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Bangladesh University of Engineering and Technology

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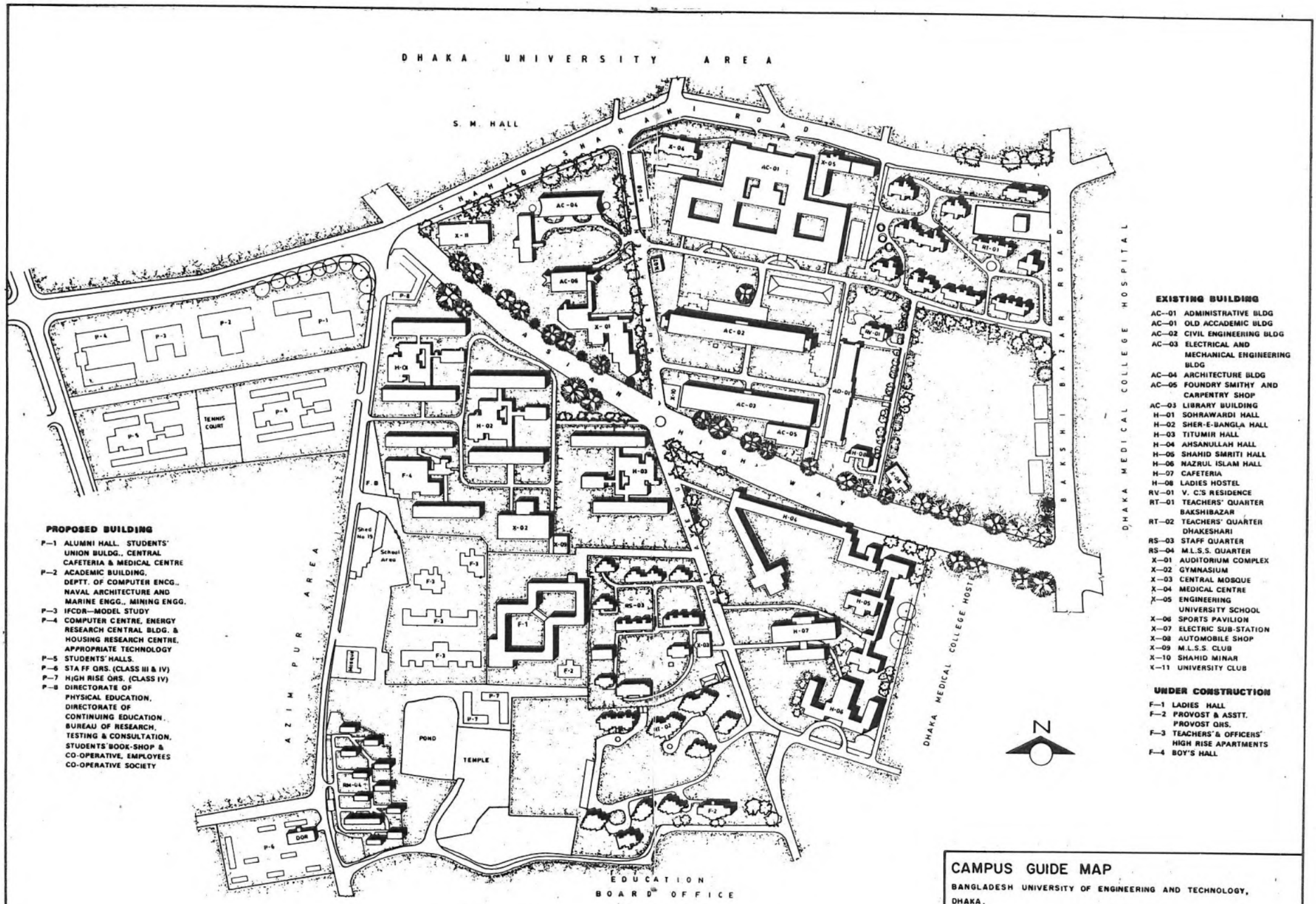
President
The People's Republic of Bangladesh

VICE-CHANCELLOR

Professor M. Shahjahan

Ph.D, F.I.E.



PROPOSED BUILDING

- P—1 ALUMNI HALL. STUDENTS' UNION BULDG., CENTRAL CAFETERIA & MEDICAL CENTRE
- P—2 ACADEMIC BUILDING, DEPTT. OF COMPUTER ENCG., NAVAL ARCHITECTURE AND MARINE ENGG., MINING ENGG.
- P—3 IFCDR—MODEL STUDY
- P—4 COMPUTER CENTRE, ENERGY RESEARCH CENTRAL BLDG. & HOUSING RESEARCH CENTRE, APPROPRIATE TECHNOLOGY
- P—5 STUDENTS' HALLS.
- P—6 STA FF QRS. (CLASS III & IV)
- P—7 HIGH RISE QRS. (CLASS IV)
- P—8 DIRECTORATE OF PHYSICAL EDUCATION, DIRECTORATE OF CONTINUING EDUCATION, BUREAU OF RESEARCH, TESTING & CONSULTATION, STUDENTS' BOOK-SHOP & CO-OPERATIVE, EMPLOYEES CO-OPERATIVE SOCIETY

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- AC—01 OLD ACCADEMIC BLDG
- AC—02 CIVIL ENGINEERING BLDG
- AC—03 ELECTRICAL AND MECHANICAL ENGINEERING BLDG
- AC—04 ARCHITECTURE BLDG
- AC—05 FOUNDRY SMITHY AND CARPENTRY SHOP
- AC—03 LIBRARY BUILDING
- H—01 SOHRAWARDI HALL
- H—02 SHER-E-BANGLA HALL
- H—03 TITUMIR HALL
- H—04 AHSANULLAH HALL
- H—05 SHAHID SMRITI HALL
- H—06 NAZRUL ISLAM HALL
- H—07 CAFETERIA
- H—08 LADIES HOSTEL
- RV—01 V. C'S RESIDENCE
- RT—01 TEACHERS' QUARTER BAKSHIBAZAR
- RT—02 TEACHERS' QUARTER DHAKESHARI
- RS—03 STAFF QUARTER
- RS—04 M.L.S.S. QUARTER
- X—01 AUDITORIUM COMPLEX
- X—02 GYMNASIUM
- X—03 CENTRAL MOSQUE
- X—04 MEDICAL CENTRE
- X—05 ENGINEERING UNIVERSITY SCHOOL
- X—06 SPORTS PAVILION
- X—07 ELECTRIC SUB-STATION
- X—08 AUTOMOBILE SHOP
- X—09 M.L.S.S. CLUB
- X—10 SHAHID MINAR
- X—11 UNIVERSITY CLUB

UNDER CONSTRUCTION

- F—1 LADIES HALL
- F—2 PROVOST & ASSTT. PROVOST QRS.
- F—3 TEACHERS' & OFFICERS' HIGH RISE APARTMENTS
- F—4 BOY'S HALL

CAMPUS GUIDE MAP

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA.

DEANS OF FACULTIES

Faculty of Architecture & Planning
Professor Abu Hyder Imam uddin

Faculty of Civil Engineering
Professor Shamim-uz-Zaman Bosunia

Faculty of Electrical & Electronic Engineering
Professor A. B. M. Siddique Hossain

Faculty of Engineering
Professor Syed Ali Afzal

Faculty of Mechanical Engineering
Professor Md. Abu Taher Ali

PROVOSTS OF HALLS OF RESIDENCE

Ahsan Ullah Hall
Dr. Monimul Huq

Nazrul Islam Hall
Professor Md. Abdur Rouf

Sher-e-Bangla Hall
Professor Md. Mohafizul Haque

Suhrawardi Hall
Professor Md. Imtiaz Hossain

Titumir Hall
Dr. Fazlul Bari

Shahid Smirity Hall
Professor Amlesh Chandra Mandal

Dr. M. A. Rashid Hall
Professor Md. Humayan Kabir

Chattri Hall
Professor Khaliqur Rahman

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Department of Mechanical Engineering 129
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DETAILED COURSES OF THE DEPARTMENTS

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Faculty of Civil Engineering
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Department of Water Resources Engineering 201

Faculty of Electrical and Electronic Engineering
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Faculty of Engineering
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Department of Mathematics 321
Department of Metallurgical Engineering 347
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Faculty of Mechanical Engineering
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Department of Mechanical Engineering 395
Department of Naval Architecture and Marine Engineering 413

GENERAL INFORMATION OF THE UNIVERSITY

ADMISSION AND EXAMINATION RULES AND REGULATIONS

Historical Background :

Bangladesh University of Engineering and Technology, abbreviated as BUET, is the oldest institution for the study of Engineering and Architecture in Bangladesh. The history of this institution dates back to the days of Dhaka Survey School which was established at Nalgola in 1876 to train Surveyors for the then Government of Bengal of British India. As the years passed, the Survey School became the Ahsanullah School of Engineering offering three-year diploma courses in Civil, Electrical and Technical Engineering. In 1948, the School was upgraded to Ahsanullah Engineering College (at its present premise) as a Faculty of Engineering under the University of Dhaka, offering four-year bachelor's courses in Civil, Electrical, Mechanical, Chemical and Metallurgical Engineering. This action was taken with a view to meet the increasing demand for engineers in the newly independent country and to expand the facilities for quicker advancement of engineering education, in general. In order to create facilities for postgraduate studies and research, in particular, Ahsanullah Engineering College was upgraded to the status of a University giving a new name of East Pakistan University of Engineering and Technology in the year 1962. After independence of Bangladesh in 1971, it was renamed as the Bangladesh University of Engineering and Technology.

The BUET campus is in the heart of the city of Dhaka. It has a compact campus with halls of residence within walking distances of the academic buildings. The physical expansion of the University over the last ten years has been impressive with construction of new academic buildings, auditorium complex, students' hall of residence etc.

Undergraduate courses in the faculties of Engineering, Civil Engineering, Electrical & Electronic Engineering and Mechanical Engineering extend over four years and lead to B. Sc. Engineering degrees in Civil, Electrical & Electronics, Mechanical, Chemical, Computer Science & Engg. Metallurgical and Naval Architecture & Marine Engineering. In the Faculty of

Architecture and Planning, the degree of Bachelor of Architecture is obtained in five years.

Postgraduate studies and research are, now among the primary functions. of the university. Most of the departments under the different faculties offer M Sc. Engg. and M. Engg. degrees and some departments have started Ph D. courses, Postgraduate degrees in Architecture (M. Arch.) and in Urban and Regional Planning (MURP) are offered by the Faculty of Architecture and Planning. In addition to its own research programmes, the University undertakes research programmes sponsored by outside organisations, viz. UN Organizations, Commonwealth, UGC etc. The expertise of the University teachers and the laboratory facilities of the University are also utilized to solve problems of and to provide upto-date engineering and technological knowledge to the various organisations of the country. The University is presistent in its effort to improve its research facilities, staff position and courses and curricula to meet the growing technological challanges confronting the country.

List of Faculties and Teaching Departments :

The Univesity has fifteen teaching departments under five faculties. Not all of them are degree offering. Faculty-wise list of the departments with the status of the degrees offered is given below:

Faculty	Departments	Status of degree offering		
		PG only	Both UG & PG	Non degree offering
Architecture and Planning	Architecture	UG/ PG	x	
	Urban and Regional Planning	PG		Non degree offering
	Huminities			x
Civil Engineering	Civil Engigeering	Both UG/PG		
	Water Resources Engineering	PG		
Electrical and Electronic Engineering	Electrical and Electronic Engineering		x	
	Computer Science & Engineering		x	
			UG/PG	

Faculty	Departments	Status of degree offering		
		PG only	Both UG & PG	Non degree offering
Engineering	Chemical Engineering		x	
	Metallurgical Engg.		x	
	Chemistry	PG		
	Mathematics	x		
	Physics	x		
Mechanical Engineering	Industrial and Production Engineering	x		
	Mechanical Engineering		x	x
	Naval Architecture and Marine Engineering	PG	x	x

Admission Requirements, Academic Fees and Examination Rules & Regulations :

Admission requirements for both undergraduate and postgraduate studies (see next section of this book).

Academic fees for U/G Studies :

(a) Admission fee Tk.299/50

(b) A local student have to pay Tk.582/00 as tuition & other fees in each academic session the details of the fees are given below:

Admission fee	- Tk. 25/00	
Tuition fees	- Tk.180/00	Tk 22/50 (per instalment)
seat rent	- Tk. 60/00	(per academic year)
Examination fees	- Tk. 140/00	"
Atheletic fees	- Tk. 20/00	"
Union fees	- Tk. 24/00	"

Medical fees	- Tk. 30/00	"
Registration fees	- Tk. 20/00	"
Caution Money	- Tk. 80/00	"

(c) A foreign student has to pay one thousand us doller per academic year as tuition and other fees.

(d) Academic fees for p/G studies

Admission fee	Tk. 50/00 (per semester)
course fees	Tk. 20/00 per credit hour with a maximum of TK. 200/- per semester
Thesis fees	Tk. 200/00
Medical fees	Tk. 15/00 per semester
seat rent	Tk. 20/00 per semester
Registration	Tk. 20/00
caution Money	Tk. 200/00
Atheletic fees	Tk. 10/00 (per semester)
Union fees	Tk. 12/00 (per semester)

Scholarships and Awards :

Scholarships, stipends, teaching assistantships/fellowships are given to the local students. The students enjoy scholarships from the Education Boards, also technical scholarships, scholarships from the University Grants Commission and other organizations, societies and clubs, namely, Bangladesh Chemical Industries Corporation, 61-Club, tafsils, district bodies, Bangladesh Tobacco Company, National Science & Technology, Bangladesh Sugar & Food Industries Corporation, Aligarh Old Boy's Association, Ahsanur Rahman Scholarship, Habibur Rahman Scholarship etc. Merit scholaships and University stipends are also available. Awards are also given by the University for outstanding performance. Other than awards, gold medals are awarded namely, Masud Hasan gold medal, Malik Akram Hossain gold medal and Ahsanur Rahman gold medal.

Examination :

An academic session, normally of one calendar year, is divided into approximately two equal parts, namely, Part A and Part B, for the purpose of examination. A formal written examination is taken at the end of each part and the promotion to next higher academic year is based on the aggreegate of the marks of these two examinations and also the class tests (20 percent of the total marks for each subject) and the obtaining passing grades in the sessional subjects. The rules and regulations of examinations are given in details in the next section on 'Admission Regulations and Examination Rules and Regulations'. The academic regulations ar framed by the Academic Council on recommendations from the Boards of Studies, the Faculties and the Committee of Advanced Studies and Research (CASR).

Teaching Staff of the University :

The total number of teaching posts is 378 out of which 272 teachers are in active service and 106 teachers are on leave for higher studies abroad. There are four positions of teachers, namely, Lecturer, Assistant Professor, Associate Professor and Professor. The following table gives position and degree-wise breakdown of the teachers in active service including those on leave-vacancies also :

Statistics of teachers in post with their qualifications

Position	B.Sc. Engg., B. Arch., M. A. M.Sc., M. com.	Master in Engg., Arch. & M. Phil.	Ph.D.	Total
Professor	-	1	63	64
Associate Professor	1	12	38	51
Asstt. Professor	33	93	26	152
Lecturer	99	12	-	111
Total	133	118	127	378

Besides these teaching posts, there are Professorships and Chairs which are given below :

a) Dr. Rashid Chair : In memory of late Dr. M. A. Rashid, formerly Professor of Civil Engineering and the First Vice-Chancellor of BUET, a chair has been created, sponsored by the graduates of the year 1961 of BUET (61-Club). Professor A.M. Zahoorul Huq, an eminent educationist Researcher and fromerly Professor of Electrical and Electronic Engineering of the University joined as Dr. Rashid Chair Professor.

b) Professors Emiritus and Supernumerary Professors :

In order to get the benefits from the services of eminent people of either scholastic and academic brilliance or outstanding professionals in Engineering, Architecture and Planning, the University has established provisions for appointment of such persons as Emiritus and Supernumerary Professors. Prof. M.A. Naser and Prof. Wahiduddin Ahmed, formerly Professors of Chemical Engineering and Civil Engineering of BUET respectively are now serving in their respective departments as Supernumerary Professors.

