar, Asst. Prof., ANITS.
12. Mr. L. Dinesh, Asst. Prof., ANITS.
13. Mr. A. Dhanamjaya Apparao, Asst. Prof., ANITS.
14. Prof. G. Raja Rao (Chair person), Professor & HOD, ANITS.

* * *

1. The Chair person welcomed all the BOS members of the department and thanked the members for the support they have rendered to the department.
2. After having brief discussion, the committee has resolved to have 12 program outcomes (POs) in place of the previous existing 11 program outcomes. Also 2 new program specific outcomes (PSOs) have been formed for the program.
3. The board discussed on the topics / units mentioned in all courses of the III/IV Semester-I & II. The external members were mostly satisfied with the topics proposed for various courses and suggested certain modifications in some courses.
4. Mr. B. Srinivasa Reddy suggested to include 'Indian Electricity Regulations' in the last unit of EPGU course (course code: EEE 315).

5. Prof. B.M. Mohan suggested to include 'Evolutionary Algorithms' topic and accordingly advised to change the title of the Professional Elective-I 'ANN, Fuzzy & Genetic Algorithms' (EEE 321-4).
6. He also suggested to offer '**Electrical Instrumentation**' as one of the courses in PE-I with a brief introduction on Transducers, Sensors, Signal Conditioning, Encoders & Decoders, etc.
7. Mr. K. Anil Kumar explained 'Communication Protocols' being practiced in production industry such as RINL (Vizag Steel Plant) and suggested to introduce as one of the electives or at least to include in the syllabus of Distribution System Automation course (course code: EEE 413-1).
8. Mr. B. Srinivasa Reddy suggested to include Power System Harmonics in the final year course PSP (course code: EEE 416) as it is a vital aspect for an electrical engineer.
9. The BOS members have discussed in general some of the topics to be included in the final year courses to be proposed next year.

Date: 27-03-2017

C/s to: 1. The Principal
2. The Director (Admn.)

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Dr. G. Raja Rao
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HOD of EEE

Dr. G. RAJA RAO
27/3/2017

Head of the Department
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Ref: ANITS/Gen-12/Meeting Notice/2014-15

Date: 18-05-2015

MEETING NOTICE

There will be a meeting of the Board of Studies (BOS) of the Departments of ECE, EEE, CSE & IT, Mechanical and Humanities & Sciences on 20-06-2015 (Inauguration: 09:30 AM; Joint BOS meeting: 11:30 AM; BOS meeting in the respective departments: 02:00 PM and concluding Joint Board meeting: 04:00 PM). All the members are requested to attend the meeting without fail. The members are further requested to send proposals (if any) to the Chairman BOS (HoD of the respective department) on or before 30-05-2015.

Agenda of the BOS meeting:

1. Framing, Review and updating the syllabi relating to B.Tech. - UG courses of study of the Departments of ECE, EEE, CSE&IT, Mechanical and Humanities & Sciences for the academic year 2015-16.
2. Introduction of choice based credit system (CBCS) from the academic year 2015-16
3. Introduction of new courses of study (if any)
4. Innovative methodologies for Continuous assessment
5. Methodology for innovative teaching and evaluation techniques.
6. Approval of the panel of examiners and paper setters.
7. Methodologies to coordinate Research, Teaching, Extension and other academic activities in the department.
8. Any other item with the permission of the chair


PRINCIPAL

Copy to:

All members of Board of Studies, Departments of ECE, EEE, CSE&IT, Mechanical and Humanities & Sciences





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1.1.2 Change Syllabus
1.2.2 OE 4f
1.2.1 New Course

DEPARTMENT OF INFORMATION TECHNOLOGY

% Change in course content of R-15(Autonomous) regulation compared to AU(Andhra University) regulation

