

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
COLLEGE OF ENGINEERING, GUINDY
ANNA UNIVERSITY, CHENNAI – 600 025**

Minutes of the Seventeenth Departmental Consultative Committee meeting of the Department of Electronics and Communication Engineering held on 23.02.2015 at 3.00 p.m. in the Conference Hall, Department of Electronics and Communication Engineering.

The Seventeenth Departmental Consultative Committee meeting of Department of Electronics and Communication Engineering was held on 23.02.2015 at 3.00 P.M. in the Conference Hall, Department of ECE. Dr.S.Muttan, Head, ECE Department and Convenor of Departmental consultative Committee started the meeting with a welcome note.

The following members were present during the meeting and offered suggestions for the further growth of the Department.

- | | |
|-------------------------|---|
| 1. Dr.S.Muttan | Convenor of DCC |
| 2. Dr.V.Vaidehi | Chairman, Faculty of ICE |
| 3. Dr.P.V.Ramakrishna | Member |
| 4. Dr.Y.V.Ramana Rao | Member |
| 5. Dr.S.Shenbagadevi | Member |
| 6. Dr.S.Nirmaladevi | Member |
| 7. Dr.N.Ramadass | Member |
| 8. D.M.Kannan | Head, Dept.of Electronics Engg., MIT |
| 9. Dr.K.Bhoopathy Bagan | Professor, Electronics Dept., MIT |
| 10. Dr.K.S.Eswarakumar | Professor, CSE |
| 11. Dr.S.Indira Gandhi | Asso.Prof., Electronics Dept., MIT |
| 12. Dr.S.Vasuhi | Asso.Prof., Electronics Dept., MIT |
| 13. Dr.P.Indumathi | Asso.Prof., Electronics Dept., MIT |
| 14. Dr.P.Jayasree | Associate Prof., Electronics Dept., MIT |
| 15. Dr.M.A.Bhagyaveni | Professor, ECE, CEG |

Comp. Technology

SECTION – 1

Item No.17.01.01 Confirmation of the minutes of the 16th meeting of the DCC

Minutes of the Sixteenth Departmental Consultative Committee meeting was confirmed by the members.

SECTION – 2

Item No.17.01.02 Report on the follow up action taken on the minutes of the 16th meeting of the DCC

Follow up action taken on the minutes of the 16th meeting of the DCC were presented to the members by the Convenor and the members expressed their satisfaction over the action taken.

SECTION – 3 Information to members

Item No. 17.03.01 Recruitment of Faculty / Teaching Fellow

The Convenor informed the members about the recruitment of following faculty and teaching fellows in the Department.

- Dr.D.Sridharan and Dr.V.Jeyalakshmi were joined as Professors, Dr.P.Prakash and Dr.S.Poonguzhali were joined as Associate Professors and Mrs.S.Ewins Pon Pushpa and Mrs.T.Jayasree were joined as Assistant Professors in the Department.
- The Teaching Fellow written test and interview was conducted on 10.02.2015 in the Conference Hall of Department of Electronics and Communication Engineering. In the ECE discipline Ms. R.Sowmya was selected and in the BME discipline Mr.C.Kaushik Viknesh was selected. They have joined the department as Teaching Fellows.

Item No.17.04.02 Department Achievements

The Convenor of the DCC explained about the following on-going projects in the Department and also progress of the projects.

Sl. No.	Title of the project	Name of Principal Investigator	Name of the Funding Agency	Amount of grant received (Rs. in lakhs)	Duration (From –To)
1.	Somatic Cell Count Flow-through based Reader for detection of mastitis in bovine by TANUVAS.	Dr.S.Nirmala Devi Dr.S.Muttan	DST, Govt.of India	10.0	2012-2015
2	Mass Screening Gadget for Ophthalmic Lesions	Dr.S.Shenbaga Devi	DST, Govt. of India	20.0	2011-2015
3.	Hystero Electrical Activity Mapping Device	Dr.S.Shenbaga Devi	DST, Govt. of India	20.0	2011-2015
4.	Development of Tactile Sensor based ligature controller to assess pancreatic leak after Whipple's procedure	Dr. S.Poonguzhali	DST, Govt. of India	29.60	2013-2016
5.	Automated Low Cost system for malaria Diagnosis and Classification	Dr.N.Kumaravel, Dr.S.Muttan	UKIERI Project with University of Westminster, UK, funded by British Council	£19960	2012-2014
6.	Evaluation of Functional Electrical simulation in hemiplegics for functional restoration of upper limb using EEG based Brain Computer Interface	Dr.S.Shenbagadevi	LSRD – DRDO Project	Rs.11.00 Lakhs	2014-2016

ANUSAT-2 PROJECT :

The University has allocated Rs.24.00 Lakhs to Dr.P.V.Rasmakrishna as Project Director towards Partial fund for design and testing work on Anusat-2 project and the project is under progress.