Note : The date in the Fifth column indicates the date of original appointment. Abbreviations used in the Third column are as follows : Arch.-Architecture, C.E.-Civil Engineering, Ch.E.-Chemical Engineering, Chem.-Chemistry, C.S.E.-Computer Science and Engineering, E.E.E.-Electrical & Electronic Engineering, Hum.-Huminities, I.P.E.-Industrial & Production Engineering, I.F.C.D.R.-Institute of Flood Control & Drainage Research, I.A.T.-Institute of Appropriate Technology, Math.-Mathematics, M.E.-Mechenical Engineering, Met.E.-Metal lurgical Engineering, N.A.M.E.-Naval Architecture & Marine Engineering, Phy.-Physics, U.R.P.-Urban & Regional Planning, W.R.E.- Water Resources Engineering.

List of Academic staff of the University in alphabetical order :

Name	Educational qualification	Deptt.	Designation	Date of Joining
Abedin, Md. Zoynul	Bsc, Engg (civil) Dip in-Soil Engg Msc Engg, PhD	C.E.	Asso. Professor	23.12.80
Abedin, Kazi Sarwar	Bsc Engg (Elec)	E.E.E	Lecturer	27.8.88
Abid, Mohd. Razaul	Bsc Engg (NAME)	N.A.M.E.	Lecturer	9.12.89
Afzal, Syed Ali	Bsc (Hons), MS. Msc, Dic, PhD	Math.	Professor	24.4.78
Ahmed, Nooruddin	Bsc Engg (Chem) Msc, PhD	Ch.E.	Professor	12.2.69
Ahmed, Giasuddin	Bsc (Hons) Msc, PhD	Phy.	Professor	25.1.61
Ahmed, Dil Afroza	Bsc (Hons) Msc	Phy.	Asstt. Professor	31.3.70
Ahmed, Sohrabuddin	Bsc Engg (civil) Msc, PhD	C.E.	Professor	14.11.62
Ahmed, M. Firoze	Bsc Engg (civil) Msc Engg, PhD	C.E.	Professor	1.9.69
Ahmed, Wahiduddin	Bsc Engg (civil) M Engg,PhD	C.E.	Professor Emeritus	1.2.51
Ahmed, Syed Nooruddin	Bsc Engg (civil) Msc Engg	C.E.	Asso. Professor	1.3.64
Ahmed, Faruque	Bsc Engg (civil) Msc Engg, PhD	C.E.	Asso. Professor	23.12.80
Ahmed, Nesaruddin	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	8.6.81
Ahmed, Hasan	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	1.3.86

Name	Educational qualification	Deptt.	Designation	Date of Joining
Ahmed, Istiaque	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	29.6.82
Ahsan, Hasib Mohammed	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	29.6.87
Ahmed, Md. Zakaria	Bsc Engg (civil) Msc Engg	C.E.	Lecturer	18.9.84
Ahmed, Asif	Bsc Engg (civil)	C.E.	Lecturer	9.3.86
Ahmed, Tariq	Bsc Engg (civil)	W.R.E.	Lecturer	26.12.83
Ahmed, Belal	Bsc Engg (Mech) M Engg	M.E.	Asso. Professor	26.5.77
Ahmed, Alauddin	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	9.3.86
Ahmed, Sayeed	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	29.6.87
Ahmed, Moniruddin	Bsc Engg (Mech)	I.P.E.	Lecturer	9.12.89
Ahmed, Nasim	Bsc Engg (Mech)	I.P.E.	Lecturer	9.12.89
Ahmed, Kazi Mohiuddin	Msc Engg PhD	E.E.E.	Asso. Professor	26.7.84
Ahmed, S. Shahnawaz	Bsc Engg (Elec) Msc Engg, PhD	E.E.E.	Asstt. Professor	26.12.83
Ahmed, Kaiser	Bsc Engg (Elec)	E.E.E.	Lecturer	23.5.90
Ahmed, Syed Faisal	Bsc Engg (Elec)	E.E.E.	Lecturer	23.5.90
Ahmed, Farid	Bsc Engg (Elec) Msc Engg	C.S.E.	Asstt. Professor	27.8.88
Ahmed, Quazi Nasiruddin	Bsc Engg (Elec)	C.S.E.	Lecturer	21.10.90
Ahmed, Nizamuddin	B Arch, PhD	Arch.	Asso. Professor	15.9.80
Ahmed, Zebun Nasreen	B Arch, M Phil	Arch.	Asstt. Professor	27.8.88
Ahmed, Ajmal Hayat	Bsc Engg (civil) B Arch, M Arch, Mcp	U.R.P.	Asso. Porfessor	24.3.66

Name	Educational qualification	Deptt.	Designation	Date of Joining
Ahmed, Razia, S.	BA (Hons) M A (Geo.), MCP	U.R.P.	Asstt. Professor	21.3.83
Ahmed, syed Mahibuddin	Bsc Engg (civil) Msc Engg (civil) M. Engg., Ph.D	I.F.C.D.R.	Research Professor	25.10.78
Ahmed, Mustaq	Bsc Engg (W.R.E.) PhD	I.F.C.D.R.	Research Asstt. Professor	25.6.81
Ahmed, Ferdous	Bsc Engg (civil) Bsc Engg	I.F.C.D.R.	Research Lecturer	29.6.87
Ahmed, Mohiuddin	Bsc Engg (Mech)	I.A.T.	Research Asstt. Professor	24.9.86
Ahsan, Mohd. Qamrul	Bsc Engg (Elec) Msc Engg, PhD	E.E.E.	Professor	20.10.76
Ahsan, A.K.M. Quamrul	Bsc Engg (civil) Msc Engg	I.F.C.D.R.	Research Asstt. Professor	11.8.82
Akonda, Md. Abdur Razzaq	Bsc Engg (Mech) Bsc Engg, PhD	M.E.	Professor	20.11.76
Akmal, Sayeed.	Bsc Engg (Elec)	E.E.E.	Lecturer	23.5.90
Akhtar, Syed Tahera	Bsc (Hons) Msc	Chem.	Asstt. Professor	8.3.79
Alam, Md. Jobair Bin	Bsc Engg (civil)	C.E.	Lecturer	9.12.89
Alam, Md. KhorShed	Bsc Engg (civil) Msc Engg	W.R.E.	Professor	20.4.72
Alam, Md. Mahmud	Bsc Engg (civil)	W.R.E.	Lecturer	27.8.88
Alam, Md. Mahbubul	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Porfessor	27.12.83
Alam, Md. Shawkatul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	18.9.84
Alam, Ahm. Zahirul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Porfessor	1.4.85

Name	Educational qualification	Deptt.	Designation	Date of Joining
Alam, Md. Shamsul	Bsc Engg (Elec) Msc Engg, PhD	C.S.E.	Asstt. Porfessor	16.1.74
Alam, Wahidul	B Arch, MURP	Arch.	Asstt. Professor	1.1.84
Ali, Md. Sabder	Bsc Engg (Chem) Phd	Ch.E.	Asso. Professor	12.4.70
Ali, Md. Hossain	Bsc Engg (civil) Msc Engg, PhD	C.E.	Professor	11.1,73
Ali, S.K. Sekander	Bsc Engg (civil) Msc Engg, PhD	C.E.	Asso. Professor	6.2.78
Ali, M. Abu Taher	Bsc Engg (Mech) Msc Engg, PhD	M.E.	Professor	29.1 67
Ali, Abu Rayhan Md.	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	2.1.88
Ali, G.m. Zulfikar	Bsc Engg (Mech)	M.E.	Lecturer	27.8.88
Ali, Md. Masroor	Bsc Engg (Elec)	C.S.E.	Lecturer	27.5.89
Ali, Meer Mobashsher	Bsc Engg (civil) B Arch, M Phil	Arch.	Professor	6.6.66
Ali, Zainab Faruque	B Arch	Arch.	Asstt. Professor	27.8.88
Ameen, S. Rakhrul	Bsc Engg (civil) Msc Engg, PhD	C.E.	Asso. Professor	19.2.79
Amin, A.K.M. Nurul	Bsc Engg (Mech) Msc Engg, PhD	I.P.E.	Asso. Professor	9.1.83
Ameen, Shahidul	B Arch, PhD	Arch.	Asso. Professor	5.7.79
Anwar, A.F.M	Bsc Engg (Elec)	E.E.E.	Lecturer	10.9.82
Anwar, Sohel	Bsc Engg (Mech)	M.E.	Lecturer	9.3.86
Anwar, K.M.M. Taufiqul	Msc Engg, PhD	C.E.	Asso. Professor	29.3.82
Asgar, Md. Ali	Bsc (Hons) Msc PhD	Phy.	Professor	2.12.62
Ashraf, Md. Ali	Bsc (Hons) Msc PhD	Math.	Asso. Professor	10.7.63

Name	Educational qualification	Deptt.	Designation	Date of Joining
Askar, Tahsin	Bsc Engg (Elec) Msc Engg	C.S.E.	Asstt. Professor	15.8.88
Awal, Haris M.R.	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	8.8.83
Azim, Abdul	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	11.8.82
Azim, Eng. M. Anwarul	Bsc Engg (Mech) Dipl. Ing, Dr. Ing	I.P.E.	Professor	21.10.61
Aziz, Syed Mahfuzul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	19.10.86
Badruzzaman, A.B.M.	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	18.9.84
Baree, Md. Sadiqul	Bsc Engg (NAME) PhD	N.A.M.E.	Asso. Porfessor	15.3.79
Bari, M. Shafiul	Bsc Engg (civil) Msc Engg, PhD	C.E.	Asstt. Professor	30.6.83
Bari, Md. Fazlul	Bsc Engg (civil) Msc Engg (WRE) PhD	W.R.E.	Asso. Professor	1.11.74
Bari, Saiful	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	18.9.84
Barkat ullah, Javed sabir	Bsc Engg (Elec)	E.E.E.	Lecturer	9.3.86
Bashir, Enamul	Msc Engg, PhD	E.E.E.	Asso. Professor	31.3.83
Begg, Md. Rezaul Karim	Bsc Engg (Elec) Msc Engg, PhD	E.E.	Asstt. Professor	18.9.84
Begum, Dil Afroz	Msc Engg, PhD	Ch.E.	Asso. Professor	1.2.82
Begum, Selina	Bsc Engg (civil) Msc Engg	W.R.E.	Asstt. Professor	16.8.82
Begum, Jasmin Ara	B Arch	Arch.	Lecturer	29.6.87

Name	Educational qualification	Deptt.	Designation	Date of Joining
Bepari, M. Moher Ali	Bsc Engg (Met) Msc Engg (Met) PhD	Met.E.	Professor	17.12.73
Bhattacharjee, Sudip Sankar	Bsc Engg (Civil)	C.E	Asstt. Professor	29.6.87
Bhuiyan, Md. Abu Hasan	Msc, Mphil, Phd	Phy.	Asstt. Professor	7.9.81
Bhuiyan, Md. Ali	Bsc Engg (Civil) Msc Engg, Phd	W.R.E.	Asstt. Professor	6.3.82
Bhuiyan, Md. Masheur Rahman	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	19.10.86
Biswas, Md. Mahmud Hossain	Bsc Engg (Mech)	I.A.T.	Research Lecturer	11.2.90
Bosunia, Md. Shamim-uz-zaman	Bsc Engg (Civil) Msc, Phd	C.E	Professor	1.9.69
Chowdhury, Zarif Ahmed	Bsc Engg (Met) Msc, PhD	Met.E.	Asso. Professor	26.12.83
Chowdhury, Al-Nokib	Bsc (Hons) Msc	Chem.	Lecturer	28.8.89
Chowdhury, Md. Mustafa Kamal	B A (Hons) M A	Math.	Asstt. Professor	24.10.75
Chowdhury, Md. Abdul Hye	Bsc (Hons) Msc	Phy.	Lecturer	28.8.88
Choudhury, Jamilur Reza	Bsc Engg (civil) Msc, PhD	C.E.	Professor	2.1.64
Chowdhury, M. Nazrul Islam	Bsc Engg (civil) Msc Engg	C.E.	Asstt. Professor	26.2.79
Chowdhury, Showkat Jahan	Bsc Engg (Mech) Msc Engg, PhD	M.E.	Asstt. Professor	7.9.81
Chowdhury, Khabirul Huq	Bsc Engg (NAME) PhD	N.A.M.E.	Asso. Professor	1.12.77
Chowdhury, Taifur Ahmed	M S, PhD	E.E.E.	Asso. Professor	30.7.86

Name	Educational qualification	Deptt.	Designation	Date of Joining
Chowdhury, Mohammad Ali	Bsc Engg (Elec) Msc Engg, PhD	E.E.E.	Asstt. Professor	4.1.80
Chowdhury, A.K.M. Dildar Hossain	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	9.3.86
Chowdhury, Ahsan Habib	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	27.8.88
Chowdhury, Golam Rasul	Bsc Engg (Elec) Msc Engg	E.E.E.	Lecturer	1.7.89
Chowdhury, Mahmood Hasan	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	29.3.88
Chowdhury, Dipak-Bin-Kashem	Bsc Egg (Elec)	E.E.E.	Lecturer	9.3.86
Chowdhury, Asiya	B Arch	Arch.	Lecturer	18.11.90
Chowdhury, A. K. M. Jahiduddin	Bsc Engg (Civil) Msc Engg, Phd	I.F.C.D.R.	Research Professor	17.4.74
Das, Dipak Kanti	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Professor	1.1.69
Das, Manoj Kanti	Bsc Engg (Civil) Msc Engg	C.E.	Asstt. Professor	9.3.86
Dey, Swpan Kumar	Bsc Engg (NAME) Phd	N.A.M.E	Asstt. Professor	4.2.81
Elias, Md.	Bsc (Hons), Msc	Math.	Asstt. Professor	8.4.84
Eusufzai, Shafiul A.K.	B Arch, M Arch	Arch.	Asstt. Professor	10.2.83
Faisal, Islam Md.	Bsc Engg (Civil)	W.R.E.	Lecturer	9.3.86
Farooq, M. Abdullah	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	18.9.84
Firoz, Chowdhury Md	Bsc Engg (Mech)	M.E.	Lecturer	9.12.89
Gafur, Shayer	B Arch	Arch.	Lecturer	18.11.90
Gomes, Edmond	Bsc Engg (Chem) Msc Engg	CH.E	Lecturer	9.3.86

Name	Educational qualification	Deptt.	Designation	Date of Joining
Habib, Alamgir	Bsc Engg (Civil) Msc Engg, Phd	C.E.	Professor	1.2.68
Hafiz, Roxana	B Arch, MURP	U.R.P.	Asstt. Professor	16.1.89
Haider, Tarek Fazley	Bsc Engg (Civil)	C.E.	Lecturer	27.8.88
Haider, Ziaul	Bsc Engg (Civil)	W.R.E.	Lecturer	9.12.89
Halim, Md. Abdul	Bsc Engg (Civil) Msc Engg (WRE) Phd	W.R.E	Professor	1.11.73
Hannan, Abdul	Bsc Engg (Civil) MS, Phd	W.R.E.	Professor	24.10.59
Haq, Saif-ul	B Arch	Arch.	Lecturer	27.8.88
Haq, Md. Manzurul	Bsc Engg (Mech) Msc Engg	M.E.	Asstt.Professor	18.9.88
Haque, Md. Mohafizul	Bsc Engg (Met) Msc Engg, Phd	Met. E.	Research Professor	30.1.74
Haque, Md. Shamsul	Bsc Engg (Civil) Msc Engg	C.E.	Asstt.Professor	18.9.84
Haque, Ziaul	Bsc Engg (Mech) MS	M.E.	Asstt. Professor	3.4.83
Haque, Anisul	Bsc Engg (Elec) Msc Engg, Phd	E.E.E.	Asso. Professor	11.9.80
Haque, Anisul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	29.6.84
Haque, Manjurul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	29.3.88
Haque, Abu Sayeed Md.Latiful	Bsc Engg (Elec)	C.S.E.	Lecturer	24.10.90
Haque, Md. Moinul	Msc (Econ), Phd	I.A.T.	Research Asstt. Professor	26.4.87
Hasan, Altaf	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	11.8.82