Sl.No	Course Code	Name of the Course	Remarks	% of syllabus content added / replaced	Number of courses with change in syllabus >=20%/no. courses added	
1	IT111	ENGLISH	change in reading comprehension	20	1	
2	IT112	ENGINEERING MATHEMATICS-I	Unit-I,III and V have minor changes(removed), Unit-IV has been removed.	25	1	
3	IT113	ENGINEERING CHEMISTRY	Focused on advanced topics such as non conventional energy sources, green chemistry and nanomaterial's	20	1	
4	IT114	PROFESSIONAL ETHICS & HUMAN VALUES	New course introduced	100	1	
5	IT115	BASIC ELECTRONICS ENGINEERING	New course	100	1	
5	6	IT116	ENGINEERING CHEMISTRY LAB	Five new experiments related to instrumentation were introduced	50	1
7	IT117	PROGRAMMING WITH C-LAB	around 20% change in syllabus	20	1	
8	IT121	ENGINEERING MATHEMATICS-II	Unit-I,II removed and Two new Units are added	25	1	
9	IT122	ENGINEERING PHYSICS	Unit-I: Two topics were removed. Unit-II: Few topics removed and few are added. Unit-V: Major changes were done.	20	1	
10	IT123	ENVIRONMENTAL SCIENCES	Focused on activities and project work	20	1	
11	IT124	ENGINEERING DRAWING	Unit-I,II, III and V have minor changes(removed); Unit-IV Sections and Intersections are shifted to AED syllabus	35	1	
12	IT125	ELEMENTS OF ELECTRICAL ENGINEERING	New Course	100	1	
11	13	IT126	ENGINEERING PHYSICS LAB	Few changes in experiments are made. New experiments are introduced.	30	1
14	IT127	LANGUAGE LAB	New course	100	1	
15	IT128	OBJECT ORIENTED PROGRAMMING WITH C++ --LAB	New course	50	1	
16	IT129	WORKSHOP	House wiring trade was added.	20	1	
17	IT211	Data Structures	AVL Tree, B-Tree of order m, introduction to Red-Black tree. Introduction to Hashing, Hash Function, Hashing techniques, Collision Resolution Methods: Open Addressing-Chaining.	10	0	
18	IT212	Digital Logic Design	Nearly 25% syllabus changed	25	1	
19	IT213	Discrete Mathematical Structures	Depth First Search , Breadth First, Search – Minimum Spanning Trees – Kruskal's Algorithm and Prim's Algorithm	10	0	
20	IT214	Computer Organization	no change	0	0	

No	Course Code	Name of the Course	Remarks	% of syllabus content added / replaced	Number of with change syllabus >= 20% / courses added
21	IT215	Data Communications	Data communication hardware and description on modems (unit - 4 and 1st part of unit -5) has been replaced with Data Link layer control operations and basic hardware required for communication	30	1
22	IT216	Data Structures Lab	program to implement collision resolving Techniques	5	0
23	IT217	Digital Electronics lab	New course	100	1
24	IT218	Python Programming Lab	New course	100	1
25	IT221	Computer Networks	no change	0	0
26	IT222	Information Systems Design	In ISD additional unit added i.e about Need computer based information system, strategy for gathering information, Structure and various functions in organization, methods for information searching. In ISD, project management not included and also lab not included.	30	1
27	IT223	Operating Systems	Multi Threaded Programming, Free space management, Capability Based systems, virtual machines, Thrashing, log structured file, systems, recovery, Free space management	20	1
28	IT224	Probability Statistics & Queuing Theory	Definitions of probability, Addition theorem, Multiplication theorem, Geometric probability, Multiple Regression, Attributes, Correlation for Bivariate Distribution, Sample, populations, statistic, parameter, Sampling distribution, standard error, unbiasedness,	30	1
29	IT225	Computer Graphics & Multimedia	80% Contents of AU CG subject , covered in autonomous CGM syllabus 1st and 2nd units , Remaining 3 Units Multimedia systems topics has been added	20	1
30	IT226	Networking Lab	New course	100	1
31	IT227	Computer Graphics & Multimedia Lab	Added Audio and Video Editing along with Computer graphics Programs	30	1
32	IT228	Operating Systems (Linux) Lab	Implement file allocation techniques (Linked, Indexed and Contiguous) was added, 10% difference	10	0
33	IT312	Database Management	no change	0	0
34	IT313	Unix Network Programming	New course	100	1
35	IT314	Formal Languages	no change	0	0