AWARDS AND MEMBERSHIP OF IMPORTANT BODIES :

The Convenor informed the members about the awards received by the faculty members and the membership of the faculty members in important bodies:

- Dr.S.Poonguzhali, Associate Professor awarded Best paper award ' DIAGNOSIS OF LIVER TUMOR USING 3d SEGMENTATION FOR SELECTIVE INTERNAL RADIATION THERAPY', K.Geetha, Dr.S.Poonguzhali - Intl. Conference on Advanced Electrical and Electronics Engg. , Bangalore.
- Dr. S.Poonguzhali, Associate Professor awarded Best Paper Award for "OPTIMAL FEATURE SELECTION AND CLASSIFICATION OF BREAST LESION USING ULTRASOUND IMAGES" by Jerusalem Engineering College.
- Dr.S.Poonguzhali, Associate Professor awarded Best paper Award "SLEEP STAGES CLASSIFICATION USING NEURAL NETWORK USING SINGLE CHANNEL EEG" by IRD India.
- Best project award 'AN ELECTRONIC AID FOR VISUALLY IMPAIRED IN READING PRINTED TEXT', Srinivasan,D., Dr.S.Poonguzhali- Natl. Conf. on Advancement in Electronic Technology and Allied Science Engg.
- Dr.P.Sakthivel, Associate Professor awarded "COMPUTER SOCIETY OF INDIA CHAPTER PATRON AWARD" by the Computer Society of INDIA.
- Dr.S.Poonguzhali, Associate Professor awarded Special Prize Award for "CTDT-SIP ASSISTIVE DEVICE FOR SPEECH IMPAIRED" by CTDT, Anna University.
- Dr. P. Sakthivel, Associate Professor has been nominated as a Member of the National Executive Council of Indian Society for Technical Education, New Delhi for the period from January,2015 to December,2017.

Dr. P. Sakthivel has been elected as a Member of the State Committee of the Tamilnadu State Centre of the Institution of Engineers(India) for the period from November, 2014 to October, 2016.

II. FOREIGN VISITS

The Convenor informed the members about the foreign visits undertaken by the faculty members for attending Workshop and for paper presentation.

1. **Dr.P.V.Ramakrishna, Professor** visited **Belgium** to attend a Workshop 6th QB 50 (Anusal-2) during the period 26-31, January 2014.

2. **Dr.S.Shenbaga Devi, Professor Presented** a paper titled "Peak Frequency Analysis of EEG for Schizophrenia in relaxed condition" in the " Global Academic Network Conference" held in Chicago (USA) from 4th - 6th September 2014.

Dr.S.Shenbagadevi, Professor visited the following universities during the period from the 3rd week of August 2014 to 3rd week of September 2014

1. Department of Electrical and Computer Engineering
University of North Carolina, Charlotte, Charlotte, USA
2. Department of Bioengineering,
Polytechnic School of Engineering
New York University, Brooklyn, USA
3. Bioengineering Department
Northeastern University, Boston, USA

Item No.17.03.03 Activities Organized / Proposed

The Convenor informed the members about the following activities in the department subsequent to the previous meeting and the activities proposed to organize in the department.

- Dr.S.Shenbaga Devi, Professor delivered a lecture on "EEG Signal Processing Techniques for BCI" – DEBEL, DRDO, Bangalore on 30.5.2014 as a resource person in the Second Meeting of DEBEL Laboratory Research Council (LRC).
- Faculty Development Programme on "Electronic Circuits-I" conducted by Dr.P.Nirmalkumar and Dr.J.kamala during 23-29, June 2014.
- Workshop on "RL 78 Microcontroller" conducted by Renesas, Frontline India University Programme on 6.11.2014.
- Guest lecture on "Signal Processing and its Applications" was delivered by Mr.G.Aravamudhan, Scientist Engineer-G, BARC, Mumbai on 28.11.2014 for I year M.E.VLSI and M.E.Applied students.
- Faculty Development Programme on "Principles of Digital Signal Processing" was conducted by Dr.M.Sasikala and Mr.K.Praveen. during 8-14, December 2014
- An Intra College Technical Symposium RESONANCE was conducted on December 17, 2014.
- Dr.T.Manimekalai, Dr.K.Gunaseelan and Mr.T.Laxmikandan jointly conducted a Workshop on Cognition Radio Networks –Challenges and Enabling Technologies during 8-10, January 2015.
- Technical event on Directivity for II Semester ECE students was conducted on January 22, 2015.
- Guest lecture is arranged to ECE students by Dr.N.Ramanathan, Scientist, DRDO (Retd.) on 24.02.2015.