Name	Educational qualification	Deptt.	Designation	Date of Joining
Hasan, Rg. Mahmud	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Asstt. Professor	8.8.83
Hasan, Mujibul	Bsc Engg (Mech)	M.E.	Lecturer	15.2.73
Hasan, M.M. Shahidul	Bsc Engg (Elec) Msc Engg, Phd	E.E.E.	Asso. Professor	26.9.80
Hasan, Md. Kamrul	Bsc Engg (Elec)	E.E.E.	Lecturer	9.12.89
Hasan, Mainul	Bsc Engg (Elec)	E.E.E.	Lecturer	10.10.90
Hasan, Anwarul	Bsc Engg (Elec)	C.S.E.	Lecturer	1.11.86
Hasan, Md. Shawkat	Bsc Engg (Elec)	C.S.E.	Lecturer	9.12.89
Hasan, Shamim Ara	B Arch, M Arch	Arch.	Asso.Professor	5.7.79
Haseeb, A.S.M. Abdul	Bsc Engg (Met) Msc Engg	Met.E.	Asstt.Professor	18.9.84
Hazra, Md. A. Khaleque	Msc	Math.	Asstt.Professor	10.10.66
Helali, Maksud	Bsc Engg (Mech) Msc Engg	M.E.	Asstt.Professor	18.9.84
Hilaly, Ahmed Kazem	Bsc Engg (Chem)	CH.E.	Lecturer	9.3.86
Hoque, Md. Mazharul	Bsc Engg (Civil) M Engg, Phd	C.E.	Asso.Professor	26.2.79
Hoque, Eqramul	Bsc Engg (Civil)	C.E.	Lecturer	9.12.89
Hoque, Md. Aynal	Bsc Engg (Elec)	E.E.E.	Lecturer	10.10.90
Hoque, Md. Mozammel	Bsc (Agri Engg) Msc Engg, Phd	I.F.C.D.R.	Research Asso.Professor	1.4.86
Hossain, Ijaz	Bsc Engg (Chem) Msc Engg, Phd	CH.E.	Asstt.Professor	10.4.80
Hossain, Nilufar Farhad	Bsc (Hons), Msc	Math.	Lecturer	20.5.90
Hossain, Tafazzal	Bsc (Hons) Msc, Phd	Phy.	Research Professor	9.4.64
Hossain, Md. Mostak	Bsc (Hons), Msc	Phy.	Lecturer	28.8.88
Hossain, Makbul	Bsc Engg (Civil) Msc Engg	C.E.	Asstt.Professor	8.6.81

Name	Educational qualification	Deptt.	Designation	Date of Joining
Hossain, Md. Delwar	Bsc Engg (Civil) Msc Engg, Phd	C.E.	Asstt.Professor	8.6.81
Hossain, A.S.M.Mostaque	Bsc Engg (Civil) Msc Engg	C.E.	Asstt.Professor	25.3.84
Hossain, Md. Naser-Bin	Bsc Engg (Civil)	C.E.	Lecturer	9.12.89
Hossain, Moazzem	Bsc Engg (Civil)	C.E.	Lecturer	9.12.89
Hossain, Md. Monowar	Bsc Engg (Civil) Msc Engg (WRE) Phd	W.R.E.	Asso.Professor	30.4.76
Hossain, Md. Imtiaz	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Professor	16.11.76
Hossain, Md. Farhad	Bsc Engg (Mech) Msc Engg	M.E.	Asstt.Professor	25.2.82
Hossain, Syed Rahmat	Bsc Engg (Mech) Msc, Phd	M.E.	Asstt.Professor	26.10.87
Hossain, Syed Ziaul	Bsc Engg (Mech) Msc Engg	M.E.	Asstt.Professor	29.6.87
Hossain, Md. Al-Amin	Bsc Engg (Mech)	I.P.E.	Lecturer	9.3.86
Hossain, A.B.M. Siddique	Bsc Engg (Elec) Msc Engg, Phd	E.E.	Professor	1.3.73
Hossain, Md. Sajjad	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt.Professor	1.4.85
Huda, Md. Durul	Bsc Engg (Mech) Msc Engg	M.E.	Asstt.Professor	9.3.86
Hossain, Shahadat	Bsc Engg (Civil) M Engg (WRE)	I.F.C.D.R.	Research Lecturer	6.4.91
Huq, Md. Nazmul	Bsc Engg (Chem) Msc Engg, Phd	CH.E.	Asso.Professor	31.5.75
Huq, Ehsanul	Bsc Engg (Met) Phd	Met.E.	Professor	1.1.69

Name	Educational qualification	Deptt.	Designation	Date of Joining
Huq, Md. Nasrul	Bsc Engg (Met) Msc Engg, Phd	Met.E.	Asso.Professor	1.2.78
Huq, A.A.Rezaul	Bsc Engg (Met) Msc Engg	Met.E.	Asstt.Professor	31.5.75
Huq, Enamul	Bsc (Hons) Msc, Phd	Chem.	Professor	1.7.65
Huq, Monirul	Bsc (Hons), Phd	Chem.	Asso.Professor	29.3.74
Huq, Alamgir Mujibul	Bsc Engg (Civil) Msc Engg Phd	C.E	Professor	3.3.73
Huq, Md. Monirul	Msc, Phd	Phy.	Asso.Professor	9.8.86
Huq, A.M.Aziz-ul	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Professor	8.9.65
Huq, A.F.M.Anwarul	Bsc Engg (Mech) Msc Engg, M Engg Phd	I.P.E.	Professor	7.7.65
Huq, Md. Anisul	Bsc Engg (Civil)	I.F.C.D.R.	Research Lecturer	1.2.87
Idris , A.B.M.	Bsc Engg (Mech)	M.E.	Lecturer	9.12.89
Imamuddin, Abu Hyder	B Arch, M Arch	Arch.	Professor	15.10.75
Imran, Jasmin	Bsc Engg (Civil)	W.R.E.	Lecturer	9.12.89
Imtiaz S.M. Sohel	Bsc Engg (Elec)	E.E.	Lecturer	1.7.89
Inam, Md. Khairul	B.Arch, M Arch	Arch.	Professor	15.2.72
Isa, Mohammad	Msc	Math.	Asstt.Professor	17.4.67
Islam, Kh.Ashraful	Bsc Engg (Chem) Phd	CH.E.	Asstt.Professor	20.3.79
Islam, Md. Serajul	Bsc Engg (Met) MS, Phd	Met.E.	Professor	20.3.79
Islam, Md. Fakhrul	Bsc Engg (Met) Msc Engg	Met.E.	Asstt.Professor	2.5.89

Name	Educational qualification	Deptt.	Designation	Date of Joining
Islam, Md. Monowarul	Bsc (Hons) Msc, Phd	Chem.	Asso.Professor	1.4.74
Islam, Md. N	Bsc (Hons), Msc	Chem.	Asstt.Professor	21.8.67
Islam, Nazrul	Bsc (Hons) MS, Phd	Chem.	Asstt.Professor	28.9.86
Islam, A.K.M Nurul	Bsc Engg (Civil)	C.E.	Lecturer	9.12.89
Islam, Md.Rashidul	Bsc Engg (Civil)	W.R.E.	Lecturer	27.8.88
Islam, S.M. Nazrul	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Professor	1.3.70
Islam, Md. Quamrul	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Professor	20.11.76
Islam, A.K.M.Sadrul	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Asso.Professor	18.8.80
Islam, A.M. Titu	Bsc Engg (Mech) Msc Engg	M.E.	Asstt.Professor	9.3.86
Islam, Abu Sayed	Bsc Engg (Mech)	M.E.	Lecturer	27.8.88
Islam, Kazi Md.Saiful	Bsc Engg (Mech) Msc Engg	I.P.E.	Asstt.Professor	29.6.87
Islam, Saiful	Bsc Engg (Elec) Msc Engg, Phd	E.E.E	Professor	31.5.75
Islam, Farhad Fuad	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt.Professor	9.3.86
Islam, Md.Shafiqul	Bsc Engg (Elec)	E.E.E.	Lecturer	1.7.89
Islam, SM. Rezaul	Bsc Engg (Elec) Msc Engg	C.S.E.	Lecturer	9.11.82
Islam, Mir Shahidul	Bsc Engg (Civil) M.P.P., Phd	U.R.P.	Professor	1.3.73
Islam, Md. Jahurul	Msc Engg, Phd	I.F.C.D.R.	Research Asstt.Professor	2.6.84
Islam, Md. Nurul	Bsc Engg (Chem) Phd	I.A.T.	Professor	1.2.68

Name	Educational qualification	Deptt.	Designation	Date of Joining
Islam, Md. Nazrul	Bsc Engg (Elec) M Engg, D Engg	I.A.T.	Research Asso. Professor	10.2.86
Islam, Md. Azharul	Bsc Agri Eco (Hons)	I.A.T.	Research Lecturer	1.4.87
Islam, Md. Kabirul	Bsc Engg (Civil) MSE	C.E.	Lecturer	24.12.89
Jafar, Sayeeda	BA (Hons) MA	Hum.	Asstt.Professor	17.8.81
Jahan, Mirza Mehdi	Bsc Engg (Elec)	E.E.E.	Lecturer	9.12.89
Jahan, Sarwar	BA (Hons) MA Eco,MURP MA (Reg.Plan St Ros.Dev) Phd	U.R.P.	Asso.Professor	16.8.89
Jalhil, Md. Abdul	Bsc Engg (Civil) Msc Engg	C.E.	Asstt. Professor	9.3.86
Jasim Uzzaman	Bsc Engg (Chem) Phd	C.H.E.	Professor	8.12.63
Kabir, Md. Humayun	Bsc Engg (Civil) Msc Engg, Phd	C.E.	Professor	17.7.73
Kabir, Ahsanul	Bsc Engg (Civil) Msc Engg, Phd	C.E	Asso.Porfessor	3.10.77
Kabir, M.R	Bsc Engg (Civil) Msc Engg (WRE) Pg. Dip.In.(HEIWR)	W.R.E.	Asso.Professor	18.1.87
Kabir, Humayun	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	9.3.86
Kabir, S.M. Lutful	Bsc Engg (Elec) Msc Engg, Phd	E.E.E.	Asstt. Professor	30.8.82
Kabir, A.H.Ehsanul	Bsc Engg (Elec) Msc Engg	E.E.E.	Lecturer	10.9.82
Kamal, A.K.M.Mostafa	Bsc Engg (Mech)	I.P.E.	Asstt.Professor	27.8.88
Kamal, A.H.Mostafa	Msc Engg (Elec)	E.E.E.	Lecturer	27.8.88

Name	Educational qualification	Deptt.	Designation	Date of Joining
Kar, Dulal Chandra	Bsc Engg (Elec) Msc Engg	C.S.E.	Asstt. Porfessor	9.11.82
Kaykabad, Md.	Bsc Engg (Elec)	C.S.E.	Asstt. Professor	7.1.91
Kazi, Zunaid Hamid	Bsc Engg (Elec)	C.S.E.	Lecturer	27.8.88
Karim, A.K.M.Rezaul	Bsc Engg (Mech)	M.E.	Lecturer	9.12.89
Karim, A.N.Mustafizul	Bsc Engg (Mech) Msc Engg (IPE)	I.P.E.	Asstt. Professor	9.10.90
Kairm, Md. Ziaul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	9.3.86
Karim. Mir Nazmul	Bsc (Hons) M Com, LLB	HUM.	Asstt. Professor	21.1.69
Karim, Md. Abdul	Bsc Engg (Civil)	I.F.C.D.R.	Research Lecturer	9.12.89
Khalil, Gazi Md.	B. Tech.(Hons) Msc Engg (Mech) Phd	N.A.M.E.	Professor	5.4.73
Khan, Serajul Haque	Bsc Engg (Chem)	CH.E	Asstt. Professor	22.1.81
Khan, Md. Wahab	Bsc (Hons) Msc, M Phil	Chem.	Asstt. Professor	3.2.85
Khanam, Fahima	Bsc (Hons), Msc	Phy.	Asstt.Professor	26.12.82
Khan, Md. Firoze Alam	Bsc (Hons), Msc	Phy.	Lecturer	20.1.85
Khan, Lutful Islam	Bsc Engg (Civil) Msc Engg	C.E.	Lecturer	18.9.84
Khan, Md. Abu Jafar	Bsc Engg (Civil)	C.E.	Lecturer	27.8.88
Khan, Liakat Ali	Bsc Engg (WRE) Msc Engg	W.R.E.	Asstt. Professor	8.6.81
Khan. Md. Nasrullah	Bsc Engg (Civil) Msc Engg	W.R.E.	Lecturer	15.12.84
Khan, M.H	Bsc Engg (Mech) MS, Phd	M.E.	Professor	1.12.56

Name	Educational qualification	Deptt.	Designation	Date of Joining
Khan, Md. Raquibuddin	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	18.9.84
Khan, Md. Ekramul Hasan	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	1.1.84
Khan, Ahsan Ali	Msc Engg Phd	I.P.E.	Asstt. Professor	19.7.84
Khan, Shahidul Islam	Bsc Engg (Elec) Msc Engg, Phd	E.E.E.	Asso. Professor	8.4.81
Khan, Md. Rezwan	Bsc Engg (Elec) Phd	E.E.E.	Asso. Professor	10.4.80
Khan, Md. Easin	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	9.11.82
Khan, Md.Javed Iqbal	Bsc Engg (Elec)	C.S.E.	Lecturer	29.6.87
Khan, Faruq Ahmedullah	B.Arch, M.Arch	Arch.	Asso. Professor	1.1.73
Khandaker, Md. Reaz Hasan	Bsc Engg (NAME)	N.A.M.E.	Asstt. Professor	27.8.88
Khasnabish, Bhumip	Bsc Engg (Elec)	E.E.E.	Lecturer	30.8.82
Khatoon, Sufia	B A (Hons), M.A.	HUM.	Asstt.Professor	28.12.68
Khosru Q. Deen Mohd.	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt.Professor	11.7.87
Kurny, Abu Sayed Wais	Bsc Engg (Met) Msc Engg, Phd	Met., E.	Professor	30.1.74
Mahmud, Iqbal	Bsc Engg (Chem) Msc Tech, Phd	C.H.E.	Professor	26.10.64
Maleque, Md. Abdul	Bsc (Hons), Msc	Math.	Asstt. Professor	16.4.84
Malliek, Fuad Hasan	B Arch, M Phil	Arch.	Asstt. Professor	29.3.88
Mandal, Harendra Nath	Bsc Engg (Chem)	C.H.E.	Asstt. Professor	29.6.87
Mandal, Amalesh Chowdhury	Bsc Engg (Mech) Msc Eng, Phd	M.E.	Professor	31.5.75
Matin, Abdul	Bsc Engg (Eles), M Engg, D Engg	E.E.E.	Professor	13.5.81