No	Course Code	Name of the Course	Remarks	% of syllabus content added / replaced	Number of courses with change in syllabus >=20%/new courses added
38	IT317	Unix Network Programming Lab	New course	100	1
39	IT318	Java Programming Lab	exception handling , packages,string tokenizer,swings	20	1
40	IT319	Quantitative Aptitude - 1 & Verbal Aptitude -1	New course	100	1
41	IT321	Compiler Design	no change	0	0
42	IT322	Design & of Algorithms	NO CHANGE	0	0
43	IT323	Object Oriented Analysis and design with uml	New course	100	1
44	IT324	Mobile Computing and Application	New course	100	1
45	IT325-1	Distributed Operating Systems	New course	100	1
46	IT325-2	Technology management	New course	100	1
47	IT325-3	Software Testing and Automation	New course	100	1
48	IT325-4	Client Server Technologies	New course	100	1
49	IT326	Mobile Computing and Application Development Lab	New course	100	1
50	IT327	Web based open source technologies	New course	100	1
51	IT328	Computer Aided Software Engineering tools Lab	New course	100	1
52	IT329	Soft Skills lab	conducting evaluation in unit-5	10	0
53	IT3210	Quantitative Aptitude-2 & Verbal Aptitude -2	NEW COURSE	100	1
54	IT412	Cryptography & Network Security	Websecurity, Intruders,email security,IP security	10	0
55	IT413	Data Analytics	New course	100	1
56	IT414-1	Artificial Intelligence and Robotics	New course	100	1
57	IT414-2	Parallel computing	New course	100	1
58	IT414-3	Data Ware Housing And-Mining	New course	100	1
59	IT414-4	Software Project Management	New course	100	1
60	IT415-1	Machine Learning	New course	100	1
61	IT415-2	Storage Area Networks	New course	100	1
62	IT415-3	User Experience (Ux)	New course	100	1
63	IT415-4	Intellectual property right & patents	New course	100	1
64	IT416	Analytics Lab	New course	100	1
65	IT417	Network Security Lab	New course	100	1
66	IT418	PROJECT I	newly introduced	100	1
67	IT419	# Industrial Training	No Change	0	0
68	IT421-1	Soft computing	New course	100	1
69	IT421-2	Cognitive computing	New course	100	1
70	IT421-3	Cloud computing	New course	100	1
71	IT421-4	E commerce	New course	100	1
72	IT422-1	Image Processing	New course	100	1
73	IT422-2	Cyber Security	New course	100	1
74	IT422-3	Enterprise Resource Planning	New course	100	1
75	IT422-4	Internet of Things	New course	100	1
76	IT423	PROJECT II	No Change	0	0
77	IT424	Massive Open Online Course	newly introduced	100	1

Total subjects with change in content >=20%

63

Total subjects of R-15

77

% of subjects having >=20% change in content

81.82

R. Srikath

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ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

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Minutes of the meeting of the Board of Studies, Department of Mechanical Engineering (UG&PG) held on 25-03-2017

S.No	Name	Designation	Category	Signature
1	PROF. D. RAVI KUMAR	Prof., Dept. of Mech. Engg, IIT-Delhi	Academic Council Nominee	
2	PROF. Ch. RATNAM	Prof. & HOD, Dept. of Mech. Engg., AUCE(A), Vishakapatnam.	University Nominee	
3	PROF. K. RAMJI	Prof., Dept. of Mech. Engg., AUCE(A), Vishakapatnam.	Academic Council Nominee	K. Ramji 25/03/2017
4	Dr. A. SHYAM SUNDAR	Dy. General Manger, R&D, RINL, Vishakapatnam.	Industry Nominee	
5	Dr.T.V.HANUMANTHA RAO	Principal, ANITS & Professor of Mechanical Engineering	Honorary Member	
6	Dr. N. INDRAKIRAN	Prof., Dept. of Mech. Engg., ANITS	Member	
7	R. CHANDRAMOULI	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	
8	Dr. K.SIVA PRASAD	Assoc. Prof., Dept. of Mech. Engg. ANITS	Member	
9	Dr. RAJESH GHOSH	Assoc. Prof., Dept. of Mech. Engg., ANITS	Member	
10	G.UMAMAHESWARA RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
11	M.RAJA ROY	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
12	M.S.S. SRINIVASA RAO	Sr. Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
13	K.NARESH KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
14	M.PRASANTH KUMAR	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
15	M. SAILAJA	Asst. Prof., Dept. of Mech. Engg. ANITS	Member	
16	PROF. B. NAGARAJU	HOD, Dept. of Mech. Engg., ANITS	Chairman-Board of Studies (Mechanical)	



Minutes of Board of studies meeting held on 25-03-2017

Agenda: Review and ratification of Third year syllabus under autonomous scheme.