0. Workshop on Digital Custom IC Design using Cadence tool is planned to be conducted by Dr.N.Ramadass, Dr.P.Nirmalkumar and Dr.P.Sakthivel during 12-14, March 2015
1. VISION an Inter College Symposium is planned to be conducted during 12-14 March 2015.

Item No.17.03.04 Conferences/Seminar/Symposium/Workshops attend by the faculty members

The Convenor informed the members about the various Conferences/Symposium/Workshops attend by the faculty members.

- Mrs.R.Sittalatchoumy and Mrs.V.Pushpalatha attended a Two Days Workshop on “4G Wireless Technology” at MIT, Anna University during the period 20.02.2014 to 21.02.2014.
- Dr.S.Poonguzhali has attended a Workshop on “R&D Project Proposals – Awareness, Needs and Benefits” conducted by CTDT, Anna University on 28.02.2014.
- Dr. P. Sakthivel has attended the AICTE – QIP Short Term Course on “Applied Game Theory for Engineers and Managers” held from 20.06.2014 to 24.06.2014 at IIT, Kanpur.
- Dr.J.Dhurgadevi has attended a One Day Workshop on “Advanced in VLSI Circuit Design using Xilinx” conducted by School of Engineering and Technology, Pondicherry University on 22.8.2014.
- Mrs.R.Sittalatchoumy has presented a paper titled “Efficient Sensor Node Determination Using Proteus” in the IEEE International Conference on Contemporary Computing and Informatics at Sri Jeyachamarajendra College of Engineering, Mysore during the period from 27.11.2014 to 29.11.2014.
- Dr.C.M.Sujatha has participated in One Day Seminar on “Medical Imaging and Neuroscience” at NIMHANS, Bangalore on 4.12.2014.
- Dr.R.Seshasayanan, Dr.N.Ramadass, Dr.S.Poonguzhali and Mrs.T.Jayasree were participated in the Faculty Development Programme on “Principles of Digital Signal Processing” conducted by Dr.M.Sasikala and Mr.K.Praveen. during 8-14, December 2014.
- Dr.R.Seshasayanan has presented a paper titled “Multiplierless 8-point DCT Architecture for Image compression” in the International Conference on Pattern Recognition and Multimedia Signal Processing conducted by the DSE at Annamalai University during 9-10, January 2015.
- Dr.R.Seshasayanan, Dr.P.Nirmalkumar, Dr.N.Ramadass, Dr.P.Sakthivel and Dr.O.Umamaheswari were participated in a AICTE Workshop on “Data Base Management System and Mining” conducted by Ramanujan Computing Centre during the period 16.02.2015 to 01.03.2015.
- 0. Dr. P. Sakthivel has participated in the Combined Annual Training Camp of NCC from 03.01.2015 to 12.01.2015 organized by 4(TN) Naval Technical Unit NCC at Sathyabama University, Chennai.

Item No.17.03.05 J.C.Bose Block – Infrastructure facilities

The Convenor informed about the infrastructure facilities available in the newly constructed J.C.Bose Block and the facilities also planned to be provided in that building.