Name	Educational qualification	Deptt.	Designation	Date of Joining
Matin, Md. Abdul	Bsc Engg (Civil), Msc Engg (WRE) Phd	W.R.E.	Asstt. Professor	~~6.3.82~~ 25.6.81
Masum, Md. Al-	Bsc (Hons) Msc	Chem.	Lecturer	1.10.88
Majumder, Satya Prasad	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	19.9.81
Mazumder, Md. Mohiuddin	Bsc Engg (Elect)	E.E.E.	Lecturer,	9.12.89
Mazumder, Abdullah Al-Kafi	Bsc (Hons) Msc, ME, Phd	Math.	Asstt. Professor	2.12.89
Mesbahuddin, A.K.	Bsc Engg (Mech)	M. E.	Asstt.Professor	18.9.84
Mia, Abdul Quddus	Bsc (Hons), Msc	Math.	Asstt. Professor	14.11.74
Mia, Md. Abul Kashim	Bsc Engg (Elec)	C.S.E.	Lecturer	9.12.89
Miah, Mirjahan	Bsc Engg (WRE) Msc Engg, Phd	W.R.E.	Asso. Professor	8.4.77
Miah, A.K.M. Ahsan	Bsc Engg (Mech)	M.E.	Lecturer	27.8.88
Mobashwera	Bsc Engg (Civil)	W.R.E.	Lecturer	9.12.89
Modak, Sukomal	Bsc Engg (Civil)	C.E.	Lecturer	9.12.89
Mohiuddin, Md. Golam	Bsc Engg (Mech) Msc Engg	I.P.E.	Asstt. Professor	2.2.89
Mohit, Md. Abdul	M A Eco, M Phil MURP, PhD	U.R.P.	Asso. Professor	6.11.81
Mollah, Abdul Hamid	Bsc Engg (Chem) Msc Engg	Ch.E.	Lecturer	18.9.84
Mridha, Shahjahan	Bsc Engg (Met) Msc Engg, PhD	Met. E.	Professor	2.5.72
Muqeem, Md. Abdul	Bsc Engg (Chem) Msc Engg	Ch.E.	Lecturer	9.3.86
Muktadir, Abdul	Bsc Engg (Civil) Msc, PhD	C.E.	Asstt. Professor	30.12.86

Name	Educational qualification	Deptt.	Designation	Date of Joining
Murshed, Rafiqul	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	19.9.81
Murshd, M. M. Kamrul	Bsc Engg (Elec) Msc Engg (Corp. Engg)	C.S.E.	Asstt. Professor	28.5.85
Murtaza, Md. Alee	Bsc Engg (Civil), Msc Engg, PhD	C.E.	Professor	1.8.73
Moniruzzaman, Md.	Bsc Engg (Mech), Msc Engg	M.E.	Asstt. Professor	29.6.87
Moniruzzaman, Khandaker Md.	B.Arch, MURP Msc Engg	U.R.P.	Lecturer	25.11.90
Nabi, A. S. M. Mahbub-un	Bsc Engg (Civil) M.P.P, Dip-in. Div. Planning	U.R.P.	Asso. Professor	4.5.72
Naser, M. A.	Bsc (Hons) Msc, MSE PhD	Ch.E.	Professor Emeritus	24.4.50
Naser, Jamal A.	Bsc Engg (Mech) Msc Engg, Phd	M.E.	Asstt. Professor	8.8.83
Nishat, Ainun,	Bsc Engg (Civil) Msc Engg, PhD	W.R.E.	Professor	12.6.72
Noor, Maghb-al	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	3.4.83
Omar, K. Ikhtyar	Bsc Engg (Chem) Msc Engg, PhD	Ch.E.	Professor	17.4.72
Patwari, Abdul Matin	Bsc Engg (Elec) Msc M. A, PhD	E.E.E.	Professor	17.11.56
Paul, Gopal Chandra	Bsc Engg (Chem) Msc Engg	Ch.E.	Asstt. Professor	9.3.86
Paul, Rabindra Nath	Bsc Engg (Mech)	M.E.	Lecturer	9.12.89
Paul, uttam Kumar	Bsc Engg (NAME)	N.A.M.E.	Asstt. Professor	4.1.88

Name	Educational qualification	Deptt.	Designation	Date of Joining
Podder, Jiban	Bsc (Hons) Msc Mphil	Phy.	Lecturer	1.3.89
Quader, A. K. M. Abdul	Bsc Engg (Chem) PhD	Ch.E.	Professor	30.4.85
Quamruzzaman, Joarder	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	19.10.86
Quim, A.S.M. Abdul	Bsc Engg (civil) MURP	U.R.P.	Asstt. Professor	3.4.76
Rahim, Abdur	Bsc Engg (Name)	N.A.M.E.	Asstt. Professor	8.6.81
Rahim, Md. Azizur	B Arch	Arch.	Lecturer	14.8.86
Rahman, Khaliqur	Bsc Engg (Chem) PhD	Ch.E.	Professor	6.11.79
Rahman, A. K. M. Motiur	Bsc (Hons) Msc	Chem.	Asstt. Professor	6.2.68
Rahman, Shahidur	B.SC (Hons) Msc	Chem.	Lecturer	22.4.80
Rahman, Shakila	Bsc (Hous), Msc	Chem.	Lecturer	16.8.88
Rahman, Md. Azadur	Bsc Engg (Civil) Msc Engg, PhD	C.E.	Professor	18.4.72
Rahman, Md. Mujibur	Bsc Engg. (Civil) Msc Engg, PhD	C.E.	Asso. Professor	29.10.80
Rahman, Md. Habibur	Bsc Engg (Civil) Msc Engg, PhD	C.E.	Asstt. Professor	11.8.82
Rahman, N. M. Anisur	Bsc Engg (Meah) Msc Engg	M.E.	Asstt. Professor	31.3.89
Rahman, Md. Khalilur	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	29.6.87
Rahman, Md. Mizanur	Bsc Engg (Meah) Msc Engg Msc PhD	I.P.E.	Professor	11.1.68

Name	Educational qualification	Deptt.	Designation	Date of Joining
Rahman, Aminur	Bsc Engg (Mech) Msc Engg	I.P.E.	Asstt. Professor	20.1.85
Rahman, Md. Khalilur	Bsc Engg (Name)	N.A.M.E.	Lecturer	9.3.86
Rahman, Syed Fazli	Bsc Engg (Elec) Msc PhD	E.E.E.	Professor	16.6.64
Rahman, Md. Mujibur	Bsc Engg (Elec) M Engg, PhD	E.E.E.	Professor	5.1.69
Rahman, Syed Anisur	Bsc Engg (Elec) MS	E.E.E.	Asstt. Professor	15.11.62
Rahman, Md. Hamidur	Bsc Engg (Elec)	E.E.E.	Asstt. Professor	16.8.69
Rahman, Md. Mashuqur	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	10.9.82
Rahman, Md. Mahmudur	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	9.3.86
Rahman, Md. Saifur	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	29.6.87
Rahman, Hafizur	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	9.4.88
Rahman, Khwaja Mustafizur	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	29.6.87
Rahman, Saifur	Bsc Engg (Elec)	E.E.E.	Lecturer	9.7.73
Rahman, Seyed Mahbubur	Msc Engg (Elec) PhD	C.S.E	Asso. Professor	3.4.82
Rahman, S. Towfiqur	Bsc Engg (Elec)	C.S.E	Lecturer	27.8.88
Rahman, Chowdhury Mofizur	Bsc Engg (Elec)	C.S.E	Lecturer	9.12.89
Rahman, Md. Saidur	Bsc Engg (Elec)	C.S.E	Lecturer	29.491
Rahman, Shaheda	B Arch, M Arch	Arch.	Asso. Professor	25.10.76
Rahman, Md. Mahbubur	B Arch	Arch.	Lecturer	1.4.85
Rahman, Golam	B A (Hons), M A MCPP, Phd	U.R.P.	Professor	25.8.65

Name	Educational qualification	Deptt.	Designation	Date of Joining
Rahman, Md. Habibur	B A (Hons), M A	Hum.	Asstt. Professor	11.9.78
Rahman, Md. Razaur	Bsc Engg (Civil) Msc Engg (WRE)	I.F.C.D.R.	Research Asstt. Professor	11.8.82
Rana, Md. Yunus	Bsc Engg (Civil) M Engg	I.F.C.D.R.	Research Asstt. Professor	10.7.88
Rashed, A.K.M. Bazlur	Bsc Engg (Met) Msc Engg	Met.E.	Asstt. Professor	25.10.87
Rashid, Md. Abdur	Bsc (Hons), Msc	Chem.	Asstt. Professor	10.8.83
Rashid, Khaleda	B Arch, MURP	Arch.	Asso.Professor	15.10.75
Rashid, Mahbub	B Arch	Arch.	Lecturer	9.12.89
Raza, Syed Mostafa	Bsc Engg (Elec)	E.EE.	Lecturer	29.6.82
Refayetullah, M	Bsc Engg (NAME) PhD	N.A.M.E	Asso. Professor	31.5.75
Rouf, A.F.M.A	Bsc Engg (Civil) Msc Engg	C.E.	Asso. Professor	5.11.60
Rouf, Md. Abdur	Bsc Engg (Civil) Msc Engg, PhD	C.E.	Professor	31.5.75
Rumi, Ashraf Habib	Bsc Engg (Elec) Msc Engg	C.S.E.	Asstt. Professor	16.1.85
Safiullah, A. M. M.	Bsc Engg (Civil) Msc Engg, Phd	C.E.	Professor	31.3.73
Saha, Banshi Badan	Bsc Engg (Elec) Msc Engg	E.E.E.	Asstt. Professor	30.3.69
Saha, Tapan Kumar	Bsc Engg (Elec) M Tech	E.E.E.	Asstt. Professor	20.1.85
Saha, Pran Kani	Bsc Engg (Elec) ME	E.E.E.	Asstt. Professor	9.3.86
Saha, Mrinal Chandra	Bsc Engg (Mech)	M.E.	Lecturer	27.8.88
Saifuddin, Ahmed	Bsc Engg (Elec) Msc Engg	E.E.E.	Lecturer	27.8.88

Name	Educational qualification	Deptt.	Designation	Date of Joining
Saleh, Abul Fazal Md.	Bsc Engg (WRE) Msc Engg (WRE)	I.F.C.D.R.	Research Asstt. Professor	8.4.77
Sarker, Md. Abdur Rashid	Msc Engg (Mech)	M.E.	Asstt.Professor	17.11.85
Sarker, Ruhul Amin	Bsc Engg (Mech) M Engg (IPE)	I.P.E.	Asstt. Professor	20.9.82
Satter, Quazi Galive A.	Bsc Engg (Civil) MURP	U.R.P.	Asstt. Professor	16.1.89
Sayeed, Md. Shaheen	Bsc Engg (Elec)	C.S.E.	Lecturer	9.12.89
Syeed, Quazi Abdus	Bsc Engg (Mech)	I.P.E.	Lecturer	9.3.86
Selim, Masud. Ahmed	Bsc Engg (Mech) Msc Engg	M.E.	Asstt. Professor	31.3.87
Seraj, Salek Md.	Bsc Engg (Civil) Msc Engg	C.E.	Asstt. Professor	18.9.84
Shahjahan, M.	Bsc Engg (Civil) MS, Phd	W.R.E.	Professor	15.10.60
Shaikh, Jamshed Ali	Msc	Math.	Asstt. Professor	16.6.70
Shome, Manash Lal	Bsc Engg (Civil)	W.R.E.	Lecturer	9.3.86
Siddiq, Abu	Bsc Engg (Civil) Msc Engg, Phd	C.E.	Asstt. Professor	11.8.82
Siddiqui, Md. Shafiqul Islam	Bsc Engg (Civil)	C.E.	Lecturer	27.8.88
Siddiqui, M. Saiful Alam	Bsc Engg (Civil) Msc Engg	C.E.	Asstt. Professor	9.3.86
Siddique, Abu Bakar	Bsc Engg (Civil)	I.F.C.D.R.	Research Lecturer	9.12.89
Sikdar, Ashraf Ali	Msc Engg (Mech) Phd	I.P.E.	Asstt. Professor	8.9.81
Tamim, Md.	Bsc Engg (Mech) M Tech	M.E.	Asstt. Professor	28.5.85
Tarek, Ahmed	Bsc Engg (Elec)	E.E.E.	Lecturer	9.12.89
Tareq, A.K.M.	Bsc Engg (Civil)	I.F.C.D.R.	Research Lecturer	27.3.91

Name	Educational qualification	Deptt.	Designation	Date of Joining
Ullah, Md. Rafiq	Bsc (Hons), Msc	Chem.	Asstt. Professor	16.4.80
Ullah, Md. Obayed	Bsc (Hons), Msc	Math.	Asstt. Professor	20.2.79
Ullah, Md. Ahsan	Bcom (Hons) M Com	Hum.	Asstt. Professor	1.2.84
Wahhajuddin, Md.	Bsc (Hons) Msc Engg (Mech) M Engg,Phd	M.E	Professor	1.3.83
Wares, Shamsul	B Arch	Arch.	Asso. Professor	16.2.72
Wasimi, Saheh Ahmed	Bsc Engg (WRE) Msc, Phd	I.F.C.D.R.	Research Asso. Porfessor	8.4.77
Yasin, Sarwar Jahan Md	Bsc Engg (Civil) Msc Engg	C.E.	Asstt. Professor	29.6.87
Yasin, Abdullah-Al	B Arch	Arch.	Lecturer	18.11.90
Zakaria, Md.	Bsc Engg (Civil) Msc Engg, Phd	C.E.	Asso. Professor	9.1.70
Zakerullah, Md.	Bsc (Hons) Msc, Phd	Math.	Professor	16.9.65
Zaman, Nazma	Bsc (Hons) Msc, Phd	Phy.	Asso. Professor	2.8.75

List of Administrative Officers of the University :

1. Office of the Vice-Chancellor

Name	Educational Qualification	Disignation	Date of Joining
Prof. M. Shahjahan	B Sc Eng (civil) MS, PhD	Vice-Chancellor	24.4.91
Md. Joynal Abedin	B.A.	Asstt. Registar (Co-Ordination) and Secretary to VC	28.5.85
Md. Abdul Maleque		Section Officer	2.6.87

2. Office of the Registrar

Abu Taher	B Sc Engg (Mech)	Registrar	28.2.81
Md. Shahjahan	B. Com (Hons.) M.Com., PG DPM	Deputy Registrar	21.11.87
Syed Ayub Ali	B.A.	Asstt. Registrar	26.1.82
Md. Nazrul Islam Ukil	M.A.	Asstt. Registrar	28.5.85
Md. Jahangir Alam	B.A.	Asstt. Registrar	28.5.85
Nurun-Nabi	B.Com	Asstt. Registrar	28.5.85
Md. Azizul Haq	M.A.	Admin. Officer	10.9.86
Md. Golam Mostafa	MSc	Admin. Officer	25.10.87
Md. Abdur Rashid	-	Section Officer	1.2.84

3. Office of the Comptroller

A.S.M. Ashraful Huq	B.Com (Hons) M.Com	Deputy comptroller and Comptroller in-Charge	24.11.86
A.H.M. Morshed Alam	B. Com (Hons) M.Com	Deputy Comptroller	15.2.89
Md. Ansarul Islam	B.Com	Asstt. Director	7.7.81

Name	Educational Qualification	Disignation	Date of Joining
Md. Nurul Islam Mia	B.Com	Asstt. Director	1.12.81
Kh. Md. Aolad Ali	B.Com	Asstt. Director	5.4.86
Md. Shah Alam Bhuiyan	B.Com	Asstt. Director	30.11.86
Sadrul Imam	B.Com (Hons) M.Com	Asstt. Director	1.2.89
Md. Abdul Malek	B.Com	Accounts Officer	30.12.86
Sk. Shahjahan Ali	B.Com (Hons) M.Com, LLB	Accounts Officer	4.7.87
Md. Obaidur Rahman	B.Com	Accounts Officer	2.5.89
A.B.M. Fazlul Haq Shah		Section Officer on LPR (A/Cs)	
Md. Abul Khair	B.Com	Section Officer (cash)	18.4.90
Abdul Halim	M.Com	Asstt. Accounts Officer	16.9.86
4. Office of the Controller of Examinations			
Asadullah Khan	B Sc (Hons), MSc	Controller of Exams.	28.2.81
Sultan Uddin Khan	B.Com	Asstt. Controller of Exam.	28.5.85
Md. Abdul Hakim	B.A.	Asstt. Controller of Exam.	28.5.85
Md. Waizuddin	B.A.	Admin. Officer	25.4.87
5. Office of the Librarian			
Md. Jahirul Islam	M.A. (Lib.Science) MS	Librarian	28.2.90
K.M. Abdul Hai	M.A. (Lib.Science)	Deputy Librarian	13.8.90
S.M. Jakir Hossain	M.A. (Lib.Science)	Asstt. Librarian	14.4.76