The members of board of studies met on this day in metrology lab, Mechanical engineering department, ANITS to review the syllabus and suggest suitable modifications wherever necessary for ratification. At the outset, the chairman of BOS Prof. B. Nagaraju welcomed the gathering and initiated the process. The review of the syllabus was taken up as an immediate agenda and was done semester wise. The following observations were made by the members:

1. It was suggested by Prof. D. Ravi Kumar that the number of periods allotted per each unit should be split into two parts, comprising of lecture & tutorial classes. This would give a clear idea to the concerned faculty with regards to the actual number of lecture and tutorial classes available. This will be also inline with the periods per week mentioned in the course structure.
2. The external board member, Prof. D. Ravi Kumar suggested to include the topic **microfluidics at fundamental level, if possible, in Hydraulic machinery and systems** subject as a subtopic since fluidics is already included in the fifth unit. The internal members would look into this matter taking into account the available number of classes.
3. The external board member Prof. K. Ramji suggested that titles of the subject have to be changed such that they reflect the course content. However, Prof. T.V. Hanumantha Rao, Honorary member, said that though this is a valid suggestion, this change cannot be implemented as the four year course structure has already been approved by the earlier BOS and academic council of college. This modification will certainly be effected when the entire four year course structure comes for next review.
4. With regards to **MFT-II lab experiments**, it was commented by one of the members that the first 6 experiments do not meet any scientific objective and are merely meant for familiarizing with machine tools which do not serve any purpose. It was however felt by other senior board members that the **measurement of cutting parameters is included from 7th to 12th experiment in the list. Further, the experiment on grinding of single point cutting tool will also include the study and measurement of tool signature.**
5. It was suggested by the members to include a topic on "Coordinate Measuring Machine (CMM)" in unit-V of **MFT-III syllabus**, which was readily accepted by the committee.

6. Prof. K. Ramji advised to elaborate the unit-V of **IEM** syllabus mentioning the type of control charts. He also suggested to include "Supply chain management" in the syllabus.
7. Prof. K. Ramji advised to include two text books for each subject, one of them being of foreign author. He also suggested to include the latest edition of text books and reference books.
8. A rearrangement of topics between units III&V was suggested in **DME-II** syllabus, where in belt drives, chain drives have to be grouped as one unit and brakes, crane hook & wire ropes as another unit. Further, it was also commented to mention the various cross sections of crane hooks.
9. It was felt by all the members that there is a repetition of topics in unit I of the subject **AMOS**. The topic of Bi-axial stresses has to be completely removed and basics of theory of elasticity have to be included in its place. Prof. K. Ramji suggested to include the book titled *Mechanics of solids* by James Gere and Timoshenko (CBS publications) as text book.
10. The members across the board said that the syllabus of **PPC** contains some topics which are already part of **IEM & OR**. Hence the syllabus has to be reviewed and elaborated.
11. The members of the board suggested that a student representative preferably topper may be included as a member of BOS. This is customary in Outcome Based Education (OBE).
12. Prof. K. Ramji suggested to include one credit audit course to enhance the social awareness of the student and his technical capability to analyse and solve problems of society.

The chairman thanked the members of the board for their valuable suggestions, which will be given due consideration in modifying the syllabus. The 3rd year Mechanical Engineering syllabus with these minor modifications included was finally ratified.

CC to: 1) Principal
2) Dean of examinations

} for the kind information

25.3.17
(HOD, Mechanical)

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Department of Mechanical Engineering

List of new courses introduced in the Board of Studies (BoS) meeting held on 25-03-2017 for the academic year 2017-18

S. No	Name of the Course	Course Code	Year & Semester
1.	Robotics (Open Elective)	MEC 311-1	III/IV, Sem -1
2.	Computer Aided Design (Open Elective)	MEC 311-2	III/IV, Sem -1
3.	Verbal and Quantitative Aptitude - I	MEC 319	III/IV, Sem -1
4.	Automation in Manufacturing	MEC 326 (B)	III/IV, Sem -2
5.	Advanced Mechanics of Solids	MEC 326 (C)	III/IV, Sem -2
6.	Rapid Prototyping	MEC 326 (E)	III/IV, Sem -2
7.	Verbal and Quantitative Aptitude - II	MEC 329	III/IV, Sem -2

(M. R. ARAVAMUDAN)

K. NAMI
(K. NAMI)
25/3/2017

(R. CHANDRAMANI)
25/3/17

25/3/2017

25/3/17

25.3.17
Prof. B. NagaRaju,
Chairman BOS,
Mech. Engg. Dept.

PROFESSOR & HEAD
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