- The University has constructed a new building (J.C.Bose Block) adjacent the existing ECE building and the Vice-Chancellor has inaugurated the new building on 28.02.2014.
- The J.C.Bose Block is a multi-storey building with ground + three floors. The J.C.Bose Block has nine laboratories, two P.G. lecture halls and faculty rooms. The laboratories and lecture halls is under partial utilization.
- The Department has planned to create faculty rooms for Professors and Associate Professors in the ground floor and second floor [east wing] of the J.C.Bose Block. The partition arrangements required for creation of staff rooms is carried out by the Estate Office and the civil / electrical works involved are expected to be completed shortly.
- In order to strengthen the infrastructure facilities, the department has planned to provide new work tables for the first floor and second floor laboratories. The work tables are being erected by Estate Office and is expected to be completed shortly.
- In order to strengthen the computing & simulation facilities in the laboratories, the Department has planned to procure 40 Nos. of desktop computers of latest configuration through University Computer Purchase Committee. The file is submitted for Vice-Chancellor's approval.
- The Department has provided the Intercom Telephone facility (40 telephone lines) for J.C.Bose Block from the *Consortium funds* at a total cost of Rs.8,65,000/-. The work is executed and completed by RCC.
- The Department has also planned to provide internet / networking facility for the J.C.Bose Block at a total cost of Rs.13,00,000/- from the *Consortium funds*. Necessary purchase order was placed by the Director, RCC and the work is under progress which is expected to be completed shortly.
- The Department has also appointed a Security guard and a Sweeper cum Sanitary Cleaner especially for J.C.Bose Block.
- The Department has proposed to utilize the third floor laboratories for the Centre of Excellence in PG (insisted by Govt.of Tamil Nadu) to carry out Sponsored Project works, Research and Development activities. In connection with this, the Department has planned to provide modular

work tables, instead of conventional work tables, that suits for Research and Development activities. The file is submitted for Vice-Chancellor's approval.

➤ Major civil works / electrical works being carried out in the Department through Estate Office with prior approval from the Vice-Chancellor:

- a) Creation of connecting Corridors from the existing Main block to J.C. Bose Block.
- b) Providing shed for the DG set.
- c) Providing electrical mains for the installation of 15 KVA UPS in each floor of J.C. Bose Block.
- d) Renovation of Satellite Research Lab (Ground floor East wing of Main block).

Item No.17.03.06 Budget and List of equipments purchased

The budget allocation amount spent by the department of ECE for the period 2013-14 are presented by the Convenor. The list of equipments and softwares purchased and the items to be purchased under various funding agencies are explained by the Convenor.

Expenditure Statement 2013-14

M.H.No	Head of Account	Budget Amount in Rs.	Expenditure in Rs.	Balance Amount in Rs.
4.2.37	Department of Electronics and Communication Engineering	5,13,000	1,92,592	3,20,408
9.43	Electronics and Communication Engineering Consortium	1,28,50,000	6,62,454	1,11,87,546
CPDE	Administrative Expenses and Infrastructure Development	15,60,000	10,46,615	5,13,385
9.25	ME Medical Electronics Programme consortium	1,35,000	18,701	1,16,299
CIA	Infrastructure Development	39,00,000	33,56,945	5,43,055
7.1.3.69	DST-PURSE Programme - Consumables	50,000	49,899	101

Major Equipment purchased during the year 2013-14

Sl.No.	Name of the Equipment	Cost	Fund
1.	Yokogawa AQ7275, 73504 Optical Time Domain Reflectometer – 1 No.	11.55 Lakhs	DST PURSE
2.	Fujitsu, RX300 High end server -1 No and Acer Clients – 5 Nos	4.5 lakhs	UGC-SAP
3.	Rohde & Schwarz –SMBV100A 9KHz to 6GHz RF Vector signal Generator – 1 No.	19.3 lakhs	UGC-SAP
4.	Agilent MSO X3014A -100 MHZ MSO with inbuilt Function Generator -11 Nos	19.95 Lakhs	CIA

The following equipment and software are sanctioned for the current financial year 2014-15.

Upscaling of PG Research Centre in the Department of ECE.

Sl.No.	Description of the Item sanctioned	Approximate Cost in INR
1.	Cadence Software – Add-on bundle - 4 years License ,PG Bundle – 20 users and Research Bundle -10 users	20 Lakhs
2.	Mentor Graphics Software – 3 years License, 50 Users	10 Lakhs
3.	High end FPGA Boards with ARM and DSP Cores	10 Lakhs
4.	Thermal Infrared Imaging System	7 Lakhs
5.	Biometric Workstation	6 Lakhs
6.	Wireless EMG, Biomechanical sensors and acquisition system	11 lakhs
7.	Musculoskeletal Modelling and Analysis Software	8 Lakhs
8.	Optical Simulation Software – “VPI Transmission Maker Optical Systems”	15 lakhs
9.	Software defined Radio Platforms	9 lakhs
10.	CST Microwave Studio Simulator – 5 year License	6 lakhs
Total Amount Sanctioned		102 lakhs