Name	Educational Qualification	Disignation	Date of Joining
Suraiya Begum	B.A. (Hons), M.A. M.A. (Lib. Science)	Asstt. Librarian	24.11.86
Md. Abdul wahab Khan	M.A. (Lib.Science)	Sr. Cataloguer	3.6.81
Badrunnessa	M.A. (Lib.Science)	Sr. Cataloguer	30.4.84
6. Office of the University Engineer			
A.K.M. Fazlul Haque	BSc Engg (civil)	Executive Engineear & University Engineer-in-charge	17.6.86
Md. Abdul Aziz	M Sc Engg (Elec)	Executive Engineers	31.3.83
S.A. Mahmud Hassan	B Sc Engg. (civil) M.B.A.	Sub. Divisional Engineer (civil)	15.12.84
M.M. Abdul Alim	B Sc Engg (civil)	Sub.Divisional Engineer (civil)	24.11.86
Aftabuddin Bhuiyan	Dip-in-Engg (Civil) (civil)	Asstt. Engineer	11.5.86
Md. Nurul Momen	BSc Engg (civil) (civil)	Asstt. Engineer	28.11.88
Md. Jahangir Alam	BSc. Engg (Elect) (Elec)	Asstt. Engineer	23.11.88
Md. Majed Ali	B.A.	Admin. Officer	1.6.86
Abdul Majid Howlader		Section Officer (store)	1.2.84
7. Office of the Director, Students Welfare			
Prof. Dr. Ehsanul Huq	BSc Engg (Met) PhD	Director, Students Welfare-in-charge & Prof. Met. Engg.	15.9.90
Md. Monowar Hossain	BSc Engg (civil) MSc Engg, PhD	Dy. Director, Students Welfare & Asso. Prof. of W.R.E	19.6.90

Name	Educational Qualification	Disignation	Date of Joining
Md. Nowsher Ali Mia	M.Com, M.A.	Asstt. Director	2.8.87
Md. Fazlul Haque	M.Com	Section Officer	6.6.87
Physical Education Office Under DSW Office			
M.A. Jalil	BSc, DPE	Director, Physical Education	16.4.74
A.S.M. Lutful Karim	B.A., DPE	Physical Instructor	13.2.61
A.F.M. Obaidul Haque	M.A., BP. ED	Physical Instructor	2.6.81
Md. Ahmedur Rahman	M.S.S., BP. Ed	Physical Instructor	11.2.86
Makshudur Rahman	B.Com (Hons) BP. Ed.	Physical Instructor	2.12.89
Md. Afzalur Rahman	M.A. BP. Ed	Physical Instructor	4.12.89
Medical Center under DSW Office			
Dr. Azizul Islam	M.B.B.S	Deputy chief Medical Officer & C.M.O.-in-charge	2.1.82
Dr. Anwarul Islam	M.B.B.S	Medical Officer	1.7.78
Dr. Golam Rahmani Ahmed	M.B.B.S	Medical Officer	15.6.81
Dr. Md. Abu Taher	M.B.B.S	Medical Officer	11.2.85
Dr. Manzur-e-Alam	M.B.B.S	Medical Officer	25.3.85
Dr. Md. Tozammul	M.B.B.S	Medical Officer	29.4.84
Central Mosque under DSW Office			
Mowlana Abul Fatah Bhuiyan	Kamil, M.A. Pesh Imam	Senior Pesh Imam	20.5.87
Mohila Hall under DSW office			
Ms. Rowshan Ara Begum	M. A. in Education	Mohila warden	24.6.86

Name	Educational Qualification	Disignation	Date of Joining
8. Office of the Director, Planning and Development			
Prof. A.M.M. Safiullah	BSc Engg (civil) MSc, PhD	Director, P & D & Prof. of civil Engg	1.11.89
Md. Tahir Ahmed Chow.	B.Com, LLB	Deputy Director	28.10.78
Md. Moinuddin Chow.	B.Com	Asstt. Director	11.7.84
Sohrab Ali Mia	B.Com	Research Officer	31.3.87
9. Office of the Director, Advisory, Extension and Research Services			
Prof. Md. Abu Taher Ali	B Sc Engg (Mech) M Sc Engg, PhD	Director, Advisory Extn. & Res. services & Prof. of Mech. Engg	30.1.89
Fazlee Karim	B.A.	Asstt. Director (under Suspension)	28.5.85
Md. Tarequl Qader Mirza	B.A (Hons) M.A	Asstt. Director (Pub. cum-inf.)	22.4.87
Md. Khalil uddin	-	Section Officer	18.4.90
Machine Shop Under DAERS Office			
Molla Ahmed Ali	L.M.E.	Superintendent and Chief Instructor	18.3.81
Md. Abdul Karim	Dip-in-Engg (Mech)	Foreman Instructor	29.7.84
Md. Selim Kaiser	Dip-in-Engg (Mech)	Asstt. Foreman Instructor	20.11.88
Foundry, Welding & Sheet Metal Shop under DAERS Office			
Zulfiquar Ali Bhuiyan	Certificate in Weld. Tech.	Superintendent & Chief Instructor	18.3.81
Md. Nazimuddin	Dip-in-Engg (Mech)	Foreman Instructor	10.2.86

Name	Educational Qualification	Disignation	Date of Joining
Md. Motaleb Hossain	Apprenticeship in Welding & Instruction Course in Marine Diesel	Foreman Instructor	19.11.88
Md. Tofayel Ahmed	Dip-in-Engg (Mech)	Asstt. Foreman Instructor	20.12.73
Md. Shahnewaz Karim	Dip-in-Engg (Mech)	Asstt. Foreman Instructor	14.9.87

Central Instrument Work-shop under DAERS office

A.S.M. Jahangir	MSc Instrument	Engineer (abroad)	29.6.88
Md. Rezaul Haq Akhond	BSc Engg (Elec)	Asstt. Instrument Engineer	25.10.89

Automobile shop Under DAERS Office

Nur Ahmed Khan	Dip-in-Engg (Auto)	Foreman Instructor	30.4.77
Md. Mohsinuzzaman	Dip-in-Engg (Power)	Asstt. foreman Instructor	15.2.87

Carpentry shop under DAERS Office

Md. Rafiqul Islam	Dip-in-Industrial Wood Tech.	Foreman Instructor	4.9.88
Md. Ayub Hashemi	Dip-in-Engg (civil)	Asstt. Foreman Instructor	10.10.88
Md. Kafiluddin Mahmud	Dip-in-Engg (civil)	Asstt. Foreman Instructor	19.2.90

10. Office of the Director, Centre for Energy Studies

Prof. K. Ikhtyer Omar	BSc Engg (Chem) MSc Engg, PhD	Director, Centre for Energy Studies and Prof. of chemical Engg	1.3.89

11. Office of the Director, Computer centre

Name	Educational Qualification	Disignation	Date of Joining
Prof. Jamilur Reza Choudhury	BSc Engg (civil) MSc Engg, PhD	Director, Computer centre and Prof. of civil Engg	27.4.83
Sanjoy Kumar Podder	BSc. Engg (Elect) MSc Engg	Programmer	11.3.86
Md. Nazmul Huq	BSc Engg (Elect) MSc Engg	Programmer	23.6.87
S.M. Shahadat Hossain	MSc	Sr. Computer Operator	3.1.84
Khairul Alam	B.Com	Sr. Computer Operator	15.12.84
Md. Shahjahan	B.Com	Sr. Computer Operator	15.12.84
Md. Shah Alam	BSc	Sr. Computer Operator	28.8.89
Subesh Kanti Das	B.A.	Sr. Computer Operator	12.2.90
Sohrabuddin	BSc (Hons) MSc	Sr. Computer Operator	23.4.91

12. Office of the Director, Institute of Flood Control and Drainage Research

Prof. Syed Mohib uddin Ahmed	BSc Engg (civil) MSc Engg, PhD	Director & Prof. IFCDR	15.1.89
Md. Nuruzzaman	B.A.	Admin. Officer	19.11.90

13. Office of the Director, Institute of Appropriate Technology

Prof. Md. Nurul Islam	BSc Engg (chem) PhD	Director , IAT & Prof. of Chemical Engg	1.1.84
Mian Md. Shahjahan	M.Com	Admin. Officer	13.9.86

Name	Educational Qualification	Disignation	Date of Joining
14. Deans of Faculties			
Dr. Md. Syed Ali Afzal	BSc (Hons), MSc Dic, PhD	Dean, Faculty of Engineering & Prof. of Math.	28.8.90
Prof. Abu Hayder Imamuddin	B Arch, M Arch.	Dean, Faculty of Arch. and Planning & Prof. of Arch.	10.12.90
Prof. Shamim-uz-Zaman Bosunia	BSc Engg (Civil) MSc, PhD	Dean, Faculty of Civil Engg & Prof. of C.E.	1.1.90
Prof. A.M. Aziz-ul-Huq	BSc Engg (Mech) MSc Engg, PhD	Dean, Faculty of Mechanical Engg & Prof. of M.E.	30.8.89
Prof. A.B.M. Siddique	BSc Engg (Elec) MSc Engg, PhD	Dean, Faculty of Electrical & Electronic Engg & Prof. of E.E.E.	8.4.91
Office of different Departments			
15. Civil Engg. Department			
M. Nashirul Haq Dhali	Dip-in-Arch.	Senior Instructor (Drafting)	7.7.81
M. Alauddin Sikder	Dip-in-Surveying Dip-in-Tech Edu.	Senior Instructor (Surveying)	4.11.81
16. Metallurgical Engg. Dipartment			
Md. Fazlul Haque Bhuiyan	Dip-in-Engg (Mech)	Senior Foundry Instructor	2.8.86
Md. Azaffor Ali	BSc Engg (E & E)	Asstt. Instrument Engineer	31.12.87
17. Electrical & Electronic Engg. Department			
Kazi Minhajuddin	Dip-in-E & E	Asstt. Instrument	19.11.88

The Library System :

The four storied library building which has a floor space of 19,775 sft stands close to the academic building. It is a compact library with built-in-facilities to provide various services to students, teachers and researchers and to peform administrative and technical jobs. The university library is primarily a reference and research library for the use of staff and students of the university and visiting scholars. The administration of the library system is centralized under the University.Librarian.

All acquisitions and cataloguing activities are carried out in the library, which maintain an accession register, a catalogue of holding and a shelf list. The holdings of the library as of June, 1988 is given below:

Books: 95,354
Current periodicals: 181
Back volumes * : 12307

The library, unique in character in the country provides the following educational and research facilities to the students and teachers of this university:

1. Reading Room and Refrence Library Facility:

The reading room can accommodate 200 students at a time to provide reading facilities of rare and out of print books, ready refrence books and prescribed text books.

* includes journals, conference proceedings, patent, standards, specificatgions etc.

2. Periodicals and Research Library Facility:

It provides services to the post-graduate students, researchers and teachers. The library procures photocopies and reprints of articles, papers and other published materials on request from the researchers and teachers through agencies such as the British Lending Library.

3. Reprographic Facility:

To meet the research and educational needs of both the students & teachers, the library provides reproduction facilities of articles, part of rare and out of print text books and other published materials at a very nominal charge.

4. Rental Library Facility:

The Rental Library issues text books to students for one academic session on rental basis through payment of nominal fees.

5. Borrowing facilities : are extended to all members of the university including students of both graduate and post-graduate levels.

6. Computer Facility :

The library has a plan to use the modern computer technology and telecommunication facilities in near future to upgrade its information retrieval services. The library has at present, a microcomputer which is now being used for house keeping works.

7. Library hours :

a) General library (Saturday-Wednesday): 9 am till 5 pm

b) Reading Room and Reference Library (Saturday-Wednesday): 9 am till 10 pm

Thursday: 9 am till 9 pm.

Student Health Service :

A students health centre provides primary and basic health care facilities to students (residential and non-residential) free of charge. A hospital and an out-patient dispensary are maintained for the students. The out-patient department is staffed with six full-time general practitioners who also attend residential student-patients on call. For specialized consultation on complicated diseases, the centre refers the patients to specialist-consultants. The University bears all hospital expenses, in case a student needs hospitalization.

Research & Extension Services and Workshop Facilities :

To provide engineering and workshop services as backup facilities to research (instrumentation, equipment maintenance, construction of rigs for experimentations etc.), the University is formidably equipped with few workshops. Under a separate Directorate of Advisory, Extension and Research Services, these workshops are administered and managed.

These workshops also function as teaching workshops to impart practical knowledge in workshop technology and metal cutting technology and on job training to the first year students, in general and to the second year students and also to the third year and fourth year students of Mechanical Engineering who take sessional works on Machine Tools and Production Engineering. Machine Shop, Foundry & Pattern Shop, Sheet Metal & Welding Shop, Carpentry Shop and Automobile Shop are the major teaching cum-service workshops, while the Central Instrument Workshop provides services in repairing and maintaining equipments of all engineering and science departments. This workshop also provides photocopying services and other modern reproduction facilities for academic and official purposes.

Computer Centre :

The Computer Centre plays an important role in the teaching and research of the students of the different faculties and provides useful services in data processing facilities required in various sectors of national development.
The Computer Centre has two main frame computers, IBM 370 Model 115 HO2 system and an IBM 4331-KO2 system. In addition microcomputers with hard disc and plotting facilities are available. The on-line peripherals are eight 3340 DASD devices each having a capacity of seventy megabytes, three magnetic tape units, one card reader, one diskette I/0 unit and two line printers. Interactive facilities are available through four VDU terminals in addition to a matrix printer connected to the 370/115 and ten VDU terminals connected to the 4331 consultation on complicated diseases, the centre refers the patients to specialist-consultants. The University bears all hospital expenses, in cases a student needs hospitalization.

Directorate of Students Welfare :

(Students Union, Athletic Club and games & sports facilities)

The Directorate of Students Welfare is responsible for the various activities related to the physical, psychological, social and other aspects of welfare of the students. These include arrangement of supervision for halls of residence, programmes for physical education, games and sports, supervision of the programmes for extra-curricula activities of students through the Central Students Union and through the students unions of the various halls of residence. It is also responsible for providing health services through the Students Health Centre (See page 15), to direct student's consulting and guidance programmes, to aid in arranging employments for students and to organise and maintain contact with the alumni of the University etc.. The Central Students Union, the members of which are elected by the students, oversees the socio-cultural activities of the students. It aids new students in their introduction to the University as well as in looking after the problems of students already at the University.

The students unions of the various halls of residence also arrange their individual socio-cultural activities, literary competitions and help the hall managements in the day-to-day running of the halls.

Games and Sports :

The athletic club of the University provides excellent facilities to students to acquire physical fitness indispensable for a healthy mind and body. The University maintains a beautiful playground, a squash court, tennis lawns, cricket-pitch volley ball and basketball courts. A well-equipped modern gymnasium provides ample facilities for various types of physical activities to a large number of students at a time. The athletic club arranges a colourful athletic competition every year in the form of annual sports meet.

For improvement of the standard of games and sports, regular coaching by experts are arranged. The University arranges inter-hall football, hockey, basketball, tennis, swimming competitions, Inter-Faculty cricket competition etc. It also participates in Inter-University and national competitions in which the University teams and participants have won medals on different occasions. Inter-hall indoor games competition are held and teacher-student friendly games are also arranged at times.

Students Halls of Residence :

The University has eight halls of residence (one of these is exclusively for female students) The total capacity of these halls is around 2800 (including 390 female students). Following are the halls with their respective residential capacities. The halls are named after the national heroes, stalwarts, poets and eminent personalities of the country.

Name of Hall	Residential Capacity
Ahsan Ullah Hall	452
Dr. M. A. Rashid Hall	400
Nazrul Islam Hall	281
Shahid Smrity Hall	293
Sher-e-Bangla Hall	317
Sohrawardy Hall	316
Titumir Hall	403
Chhatri Hall	300
	Total 2762

The existing capacity is around 80% of the total number of students of the University. Non-residential students are to be attached to a hall, so that administrative control on students becomes hall-based.

All of the eight halls are set in gardens and frontal green plantations and lawns and are within easy walking distances of the University, almost at the centre of the city, near shopping centres and on bus routes to the city and suburb. The students live in these halls on community-basis, while a single room, depending on its size, is shared by 3 to 4 students. Each hall has a common-room/ television lounge, library, dining hall, prayer room and room laundry service and other service facilities.