DST-PURSE Programme (Phase 2)

Sl. No.	Equipment	Amount sanctioned (Rs.)
1.	IR Camera for biomedical application	7.0 Lakhs
2.	Maple Sim 6.1 (10 users)	4.0 Lakhs
3.	EMG and Gait Analysis System	10.5 Lakhs
4.	Sensors for Sensors and Measurement Lab (Thermistors, Photo electric Transducers, Strain gage, LVDT, Thermo-couple, RTD, Piezo electric Transducer)	2.0 Lakhs
5.	FPGA Software development tool (25 user) with partial reconfiguration (1user)	2.08 Lakhs

6.	Medium Capacity development board for the Xilinx with extensible processing platform with inbuilt ARM processor (6 Nos)	1.3 Lakhs
7.	A Complete digital circuit development board for floating point computation compatible with all Xilinx (6 Nos)	1.3 Lakhs
8.	Image Sensor with high definition video interfaces	2.0 Lakhs
9.	FPGA Evaluation Kit includes all the basic components of hardware that allows scaling and customization with daughter cards. (2 Nos.)	2.2 Lakhs
10.	A Kit to experimentally test and verify analog design circuits (5Nos)	81,000/-
11.	A Software for ASIC design (25 Users)	3.0 Lakhs
12.	Vector Network Analyzer Frequency of operation - 20GHz or more, Support for Time domain analysis - 1 unit	27.0 Lakhs
1.	FPGA based Software Defined Radio Kit and Accessories High Density High Performance FPGA Board with associated I/O and measurement points, Multiple RF daughter card and slots- 2 Units	2.5 Lakhs
Total Amount Sanctioned		65,69,000/-

Other Equipments purchase under process

Digital Fundus Camera	Rs.6.0 lakhs	UGC-SAP
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And the procurement of the above equipments and software are under process

Received 2nd installment of recurring grant for the UGC-SAP project as detailed below for the current financial year 2014-15.

M.II.NO	Head of Account	Sanctioned Amount
6.2.122	Contingency/Working Expenses	40,000/-
	Chemicals/Consumables/Glasswares	200,000/-
	Travels/Field facilities/Field trip for faculty	30,000/-
	Seminar on thrust area (for organisation)	75,000/-
	Advisory Committee meeting (TA/DA to UGC Nominees in the committee)	60,000/-
	Books and Journals	40,000/-
	TOTAL (Recurring)	4,45,000/-

SECTION – 4

Ratification of action taken NIL

SECTION – 5

Discussion and Considerations

Item No.17.04.01 CBCS New Tentative Curriculum for B.E.ECE, B.E.BME and M.E.Programmes

The Professor incharge of UG and PG Courses for Choice Based Credit System (CBCS) presented the Tentative Curriculum for B.E.Electronics & Communication Engineering, B.E.Biomedical Engineering, M.E.Communication Systems, M.E.Applied Electronics, M.E.VLSI Design, M.E.Medical Electronics and M.E.Biomedical Engineering. The Convenor presented the eligibility criteria for UG and PG programmes for Regulation R2015 to the members.

CBCS – UG Curriculum Design

A1 – Grouping of Courses

Instructions

- Based on the norms given in Data sheet and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme: **B.E ECE**

Humanities and Social Sciences (HS)							
S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.	HS	Technical English I	2	2	0	3	1
2.	HS	Technical English II	2	2	0	3	2
3.	HS	Principles of Management	3	0	0	3	7
4.	HS	Disater Mitigation management	3	0	0	3	
5.	HS	Human Rights	3	0	0	3	
6.	HS	Environmental Science and Engineering	3	0	0	3	3
7.		TOTAL				18	
8.							
9.							
10.							

CBCS – UG Curriculum Design

A2& A4- Curriculum Design

Instructions

- Refer to Data sheet 1.
- Based on the norms given in Data sheet 1 and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme: **B.E ECE****Semester - 1**

	Course Code	Course Title	Category	Contact Hou	Hrs/Week & Credits				Pre-requisites
					L	T	P	C	
Theory									
1.	HS	Technical English-I	HS	4	2	2	0	3	
2.	BS	Mathematics I	BS	4	4	0	0	4	
3.	BS	Engineering Physics	BS	3	3	0	0	3	
4.	BS	Engineering Chemistry	BS	3	3	0	0	3	
5.	ES	Computing Techniques	ES	3	3	0	0	3	
6.	ES	Engineering Graphics	ES 0	4	4	0	0	4	
Practicals									
7.	BS	Basic Science Lab	BS	4	0	0	4	2	
8.	ES	Computer Practice Laboratory	ES	4	0	0	4	2	
Total					20	2	8	24	

CBCS – UG Curriculum Design

A3- Percentage calculation as per AICTE norms

Instructions

If total number of Credits is Total – calculate percentage based on

- Number of credits in Each Group/ Total X 100

Name of the UG Programme: **B.E ECE**

Total Credits of the Programme: **178**

S.No.	Group Name	Total Credits for Group	Percentage	Percentage Range as per AICTE Norms
	HS	12	6.7	5-10
	BS	27	15.16	15-20
	ES	36	20.22	15-20
	PC	66	37.0	30-40
	PE	18	10.11	10-15
	OE	6	3.37	5-10
	EEC	13	7.30	10-15

CBCS – UG Curriculum Design

A2& A4- Curriculum Design

Instructions

- Refer to Data sheet 1.
- Based on the norms given in Data sheet 1 and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme:

...B.E.Bio Medical Engineering

Semester - 1									
	Course Code	Course Title	Category	Contact Hours	Hrs/Week & Credits				Pre-requisi
					L	T	P	C	
<u>Theory</u>									
1.		Technical English - I	HS	4	4	1	0	4	
2.		Mathematics I	BS	4	3	1	0	4	
3.		Engineering Physics	BS	3	3	0	0	3	
4.		Engineering Chemistry	BS	3	3	0	0	3	
5.		Computing Techniques	ES	3	3	0	0	3	
6.		Engineering Graphics	ES	4	2	0	2	4	
<u>Practicals</u>									
8.		Basic sciences lab	BS	4	0	0	4	2	
9.		Computer Practices Laboratory	ES	4	0	0	4	2	

CBCS – UG Curriculum Design**A3 –Percentage Calculation as per AICTE Norms****Instructions**

If total number of Credits is Total- Calculate percentage on

- Number of credits in each group /Total X 100

Name of the UG Programme: **B.E.Bio Medical Engineering**

Total credits of the Programme : 180

S.No	Group Name	Total Credits for group	Percentage	Percentage Range as per AICTE Norms
1	HS	11	6.1	5-10
2	BS	29	16.1	15-20
3	PA	32	17.8	15-20
4	PC	68	37.8	30-40
5	PE	18	10	10-15
6	OE	9	5	5-10
7	IEC	13	7.2	10-15
	Total	180	100	

Open Electives

1. Role of Information Technology in Hospitals
2. Mechatronics in Rehabilitation
3. Overview of Hospital Equipments
4. Basics of Hospital Design
5. Laser and its application in medicine

CBCS – UG Curriculum Design

A1 – Grouping of Courses

Instructions

- Based on the norms given in Data sheet and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme: **B.E ECE**

Humanities and Social Sciences (HS)							
S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.	HS	Technical English I	2	2	0	3	1
2.	HS	Technical English II	2	2	0	3	2
3.	HS	Principles of Management	3	0	0	3	7
4.	HS	Disater Mitigation management	3	0	0	3	
5.	HS	Human Rights	3	0	0	3	
6.	HS	Environmental Science and Engineering	3	0	0	3	3
7.		TOTAL				18	
8.							
9.							
10.							

CBCS – UG Curriculum Design**A2& A4- Curriculum Design****Instructions**

- Refer to Data sheet 1.
- Based on the norms given in Data sheet 1 and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme: **B.E ECE****Semester - 1**

	Course Code	Course Title	Category	Contact Hou	Hrs/Week & Credits				Pre-requisites
					L	T	P	C	
<u>Theory</u>									
1.	HS	Technical English-I	HS	4	2	2	0	3	
2.	BS	Mathematics I	BS	4	4	0	0	4	
3.	BS	Engineering Physics	BS	3	3	0	0	3	
4.	BS	Engineering Chemistry	BS	3	3	0	0	3	
5.	ES	Computing Techniques	ES	3	3	0	0	3	
6.	ES	Engineering Graphics	ES 0	4	4	0	0	4	
<u>Practicals</u>									
7.	BS	Basic Science Lab	BS	4	0	0	4	2	
8.	ES	Computer Practice Laboratory	ES	4	0	0	4	2	
<u>Total</u>					20	2	8	24	