University Institutes :

Two research institutes, namely, (i) institute of Flood Control and Drainage Research, and (ii) institute of Appropriate Technology have been established in the University with clear objectives and purposes. These institutes are basically of non-teaching character; the main purpose to be served by these institutes is to carryout basic and applied research in the two relevant vital areas and develop useful and important softwares.

Institute of Flood Control and Drainage Research :

In recongnition of the importance of research in flood control, irrigation and drainage in the country, institute of Flood Control and Drainage Research was established in July 1974.

The specific aims and objectives of the Institute are :

a. to undertake research relating to behavior of Bangladesh rivers with emphasis on flood control, river training, bank protection and related problems;

b. to study problems relating to flood, irrigation, drainage, groundwater, water distribution and management and agriculture;

c. to carry out basic research as applied to hydrology, hydraulics, river machanics, fluid machanics and in other relevant fields;

d. to study the long term effects of embankments, barrages, dams and other stabilizing works on the ragime of rivers as well as on the morphology and environment of the flood plains;

e. to study harbour, land reclamation, and coastal engineering problems with special emphasis on tides, sediment movement, and salinity;

f. to provide extension courses, training, and are research facilites in the above fields;

g. to provide teaching, training, and research facilities at the postgraduate level (Diploma and Certificate) in the relevant fields;

h. to provide advisory and consulting services to Government, Semi Government and other agencies and to undertake studies and investigations sponsored by them as per University rules;

i. to establish and maintain contact with similar organization both within and outsides Bangladesh ; and

j. to do such other functions as may be prescribed by the Board of Governors.

In view of the national importance of flood control and the pressing urgencies for the development of efficient irrigation and drainage systems to agricultural lands for the increased production of flood, emphasis in research will include studies in the following areas :

1. Studies on characteristics of rivers of Bangladesh.
2. Flood and flood control study series.
3. Studies on water management and irrigation problem of Bangladesh.
4. Mathematical modelling study series.

The Institute has already taken up a number of research projects. Some of them are mentioned below:

1. Regional flood frequency analysis of Bangladesh.
2. A review and analysis of hydrological gauging networks of Bangladesh.
3. Laboratory study of distribution pattern of sediment load.
4. Mathematical model study of storm drainage problem in Dhaka City.
5. A review of flood and road embankment construction practice in Bangladesh.
6. Study on flood depth of the north-east region of Bangladesh.
7. Study on river banks shifting characteristics of Bangladesh.
8. Study of grounwater quality and its effects upon physical properties of irrigated soils in the southern region of Chalan Beel.
9. Numerical simulation of tides and saline water intrusion in the Ganges Delta.
10. Computer modelling of river channel changes in alluvial condition.
11. Numerical modelling of sediment transport process by finite element technique.

Institute of Appropriate Technology :

The Institute of Appropriate Technology (IAT) has been established in the Bangladesh University of Engineering and Technology (BUET) to cater the need for an institution to develop national indigeneous capability in selection, generation and dissemination of technologies appropriate to the national development objectives of Bangladesh.

The objectives of IAT are :

(i) to initiate, promote and conduct research on technology policies, technology assessment, technology transfer, technology development and technology dissemination,

(ii) to develop training programmes related to technology assessment, transfer, development and dissemination,

(iii) to establish collaborative linkage with institution engaged in similar objectives,

(iv) to disseminate information for the effective use of technology for national development;

(v) to provide advisory services on matters related to technology and development.

The functions of the Institute include :

(a) Research and Development Function.
(b) Training Function.
(c) Network Function.
(d) Documentation and Information Dissemination Function.
(e) Advisory Function.

(a) Research and Development Function

Policy Research : Indentification of policies for appropriate choice, generation and dissemination of technologies in relevant sectors. This type of research would generate necessary information for selecting appropriate policies.

Technology Assessment: Assessment of effectiveness of existing technologies and technology based development programmes with a view to indentify strategies to improve their performance and to indentify criteria for selection of similar technologies in future development programmes. This type of research would help in optimum use of technology for national development.

Resource Assessment and Technology Development: Assessment of available resources and indentify technology for the effective use of resources.
On the basis of assessment of resources, users need and existing technologies; whever necessary initiate research for development of technology; involving design, fabrication, testing and demonstration in field condition.
Technology Transfer and Dissemination: Indentification of appropriate mechanism for transfer and dissemination of technologies.

(b) Training Function

Organize and/or develop short courses, seminars, workshops etc. (i) specific to different areas such as, Technology Assessment, Technology Adaptation and Developments, Technology Diffusion and Dissemination; (ii) specific to different issues, technologies or technological process, such as, Rural Energy planning, Post harvest processing or rice/sugarcane gur (iii) specific to the need of different groups such as, banks, research institutions, non-governmental organization.

In addition, social scientists, scientists and technologists from other national organizations will be welcomed to undertake short term research projects in association with Institutes professional staffs.
It is envisaged that these training programmes will be able to meet part of the training need of the country in the field of technology and development.

(c) Network Function

Establish contact and exchange programmes with national and international institutions of similar nature.

(d) Documentation and Information Dissemination Function

Exchange of documents and information; It is envisaged that information dissemination activities will be able to create an awareness about the appropriate choice, generation and dissemination of technology for national development.

(e) Advisory Function

Professional staffs will offer advice on matters related to technology policy, technology assessment, resources assessment, technology development and technology diffusion. These activities will reduce dependence on external technical assistance for such services and also will help in effective use of technology for development.

Auditorium Complex and Seminar Hall :

The University has its own Auditorium Complex with modern facilities which houses one auditorium with a seating capacity of 1500. Within this complex, a modern and hygenically sound canteen caters for food to the students and

teachers. There is also one seminar hall, with a seating capacity of 250, capable of holding conferences and seminars. Besides this seminar hall, a similar one with modern electronic gadgets having a seating capacity of around 200 is located on the first floor of the Civil Engineering Building.

List of Committees :

The University has theFollowingeight statutory committees :

1) Syndicate
2) Academic Council
3) Finance Committee
4) Planning and Development Committee
5) Committee for Advanced Studies and Research (CASR)
6) Boards of Undergraduate Studies (BUGS)
7) Boards of Post graduate Studies (BPGS)
8) Faculties

The Syndicate is the supreme authority in major policy-making matter and in approving recommendations. The Finance Committee, the Planning and Development Committee and other committees assist the Syndicate in matters important for proper functioning of the University. The Academic Council is the supreme body in formulating academic rules and regulations to which the CASR, Boards of Undergraduate and Postgraduates Studies, and Faculties recommend.

University Publications :

The University publishes the following items at various times :

(i)	Calendar and Diary :	About 7000 copies of Calendar and 2000 copies of diary annually.
(ii)	Annual Report :	Annually about 650 copies
(iii)	Research Abstract :	Biannually about 550 copies
(iv)	Research Bulletins :	Mechanical Engineering, Chemical Engineering, Water Resources Engineering, Electrical & Electronic Engineering (Published annually)
(v)	Ordinance, Statutes, Rules and Regulations :	Published occassionally.
(vi)	University Calendar :	400 copies published biannually. (Syllabus)
(vii)	BUET Studies :	Half yearly about 500 copies
(viii)	Technical Journal :	Annually about 4000 copies

Admission Requirements for Undergraduate and Postgraduate Courses:

Students get their admission into the four-year B. Sc. Engineering degree course in the various engineering departments and in the five-year architeture course through an open admission test. Candidates for admission into the B. Sc. Engg. and the B. Arch, courses must have passed the Higher Secondary Certificate (HSC) exmination (Science group) after twelve years of schooling or its equivalent. Students are generally seleted on the basis of the result of the admission test. The number of fresh entrant in the engineering faculty is usually 510 and that for Architecture is 50. Moreover, a maximum of 26 seats are reserved for foreign students and 21 seats for the members of the Bangladesh armed forces. Students would give option for any of the branches of engineering viz. Chemical, Civil, Electrical and electronics, Computer Science & Engg., Mechanical, Metallurgical and Naval Architecture & Marine Engineering during admission.

The qualifying requirements for the admission test for subsequent entry in the undergraduate courses are as follows :

(i) Minimum of 50% of marks in Secondary School Certificate (10 years of schooling equivalent to Matriculation) examination.

(ii) Minimum of 65% of marks in aggregate in the subjects of Physics, Chemistry and Mathematics and not less than 50% marks in each of these subject separately in the Higher Secondary Certificate examination.

The detailed rules of admission for each academic session are framed by the Academic Council of the University, Usually, the notice for admission is advertised in the local news papers soon after the results of the HSC examinations are announced. Application forms and any other information may be obtained from the Academic Section of the Registrar's Office. Overseas students may contact the Registrar of the University for details about the admission procedure.

Registration/Admission :

Students qualified in the admission test, have to undergo a medical check-up. The medical check-up is conducted at the Students Health Centre of the University. Medical Examination is preceeded by verification of previous academic documents at the academic section of the Registrar's office before the students can get their admissions into the first year classes. The right of admission to the University is subject to the requirement that the student will comply with the admission procedure and will obey the existing statutes, ordinances, rules and regulations of the University and those framed from time to time.

Discipline and Conduct :

As member of the university community a student is expected to behave in a seemly fashion. It is obligatory for him to abide by the rules and regulations of the University. In case of violation of some rules or in case of misconduct or an act of indiscipline a student may be penalised by the concerned authorities of the university, or his case may be referred to the Board of Residence and Discipline for appropriate action. Student may be informed of the relevant rules at different times by the offices of the Registrar, the Comptroller, the Controller of Examinations, the Librarian, the Director of Students Welfare and the Provosts of residential halls. Students should keep themselves aware of the the different notfications issued by these offices. In case a student is interested to know about any regulation of the university he may contact the office of the Registrar of the university.

Postgraduate Admission and Course Qualifying Requirements and Academic Regulations :

(i) M. Sc. Engg./M. Engg. and M. Arch.-A student must have a bachelor's degree or its equivalent from a recognized university or institution with a good academic record.

(ii) Master of Urban & Regional Planning-A student must have a bachelor's degree or its equivalent in Engineering/ Architec-ture/Planning/ Agricultural Economics or a Master's degree in Sociology/Social

Welfare/Social Work/ Geography/ Economics from a recognized university or institution with a good academic record.

(iii) M. Phil in Physics and Chemistry-A student must have a bachelor's degree or its equivalent in relevant Engineering or a Master's degree in relevant subjects from a recognized university or institution with a good academic record.

(iv) Ph.D.-A student must have a Master's degree or M. Phil from a recognized university or institution a student; in the Master's programme may be transferred to the Ph. D. programme if he shows excellent progress in his Master's thesis after completion of courses.

Academic Duration :

(i) Master's courses in Engineering and Architecture are of three semesters with a minimum duration of one year and a half.

(ii) M. Phil. MURP and Ph. D. are of four semesters with a minimum duration of two years.

A candidate for the Master's degree must complete all requirements within five calendar yeas and Ph. D. within six calendar years from his first enrolment in respective programmes.

Academic regulations :

The academic year for postgraduate studies is divided into two semesters. Academic progress is measured in terms of credit hours earned by a student. One credit hour subject should require one hour of class attendance per week for one semester. A student needs credit hours for respective degrees as follows:

Degrees	Course Cr. hr.	Thesis/Project Cr. hr.
M. Sc. Engg/M. Arch	18	18
M. Engg.	30	6
M. URP	30	18
M. Phil	18	30
Ph. D.	9	45

Examinations Rules and Regulations For Undergraduate and Postgraduate Students

A. Undergraduate

Rules relating to conduct of examinations for undergraduate engineering and architecture courses applicable to the students admitted to this university in session 1983-84 onwards and repeaters along with them:

System & conduct of Examination

The B. Sc. Engineering and Architecture degrees courses shall be divided for the purposes of the examination and promotion as follows :

For 1st Year, 2nd Year, 3rd Year and 4th year (for Engineering) and 1st Year, 2nd Year, 3rd Year, 4th Year and 5th Year (for Architecture) each will extend over one academic session. For the purpose of examination, a course will be divided into two parts, Part 'A' and Part 'B'. Part 'A' Examination will be held in the middle of the session and will carry 40% of the total marks alloted for the courses/subjects and part 'B' examination will be held at the end of the session and will carry 40% of the total marks allotted for the courses/subjects.

Class test

There shall be continuous assessment of performance of students through class tests in all theory courses and 20% of total marks of that course (10% of total marks in each of part-A and part-B) shall be allotted for these class tests. In each part of the session, the teacher(s) concerned shall take at least two, but not more than three class tests and shall prepare marksheet which he shall submit separately at the end of each part of the session.

Date of Examination

The dates of various examination shall be announced by the Dean at the beginning of each session. The dates of examinations shall not be

changed except by a specific decision of the Academic Council on the recommendation of the Faculty concerned.

Preparatory leave

A preparatory leave of two weeks will be allowed before part 'A' examination and two to three weeks before part 'B' examination.

Minimum pass/ qualifying marks

40% is the minimum pass marks in each theory/ sessional subject. Where a subject is taken as more than one distinctly different subjects mentioned in the curricula, the paper shall be divided into requisite number of parts and it shall be obligatory to pass the parts separately. Marks obtained in the part 'A' and 'B' examinations and the class test will be added to calculate the total marks obtained by a student in that subject. Absence in any paper will be considered equivalent to securing zero in that paper.

A student will be promoted to the higher class when he passes in all the subjects.

Distribution of marks (for engineering)

Distribution of marks of different courses will be as follows :

	1st year	2nd year	3rd year	4th year	
1 period per week	50		100	100	Theory subjects
2 " " "	150	150	200	200	
3 " " "	200	250	300	300	
4 " " "	300	300	400	400	

For session/practical, for all years for a course of 3 hours per week, marks will be 100 and/ or of a course of 3 hours per alternate week, marks will be 50.

Eligibility of examinee

A candidate may not be a dmitted to any university examination unless :

: Submits and application for appearing in the examination in the prescribed form to the Controller of Examinations.

: Paid the prescribed examination fees and all outstanding University and Hall dues.

Merit position & award of Class

Class of a student shall be decided on the marks he obtained in the regular examinations and class tests. The classes will be determined on the basis of the aggregate of marks obtained by a candidate in all the eight theory/sessional examinations of the four year courses for engineering and in all the ten theory/sessional examinations of the five year courses for architecture.

A candidate securing 75% or above in the aggregate of marks in all the papers for all the four year classes for engineering and for all the five year classes for architecture, shall be placed in the First Class with honours. If the aggregate is below 75% but 6o% or higher he/she shall be declared to have obtained First Class. If the aggregate is below 60% but 50% or higher, he/she shall be declared to have obtained Second Class (Upper). Other successful candidates shall be placed in the Second Class.

Referred Examination

A student who fails in not more than two theory subjects, provided that he has already obtained at least 40% marks in aggregate (i.e. total of all theory and sessional courses for that year), will be allowed to sit for a referred examination to clear those subjects to be held normally in the 2nd week from the beginning of the classes of the next academic session. A student taking refered examination will be provisionally allowed to attend the higher class until the result of the referred examination is published. A student who will pass in the referred subjects shall be declared to have passed in the relevant examination.

Attendance

The rules for attendance report of students are as follows : Student's attendance reports for each subject in one academic session shall be notified in four instalments as given below:

i) First quarterly report :	Six weeks after the resumption of classes of the part-A
ii) Second quarterly report (Cummulative)	A cmulative attendance of a student during part-A at the end of part-A classes
iii) Third quarterly report : (Cumulative)	A cumulative attendance of a student during part-A and the current quarter of six weeks after the resumption of classes of part-B
v) Final overall cumulative report :	At the end of classes of the part-B, total cimulative attendance of a student during the session.

A student shall not be admitted to part-B examination if his cumulative attendance so recorded above falls short of 60% of the total classes held in every subject during part-A and part-B classes of the session.

A list of the students whose attendance is less than 60% will be prepared by the Registrar within 2 working days after obtaining a report and the respective guardians of these defualting students would be informed.