CBCS – UG Curriculum Design

A3- Percentage calculation as per AICTE norms

Instructions

If total number of Credits is Total – calculate percentage based on

- Number of credits in Each Group/ Total X 100

Name of the UG Programme: **B.E ECE**

Total Credits of the Programme: **178**

S.No.	Group Name	Total Credits for Group	Percentage	Percentage Range as per AICTE Norms
	HS	12	6.7	5-10
	BS	27	15.16	15-20
	ES	36	20.22	15-20
	PC	66	37.0	30-40
	PE	18	10.11	10-15
	OE	6	3.37	5-10
	EEC	13	7.30	10-15

CBCS – UG Curriculum Design**A2& A4- Curriculum Design****Instructions**

- Refer to Data sheet 1.
- Based on the norms given in Data sheet 1 and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme:

...B.E.Bio Medical Engineering

Semester - 1									
	Course Code	Course Title	Category	Contact Hours	Hrs/Week & Credits				Pre-requisite
					L	T	P	C	
<u>Theory</u>									
1.		Technical English - I	HS	4	4	1	0	4	
2.		Mathematics I	BS	4	3		1	0	4
3.		Engineering Physics	BS	3	3		0	0	3
4.		Engineering Chemistry	BS	3	3		0	0	3
5.		Computing Techniques	ES	3	3		0	0	3
6.		Engineering Graphics	ES	4	2		0	2	4
<u>Practicals</u>									
8.		Basic sciences lab	BS	4		0	0	4	2
9.		Computer Practices Laboratory	ES	4		0	0	4	2

CBCS – UG Curriculum Design**A3 –Percentage Calculation as per AICTE Norms****Instructions**

If total number of Credits is Total- Calculate percentage on

- Number of credits in each group /Total X 100

Name of the UG Programme: **B.E.Bio Medical Engineering**

Total credits of the Programme : 180

S.No	Group Name	Total Credits for group	Percentage	Percentage Range as per AICTE Norms
1	HS	11	6.1	5-10
2	BS	29	16.1	15-20
3	ES	32	17.8	15-20
4	PC	68	37.8	30-40
5	PE	18	10	10-15
6	OE	9	5	5-10
7	EEC	13	7.2	10-15
	Total	180	100	

Open Electives

1. Role of Information Technology in Hospitals
2. Mechatronics in Rehabilitation
3. Overview of Hospital Equipments
4. Basics of Hospital Design
5. Laser and its application in medicine

CBCS – UG Curriculum Design

A1 – Grouping of Courses

Instructions

- Based on the norms given in Data sheet and based on the curriculum available with you please fill the Activity Sheet 1.
- The total number of credits for each group should fall within the range specified by AICTE
- Please note that total range of credits for each group depends on the credit allotment you will do during curriculum design.
- You can revisit & modify Activity Sheet 1 after completing Step 2.

Name of the UG Programme: **...B.E.Bio Medical Engineering**

Humanities and Social Sciences (HS)

S. No	Course Code	Course Title	Hrs/Week & Credits				Preferred semester
			L	T	P	C	
1		Technical English –I	3	1	0	4	1
2		Technical English –II	3	1	0	4	2
3		Hospital Management	3	0	0	3	5
4							
5							
6							
7							
8		Total: 3 courses				11	

CBCS – PG Curriculum Design

Grouping of Courses

Types of Courses

1. **Foundation Courses (FC)** may include Advanced Mathematics;
2. **Professional Core (PC)** relevant to the chosen specialization/branch;
3. **Professional Electives (PE)** relevant to the chosen specialization/ branch;
4. **Employability Enhancement Courses (EEC)** includes Project Work, Seminar and/or Internship in Industry or elsewhere.

Name of the PG Programme: **APPLIED ELECTRONICS**

Foundation Courses (FC)

S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.	MA8163	Advanced Applied Mathematics	4	0	0	4	1
2.							
3.							
4.							
5.							

CBCS – PG Curriculum Design

Grouping of Courses

Types of Courses

1. **Foundation Courses (FC)** may include Advanced Mathematics;
2. **Professional Core (PC)** relevant to the chosen specialization/branch;
3. **Professional Electives (PE)** relevant to the chosen specialization/ branch;
4. **Employability Enhancement Courses (EEC)** includes Project Work, Seminar and/or Internship in Industry or elsewhere.

Name of the PG Programme: VLSI DESIGN

<u>Foundation Courses (FC)</u>							
S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.	MA8163	Advanced Applied Mathematics	4	0	0	4	1
2.							
3.							
4.							
5.							

CBCS – PG Curriculum Design

Grouping of Courses

Types of Courses

1. **Foundation Courses (FC)** may include Advanced Mathematics;
2. **Professional Core (PC)** relevant to the chosen specialization/branch;
3. **Professional Electives (PE)** relevant to the chosen specialization/ branch;
4. **Employability Enhancement Courses (EEC)** includes Project Work, Seminar and/or Internship in Industry or elsewhere.

Name of the PG Programme: M.E-BIOMEDICAL ENGINEERING

Foundation Courses (FC)

S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.		Advanced Applied Mathematics	3	1	0	4	

Professional Core (PC)

S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.		Biomedical Sensors and Instrumentation	3	0	0	3	
2.		Diagnostic and Therapeutic Equipments	3	0	0	3	
3.		Medical Imaging Systems	3	0	0	3	
4.		Anatomy and Physiology	3	0	0	3	
5.		Bio Mechanics	3	0	0	3	
6.		Rehabilitation Engineering	3	0	0	3	

CBCS – PG Curriculum Design

Grouping of Courses

Types of Courses

1. **Foundation Courses (FC)** may include Advanced Mathematics;
2. **Professional Core (PC)** relevant to the chosen specialization/branch;
3. **Professional Electives (PE)** relevant to the chosen specialization/ branch;
4. **Employability Enhancement Courses (EEC)** includes Project Work, Seminar and/or Internship in Industry or elsewhere.

Name of the PG Programme: M.E-MEDICAL ELECTRONICS

Foundation Courses (FC)

S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.		Advanced Applied Mathematics	3	1	0	4	

Professional Core (PC)

S. No.	Course Code	Course Title	Hrs/Wk & Credits				Preferred Semester
			L	T	P	C	
1.		Bio Medical Instrumentation	3	0	0	3	
2.		Biosignal Processing	3	0	0	3	
3.		Medical Equipments	3	0	0	3	
4.		Anatomy and Physiology	3	0	0	3	
5.		Medical Image Processing	3	0	0	3	
6.		Medical Imaging Systems and Radio Therapy	3	0	0	3	
7.		Biomedical Instrumentation Laboratory	0	0	4	2	
8.		Data Acquisition and Processing	0	0	4	2	

Item No.17.04.02 Change of syllabus for Optical Switching and Networks

The modified syllabus for Optical Switching Networks proposed by the Course incharge Dr.M.Meenakshi has been placed before DCC for approval and the same is approved by the Committee.

Item No.17.04.03 Special Elective

The special electives for directed study for M.S.(By Research) / Ph.D programme received from Dr.K.Malathy and Dr.O.Uma Maheswari are placed before DCC for approval. The special electives given below are approved by the Committee.

Sl.No.	Name of Special Elective	Name of Staff
1.	Reconfigurable Antennas	Dr.K.Malathy
2.	Electromagnetic Non-destructive Testing of Composites	
3.	FMRI Data Analysis	Dr.O.uma Maheswari

Finally the meeting concluded with a note of thanks from the Convenor.


Dr.S.MUTTAN
CONVENOR

Dr.V.VAIDEHI
CHAIRMAN, ICE


Dr.P.V.RAMAKRISHNA
MEMBER


Dr.Y.V.RAMANA RAO
MEMBER


Dr.S.SHENBAGA DEVI
MEMBER


Dr.K.MALATHY
MEMBER


Dr.S.NIRMALA DEVI
MEMBER


Dr.N.RAMADASS
MEMBER

Dr.RANJANI PARTHASARATHY
MEMBER

OTHER MEMBERS :



Dr.M.KANNAN


HOD

ELECTRONICS DEPT., MIT



Dr.M.A.BHAGYAVENI

PROFESSOR, ECE,CEG



Dr.K.BHOOPATHY BAGAN

PROFESSOR

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Dr.K.S.ESWARAKUMAR

PROFESSOR, CSE



Dr.S.INDIRA GANDHI

ASSOC.PROF., MIT

Dr.P.INDUMATHI

ASSOC.PROF., MIT



Dr.S.VASUHI

ASSOC.PROF., MIT



Dr.P.JAYASHREE

ASST.PROF., MIT