If after the third report a student's attendance falls below 60% and is such that even if the student attends all the classes after the announcement of this third report and still could not achieve 60% attendance, he shall not be allowed to continue attending the remaining classes of part-B.

Private

A student who fails as per rules and who has passed in all sessional/practical subjects may appear in the examination in which he failed. as a private candidate on payment of examination fees. He shall be required to pass all theory subjects for promotion to the higher class.

Exemption

Repeater students may be exempted in the theory course (s) in which he secured 60% or more marks. Head of the relevant department concerned may, however, disallow such exemption. For exemption in sessional/ practical subjects following rules will apply:

i) 40% shall not be exempted
ii) above 40% and below 45%, Head of the Department conccerned may allow exemption.
iii) 45% and above, shall be exempted directly on the basis of application (provided the student has applied for such exemption within the specified time).

B. Postgraduate

Rules relating to conduct of examinations for postgraduate courses in M. Sc. Engg. M. Engg. M. Arch., M. URP, M. Phil. and Ph.D.

Conduct of Examination

i) For all postgraduate degrees in Engineering, Architecture, Urban & Regional Planning and Physics and Chemistry, in addition to test, assignments and/or examinations during the semester as may be given by the teacher (s) concerned, there shall be a written examination and/or other test for each of the the subjects offered in a semester at the end of that semester. The dates of which shall be announced by the Deen of the respective faculties at least two weeks before the commencemnt of the examination. The final grade in a subject shall be based on the performance in all tests, assignments and/or examinations.

Grading System

Final grades for courses shall be recorded as follows :

Grade	Merit description	Grade points	Numerical markings
A+	Excellent	4.0	90% and above
A	Very good	3.5	80% to below 90%
B+	Good	3.0	70% to below 80%
B	Average	2.5	60% to below 70%
C	pass	2.0	50% to below 60%
F*	Failure	-	below 50%
I**	Incomplete	-	
S or U	Satisfactory or Unsatisfactory (for non-credit course)		

W Withdrawn from course

* Subject in which the student gets F grades shall not be counted towards credit hour requirements and for the calculation of Grade Point Average (GPA).

** Given only a student is unable to complete the course because of circumstances beyond his control, it must be made up by the close of next two semesters or the incomplete grade becomes a failure. He may, however, be llowed to register without further payment of tuition fees for that course.

Qualifying Requirements

The qualifying requirement for graduation is that a student must earn the minimum grade point of 2.65 based on the weighted averaged in his course work.

The C grades, upto a maximum of two subjects may be ignored for calculation of grade point average (GPA) at the written request of the student, provided the student has completed the total credit hour requirement with a minimum weighted GPA of 2.65 in the remaining subjects. No subject shall be repeated unles it is a compulsory requirement for the degree as determined by the Board of Postgraduate Studies. Performance in all the subjects shall be reflected in the transcript.

If the cumulative number of F grades obtained by the student is three or more he shall not be allowed to continue in the programme.

If at the end of the second or any subsequent semesters, the cumulative GPA falls below 2.5 (considering all grades including F grades), he shall not be allowed to continue in the programme.

Thesis/Project

In addition to successful compleltion of course works every student shall submit a thesis/project on his research work, fulfilling the requirements as detailed below.

Every candidate submitting a thesis/project in partial fulfilment of the requirements of a degree, shall be

required to appear at an oral examination, on a date or dates fixed by the Head of the department and must satisfy the examiners that he is capable of intelligently applying the results of this research to the solution of problems, of undertaking independent work, and also afford evidence of satisfactory knowledge rfelated to the theory and technique used in his researh work.

(ii) For Ph. D. degree :

Conduct of Examination

As in (i) above for Masters and M.Phil degrees.

Qualifying Requirements

To qualify for the degree a stuent must earn a minimum grade of 2.65 based on the weighted average in his course work.

Comprehensive Examination

The date and time of the comprehensive examination shall be fixed by the Doctoral Committee on the request of the supervisor. Comprehensive Examination shall ordinarily be held after the completion of the course work by the student.

The comprehensive examination shall comprise a written examination and/or an oral examination to test the knowledge of the student in his field of study. The Doctoral Committee shall conduct the comprehensive examination. If a student fails to qualify in a comprehensive examination he shall be given one more chance to appear in the examination as scheduled by the Doctoral Committee.

Research work for a thesis shall be carried out in this University or at a place(s) approved by the Doctoral Committee in consultation with the supervisor.

Thesis

At the end of the student's research work the student shall submit a thesis whach must be an original contribution to engineering/ sciences and worthy of publication. At least five type written copies of the thesis in the final form must be submitted to the Head of the department through the supervisor in the approved format.

In case a student fails to satisfy the Board of Examiners in thesis and/or oral examination, the student shall be given one ore chance to resubmit the thesis and/or appear in oral examination as recommended by the Board.

A student who has been transferred to the Ph. D. programme from the M. Sc. Engg/M. Phil. programme may be awarded an M. Sc. Engg./M. Phil. degree on recommendation of the supervisor, if the student fails to qualify for the award of the Pn.D. Degree.

Faculty of Electrical and Electronic Engineering

Department of Electrical and Electronic Engineering

Teaching Staff :

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Syed Fazl-i-Rahman, B. Sc. Engg. (Elect.), M. S., Ph. D.
Md. Mujibur Rahman, B. Sc. Engg. (Elect.), M. Engg., Ph. D.
A. B. M. Siddique Hossain,B. Sc. Engg. (Elect.), M. Sc. Engg., Ph. D.
Abdul Matin, B. Sc. Engg. (Elect.), M. Engg., D. Engg.
Saiful Islam B. Sc. Engg. (Elect.), M. Sc. Engg., Ph. D *
Mohd. Qamrul Ahsan, B. Sc. Engg. (Elect.), M. Sc. Engg., Ph. D

Associate Professors :
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Shahidul Islam Khan, B. Sc. Engg. (Elect.), M. Sc. Engg., Ph. D.
Md. Rezwan Khan, B. Sc. Engg. (Elect.), Ph. D.
M. M. Shahidul Hasan, B. Sc. Engg. (Elect.), M. Sc. Engg., Ph. D.
Taifur Ahmed Chowdhury, M. S., Ph. D.

Assistant Professors :
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Mohd. Hamidur Rahman, B. Sc. Engg. (Elect.)
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Satya Prased Majumder, B. Sc. Engg. (Elect.), M. Sc. Engg.
Md. Mashuqur Rahman, B. Sc. Engg. (Elect.), M. Sc. Engg.
Rafuqul Murshed, B. Sc. Engg. (Elect.), M. Sc. Engg.
Tapan Kumar Saha, B. Sc. Engg. (Elect.), M. Sc. Engg.

* *Head of the department*

Md. Showkatul Alam, B. Sc. Engg. (Elect.), M. Tech.
Md. Rezaul Karim Begg, B. Sc. Engg. (Elect.), M. Sc. Engg.
Pran Kanai Saha, B. Sc. Engg. (Elect.), M. E.
Narayan Ch. Debnath, B. Sc. Engg. (Elect.), M. Sc. Engg.
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Md. Mahmudur Rahman, B. Sc. Engg. (Elect.), M. Sc. Engg.
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Hafizur Rahman, B. Sc. Engg. (Elect.), M. Sc. Engg.
Manjurul Haque, B. Sc. Engg. (Elect.), M. Sc. Engg.
Khwaja Mustafizur Rahman, B. Sc. Engg. (Elect.), M. Sc. Engg.
Ahsan Habib Chowdhury, B. Sc. Engg. (Elect.)

Lecturers :

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Bhumip Khasnabish, B. Sc. Engg. (Elect.)
A. H. Ehsanul Kabir, B. Sc. Engg. (Elect.) M. Sc. Engg.
Syed Mostafa Mahmud Raza, B. Sc. Engg. (Elect.)
Kazi Sarwar Abedin, B. Sc. Engg. (Elect.)
Ahmed Saifuddin, B. Sc. Engg. (Elect.)
A. H. Mostafa kamal, B. Sc. Engg. (Elect.)
Golam Rasul Chowdhury, B. Sc. Engg. (Elect.), M. Sc. Engg.
Md. Shafiqul Islam, B. Sc. Engg. (Elect.)
S. M. Sohel Imtiaz, B. Sc. Engg. (Elect.)
Md. Mohiuddin Mazumder, B. Sc. Engg. (Elect.)
Mirza Mehdi Jahan, B. Sc. Engg. (Elect.)
Md. Kamrul Hasan, B. Sc. Engg. (Elect.)
Sayeed Akmal, B. Sc. Engg. (Elect.)

Kaiser Ahmed, B. Sc. Engg. (Elect.)
Syed Faisal Ahmed, B. Sc. Engg. (Elect.)
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Mainul Hasan, B. Sc. Engg. (Elect.)
Ashish Kumar Kirtania, B. Sc. Engg. (Elect.)
Md. Mahbub Bis Rashed, B. Sc. Engg. (Elect.)
Md. Mosaddeq-ur-Rahman, B. Sc. Engg. (Elect.)
Md. Quamrul Huda, B. Sc. Engg. (Elect.)
Rubeena Shahnaz, B. Sc. Engg. (Elect.)
Md. Rabiul Islam, B. Sc. Engg. (Elect.)
Syed Moshiur Rahman, B. Sc. Engg. (Elect.)
Md. Tanvir Quddus, B. Sc. Engg. (Elect.)
Md. Faizul Alam, B. Sc. Engg. (Elect.)

Intorduction :

Electrical & Electronic Engineering play an important and indispensable role in establishing and maintaining istant communication across the country and beyond with high ranged fidelity and functional frugality, among many other functions.

The department is thus, committed to a large and varied programme of research in its effort to solve the national level problems in the field of electrical and electronic engineering.

The department is currently engaged in research in such fields as : power system stability, comparative study of new and conventional methods of measuring synchronous machine quantities. optimum load scheduling, AC transmission system stabilization by DC link, determination of radio data for Bangladesh terrain at microwave frequencies, properties of dielectrics made of indigenus materials, microwave filters, analysis, design and synthesis of electronic circuits, fabrication of soild state diodes and transistors, energy conversion, Bio-Engineering Etc.

Moreover, The department is now also working in the fields of energy research, Projects on various aspects of Electric, Electronic, Communication including Material Science. The postgraduate programme of the department leading to M.Sc. (Engg), M. Engg. and Ph.D. is Designed to include such areas of

research as : circuits, communications, control, electronics, material science, microwave, fields, machines, high voltage engineering and power systems.

SUMMARY OF COURSES

Undergraduate

Course No.		Subject Title	Hours/week	Marks
First year				
CE	104	Civil Engineering Drawing	0 - 3/2	50
CE	108	Servey Practical	0 - 2	50
Chem	101	Chemistry	3 - 0	200
Chem	102	Chemistry Sessional	0 - 3	100
CSE	101	Computer Techniques	2 - 0	150
CSE	102	Computer Techniques Sessional	0 - 3/2	50
EEE	101	Basic Electrical Engineering	3 - 0	200
EEE	102	Basic Electrical Engineering Sessional	0 - 3/2	50
Hum	101	English and Economics	2 - 0	150
Math	105	Mathematics		
		Paper I	2 - 0	150
		Paper II	2 - 0	150
ME	103	Basic Mechanical Engineering	2 - 0	150
ME	104	Basic Mechanical Engineering Sessional	0 - 3/2	50
ME	112	Mechanical Engineering Drawing	0 -3/2	50
Phy	101	Physics	3 - 0	200
Phy	102	Physics Sessional	0 - 3	50
Shop	104	Foundry Shop	0 - 3/2	

Course No.		Subject Title	Hours/week	Marks
ME	104	Basic Mechanical Engineering Sessional	0-3/2	50
ME	112	Mechanical Engineering Drawing	0-3/2	50
Phy	101	Physics	3-0	200
Phy	102	Physics Sessional	0-3	100
Shop	104	Foundry Shop	0-3/2	50
Shop	106	Metal and welding shop	0-3/2	50
Shop	108	Machine Shop	0-3/2	50

Course No.		Subject Title	Hours/week	Marks
Second Year				
CE	225	Mechanics of Materials	2-0	150
CE	226	Mechanics of materials Sessional	0-3/2	50
EEE	200	Electrical Design and Drafting	0-3/2	50
EEE	203	Electrical Circuits I	3-0	250
EEE	204	Electrical Circuits I Sessional	0-3/2	50
EEE	205	Electrical Machines I	3-0	250
EEE	206	Electrical Machines I Sessional	0-3/2	50
EEE	207	Electronics I	3-0	250
EEE	208	Electronics I Sessional	0-3/2	50
Hum	203	Acocuntancy and Industrical		
		Management : Accountancy	1-0	100
		Industrial Management	2-0	150
Math	205	Mathematics		
		Paper I	2-0	150
		Paper II	2-0	150
ME	207	Thermodynamics and Fluid Mechanics	3-0	250
ME	208	Fuel Testing and Fluid		
		Machanics Sessional	0-3/2	50
Third year				
CSE	301	Digital Techniques	2-0	200
CSE	302	Digital Techniques Sessional	0-3/2	50
EEE	300	Electronics Shop Sessional	0-3/2	50
EEE	301	Electronics II	3-0	300
EEE	302	Electronics II Sessional	0-3	100
EEE	303	Electrical Circuits II	3-0	300
EEE	305	Electrical Machines II	3-0	300
EEE	306	Electrical Machines II Sessional	0-3	100
EEE	307	Measurements and Instrumentation	2-0	200
EEE	308	Measurements and Instrumentation Sessional	0 - 3/2	50
EEE	309	Electromagnetic Fields and waves	2 - 0	200
EEE	311	Transmission and Distribution of Electrical		
		power	3 - 0	300
EEE	314	Electrical Design Sessional	0 - 3/2	50
Math	309	Mathematics	2 - 0	200

Course No.		Subject Title	Hours/week	Marks
Fourth Year				
CSE	401	Microprocessors & Digital Computers*	2 - 0	200
CSE	402	Microprocessors Digital Electronics	0 - 3/2	50
EEE	400	Project and Thesis	0 - 6	200
EEE	401	Control Systems	2 - 0	200
EEE	402	Control Systems Sessional	0 - 3/2	50
EEE	403	Power Systems Analysis	2 - 0	200
EEE	404	Power Systems Analysis Sessional	0 - 3/2	50
EEE	405	Power Stations	2 - 0	200
EEE	407	Integrated Ciruits and Industrial Electronics	3 - 0	300
EEE	408	Integrated Circuits and Industrial Electronics Sessional	0 - 3/2	50
EEE	409	Telecommunication Engineering	2 -0	200
EEE	410	Telecommunication Engineering Sessional	0 - 3/2	50
EEE	411	Science of Materials	2 - 0	200
EEE	413	Switchgear and Protective Relays	2 - 0	200
EEE	414	Switchgear and Protective Sessional	0 - 3/2	50
EEE	415	Microwave Engineering*	2 - 0	200
EEE	416	Microwave Engineering Sessional	0 - 3/2	50
EEE	417	Electronics III *	2 - 0	200
EEE	418	Electronics III Sessional	0 - 3/2	50
EEE	419	High Voltage Engineering*	2 - 0	200
EEE	420	High Voltage engineering Sessional	0 - 3/2	50
EEE	423	Electrical Circuits III *	2 - 0	200
EEE	424	Electrical Circuits III Sessional	0 - 3/2	50

* Indicates optional courses. A student has to take two of these courses, in the combination suggested by the department and from amongst those offered, including appropriate laboratories.

Postgraduate

Course No.		Subject Title	Credit hours
EEE	6000	Thesis	18
EEE	6000	Project	6
EEE	6001	Seminar	0

Course No.		Subject Title	Credit hours
Compulsory Subjects			
EEE	6011	Engineering Analysis	3
EEE	6012	Energy Conversion Processes	3
Optional Subjects			
EEE	6101	Linear System Analysis	3
EEE	6102	Network Synthesis I	3
EEE	6103	Network Synthesis II	3
EEE	6104	Non-Linear Circuits	3
EEE	6105	Advanced Topics in Network Theory	3
EEE	6201	Statistical Communications Theory	3
EEE	6202	Information Theory	3
EEE	6203	Telephone Traffic Theory	3
EEE	6204	Advanced Telecommunication Engineering	3
EEE	6301	Power Semiconductor Circuits	3
EEE	6302	Design of Power Electronic Circuits	3
EEE	6401	Advanced Electronics	3
EEE	6402	Quantum Electronics	3
EEE	6403	Solid Stats Devices	3
EEE	6404	Active Circuit Design	3
EEE	6501	Electric and Magnetic Properties of Material	3
EEE	6502	Electronics of Solids	3
EEE	6503	Laser Theory	3
EEE	6601	Applied EM Theory	3
EEE	6602	Microwave Theory and Techniques	3
EEE	6603	Microwave Tubes and Circuits	3
EEE	6604	Antennas and Propagation	3
EEE	6701	Non-linear Control	3
EEE	6702	Sampled-data Control	3
EEE	6703	Modern Control Theory	3
EEE	6704	Optimal Control Systyms	3
EEE	6705	Statistical Models for Engineering systems	3
EEE	6801	Generalized Machine Theory	3
EEE	6802	Special Machines	3
EEE	6803	Advanced Machine Design	3
EEE	6901	Optimization of power System Operation	3

Course	No.	Subject Title	Credit hours
EEE	6902	Computer-aided Power System Design	3
EEE	6903	Protective Relays	3
EEE	6904	Power System Stability	3
EEE	6905	Transients in Power Systems	3
EEE	6906	Reliability of Power System	3
EEE	6907	Power System planning	3
EEE	6908	Advanced Power System Control	3

Department of Computer Science & Engineering

Teaching Staff :

Associate Professor :

Syed Mahbubur Rahman, M.Sc. Engg. (Elect.), Ph. D. *
Md. Shamsul Alam, B.Sc. Engg. (Elect.), M. Sc. Engg., Ph. D.

Assistant Professors :

Dulal Ch. kar, B. Sc. Engg. (Elect.), M. Sc. Engg.
Ashraf Habib Rumi, B. Sc. Engg. (Elect.), M. Sc. Engg.
M. M. Kamrul Murshed, B. Sc. Engg. (Elect.), M. Sc. Engg. (Comp. Engg.)
Md. Hasan Chowdhury, B. Sc. Engg. (Elect.), M. Sc. Engg.
Tahsin Askar, B. Sc. Engg. (Elect.), M. Sc. Engg.
Farid Ahmed, B. Sc. Engg. (Elect.)
Mahammad Kaykabad, M. Sc. Engg. Ph. D. M. Engg.

Lecturers :

S. M. Rezaul Islam, B. Sc. Engg. (Elect.), M. Sc. Engg.
Javed Sabir Barkatullah, B. Sc. Engg (Elect.)
Dipak Bin Kashem Chowdhury, B. Sc. Engg (Elect.)
Anwarul Hasan, B. Sc. Engg (Elect.)
Md. Javed Iqbal Khan, B. Sc. Engg (Elect.)
S. Towfiqur Rahman, B. Sc. Engg (Elect.)
Zunaid Hamid Kazi, B. Sc. Engg (Elect.)
Md. Masroor Ali, B. Sc. Engg (Elect.)
Md. Shaheen Sayeed, B. Sc. Engg (Elect.)
Md. Shawkat Hasan, B. Sc. Engg (Elect.)
Ahmed Tarek, B. Sc. Engg (Elect.)
Md. Abul Kashem Mia, B. Sc. Engg (Elect.)
Chowdhury Mofizur Rahman, B. Sc. Engg (Elect.)
Quazi Nasir Uddin Ahmed, B. Sc. Engg (Elect.)
Abu Sayed Md. Latiful Hoque, B. Sc. Engg (Elect.)
Md. Saidur Rahman, B. Sc. Engg (Elect.)
Md. Hasanuzzaman, B. Sc. Engg (Elect.)

* *Head of the department*

DETAILED COURSES OF THE DEPARTMENTS

Faculty of Electrical and Electronic Engineering

Department of Computer Science and Engineering

UNDERGRADUATE COURSES

FIRST YEAR
PHYSICS - 101
3 hrs. per week 200 Marks

PART A

Heat and Thermodynamics

Kinetic theory of gases: Deduction of gas laws, principle of equipartition of energy, Equation of State : Andrew's experiment, Vander Waals equation, critical constants, Transmission of Heat : Conduction, Convection and Radiation.

Laws of Thermodynamics: First law of thermodynamics, Internal energy, specific heats of gases, work done by expanding gas, elasticities of a perfect gas; Second law of thermodynamics, Carnot's cycle, efficiency of heat engines, Absolute scale of temperature, Entropy and its physical concept, Maxwell's thermodynamic relations, Statistical mechanics.

Optics

Combination of Lenses : Equivalent lens and equivalent focal length. Defects of images formed by lenses : Spherical aberration, astigmatism, coma, distortion, curvature of the image, chromatic aberration. Theories of Light : Huygen's principle and construction. Interference of light : Young's double slit experiment, biprism, Newton's rings, interferometers, interference by multiple reflection. Diffraction of light : Fresnel and Fraunhofer diffraction, diffraction by single slit, diffraction by double slit, diffraction gratings. Polarization: Production and analysis of polarized light, optical activity. OPtics of crystals.

Waves and Oscillations

Oscillations : Simple harmonic motion, Combination of S.H.M and Lissajous figures, Damped Oscillations, Forced Oscillations, Resonance, Vibrations of membranes and columns.

Waves: Travelling waves, the principle of superposition, Wave velocity, group velocity and phase velocity, power and intensity in wave motion, Interference of waves, diffraction of waves, Reflection and transmission of waves at a boundary, standing waves.

Sound Waves : Audible, Ultrasonic, infrasonic and Supersonic wavs; Propagation and speed of longitudinal waves, travelling longitudinal waves, Standing longitudinal waves, Vibrating systems and sources of sound, beats, The Doppler effect.

Architectural Accoustics : Reverberation, Noise insulation and reduction, compund absorption, sound distribution, Room accoustics, Recording.

PART B

Properties of Matter

Atomic Structure of Matter : Atoms, ions and molecules, States of matter; Solids, Liquids and gases, Interparticle Forces, Elasticity : Stress Strain, Elastic constants. Viscosity : Critical Velocity and reynold's number, Poiseulli's equation, Stoke's law. Hydrodyamics : Equation of continutiy, Bernoulli's equation and its Applications. Surface Tension : Surface effects, free surface energy, Molecular theory of surface tension, excess-pressure theorem, contact angle, capillarity, Crystallography : types of bonds, Types of Crystals, X-ray diffraction and Bragg's law, Plasticity and crystal defects, metals, Insulators and semiconductor, elementary band theory, Superconductors and plasma.

Modern Physics

Relativity: Michelson-Morley experiment, Lorentz-Einstein transformation, Mass energy relation. Quantum effect : Photo electric effect, Compton effect. Wave Mechanics : de-Broglie wave, Correspondence principle, Uncertainty principle, Schrodinger's wave equation. Atom, pde; : Bohr's theory of one electronatoms, vector atom model, Radioactivity : Radio active decay, Half life, lawa of successive disintegration, radioactive equilibrium. The Nucleus Properties of a Nucleus-binding energy, Nuclear reactions-nuclear reactors.

Electricity and magnetism

Electrostatics : Charge and matter, coulomb's law, the electric field, Gauss's law, electric potential, capacitors and dielectrics.

Current Electricity : Current and resistance, Ohmic and non-ohmic material, variation of resistance with temperature-resistance thermometer; thermo-electricity-thermoelectric thermometer.

Electromagnetism : Magnetic fields. Ampere's law, Fraday's law Lenz's law, Inductance-Self and mutual inductance.

Magnetic Properties of matter : Magnetomotive force, magnetic field intensity, Permeability and susceptibility, clasification of magnetic material, magnetization curves of Ferromagnetic materials, magnetic circutis, magnetostriction.

PHY-102 Physics Sessional

3 hours, every alternate week 50 marks

Experiments based on Phy-101

CHEM-101 Chemistry

3 hours. per week 200 marks.

PART A

Inorganic chemistry : The structure of atom : Particles constituting the atomic model. Wave nature of electrons and shape of the orbitals. Periodic table : Classiffication of elements, Mande-Leev's periodic table, critical studies on periodic table with its usefulness and limitations. Physical chemistry: Properties of gases and equation of state : Aqueous solution : Types of solution, factors influencing the solubility of a substance, the Le-chatelier's principle, mechanism of dissolution, evolution and absorption of heat. Different units of concentration, problems involving acid base titrations. Solution of gases in liquids. Distribution of solute between two immiscible solvent, application of distribution law. Properties of dilute solution, vapour pressure, Raoult's law-its application. Elevation of boiling point, depression of freezing point and osmotic pressure. Colloids and properties of Colloidal system; Stoichiometry : Empirical and molecular formulas, ionic equation, solution of problems.

PART B

Inorganic chemistry : Nobel Gases; Occurence, discovery, isolation, general properties, and uses, Importance of noble gas elements in the study of chemistry : chemical bond; Different types of chemical bond, general properties of ionic and covalent compounds. Modern approach of covalent bond, Modern concepts of acids and bases. Different types of chemical reactions. Physical chemistry : Kinetics and chemical equilibria; Rate of a reaction, factors determining the rate. Law of mass action, evaluation and characteristics of equilibrium constant of a reaction. Ionisation of water and concept of P^H Thermo-chemistry : Types of energy, enthalpy, heat of reaction, heat of

combustion, heat of formation and heat neutralization. Experimental determination of thermal changes during chemical reaction. Electrochemistry : Electrolytes, mechanism of electrolytic conduction, transport number and electrolytic conductance.

CHEM-102 Chemistry Sessional

3 hours. per week 100 Marks.

Introduction and scope of analytical chemistry, elementary concepts of quantitative analysis; Volumetric analysis. Chemical balance, evaluation of analytical data. Report writing. Experiments; Preparation of standard solutions of sodium oxalate, oxalic acid, Potassium dichromate etc, standardization of sodium hydroxide, hydrochloric acid, sodium thiosulphate, potassium permanganate etc. Determination of total alkalinity of soda ash. Determination of acetic acid content of vinegar. Determination of copper in copper sulfate solution. Determination of F++ in Mohr's salt and calculation of purity of Mohr's salt. Determination of bleaching powder by iodometry. Determination of sulfur by frairmetiric method. Determination of aluminium as Aluminum oxide.

MATH-105 Mathematics paper-1

2 hours. per week 150 Marks.

PART A

Section A: Differential Calculus

Limit. continuity and differentiability. Differentiation of explicit and implicit functions and parametric equations. Significance of derivatives. Differentials. Successive differentiation of various types of functions. Leibnitz's theorem. Rolle's theorem, Mean value theorems. Taylor's theorem in finite and infinite forms. Maclaurin's theorem in finite and infinite forms. Lagrange's form of remainders. Cauchy's form of remainder. Expansion of functions by differentiation and integration, partial differentiation, Euler's theorem.

Section B : Differential Calculus

Tangent, Normal, Subtangent and subnormal in cartesian and polar co-ordinates, Determination of maximum and minimum values of functions and points of inflexion, Applications, evaluation of indeterminate forms by L' Hospitals rule, Curvature, radius of curvature, circle of curvature, centre of curvature and chord of curvature, Evolute and involute, Asymptotes, Envelopes, Curve tracing.

PART B

Section A : Co-ordinate Geometry

Change of axes: Transformation of co-ordinates, simplification of equation of curves. Pair of straight lines : Conditions under which general equations of the second degree may represent a pair of straight lines. Homogeneous equations of second degree. Angle between the pair of lines. Bisectors of the angle between the pair of lines. Pair of lines joining the origin to the point of intersection of two given curves.

Circle : Equation of the circle in cartesian and polar co-ordinates. General equation of a circle, Centre and radius of a circle, Tangents and normals. Condition of tangency of a line. Pair of tangents. Length of tangents. Common chord, Chord in terms of its middle point, Orthogonal circles. Radical axis. Radical centre. Properties of radical exes, Coaxial circles and limiting points.

Section B : Co-ordinate Geometry

Equations of parabola, ellipse and hyperbola in cartesian and polar co-ordinates, Tangents and normals, Pair of tangents, Chord of contact, chord in terms of its middle point, Parametric co-ordinates, Diameters, conjugate diameters and their properties, Director circles and asymptotes.

MATH-105 Mathematics Paper-II

2 hours, per week 150 Marks

PART A

Section A : Integral Calculus

Definitions of integrations, Integration by method of substitution. Integration by parts, Standard integrals, Integration by the method of successive reduction. Definite integrals, its properties and usw in summing series. Wallis's formulae.

Section B : Integral Calculus

Improper integrals, Beta function and Gamma function. Area under a plane curve in cartesian and polar co-ordinates, Area of the region enclosed by two curve in cartesian and polar co-ordinates. Trapezoidal rule. Simpson's rule. Arc lengths of curves in cartesian and polar co-ordinates, parametric and pedal equations. Intrinsic equation. Volumes of solids of revolution. Volume of hollow solids of revolution by shell method. Area of surface of revolution.

PART B

Section A: Ordinary Differential Equations

Degree and order of ordinary differential equation. Formation of differential equations, Solutions of first order differential equations by various methods. Solutions of second and higher orders with constant co-efficients. Solutions of homogeneous linear equations, Applications.

Section B: Matrices, Vectors and three dimensional Co-ordinate Geometry.

Matrices: Definition of matrix. Equality of two matrices. Addition, subtraction and multiplication of matrices. Transpose of a matrix and inverse of a matrix. Three dimensional Co-ordinate Geometry: System of co-ordinates. Distance of two points. Section formula, Projection, Direction cosines, Equations of planes and lines.

Vectors: Definition of vectors. Equality of vectors. Addition and multiplication of vectors. Triple product and multiple products, Applications to geometry and mechanics, Linear dependence and independence of vectors.

HUM-101 English and Economics

2 hours. per week 150 Marks

English

PART A

Definition of scientific terms, comprehension, precis writing, phrases and idioms, commercial correspondence and tender nitice.

PART B

Essay writing, Application and description, construction of sentences and paragraphs.

Economics

PART A

Nature of an economic theory, applicability of economic theories to the problems of developing countries. Some basic concepts-supply, demand and their elasticities. The relationship among average, margin and total and their derivation. Equilibrium-stable, straight and dynamic equilibrium. Consumer's equilibrium-indifference curve, producer's equilibrium-isoquant.

PART B

Production-factors of production, production possibility curve-equilibrium of a firm, fixed cost and variable cost, the short run and the long run. The cost curves

and supply curves, law of returns, internal and external economics and diseconomics. Economics of development and planning, basic concept-saving, investment, GNP, NNP, percapita income, growth rate, policy instruments of development. Fiscal policy, monetary policy and trade policy their relative applicability in Bangladesh. Some planning tools-capital output ratio, input analysis, planning in Bangladesh-first five year plan, development problems related to agriculture, industry and population of Bangladesh.

CSE- 103 Programming Languages

3 hours. per week 200 Marks.

PART A

Introduction to digital computers and programming algorithm and flow chart construction. Information representation in digital computers. Writing debugging and running programs (including file handling) of various digital computer using FORTRAN, BASIC.

PART B

Introduction to data structures. Formal specification of syntax. Elements of language theory : mathematical preliminaries. Formal languages. Structured programming concepts. Survey of features of existing major high level languages. Appropriate application using PASCAL.

CSE-104 Programming Languages Laboratory

3 hours. per week 100 Marks

Laboratory works based on CSE-103

ME-103 Basic Mechanical Engineering

2 hours. per week 150 Marks

PART A

Study of fuels, steam generating units with accessories and mountings, performance study of steam generator, steam turbine, their study and performance; study of pumps and compressors.

PART B

Introduction to internal combustion engines and their cycles : study of petrol engines, diesel engines and gas turbines with their accessories; performance study of internal combustion engines, study of refrigeration system.

PART B

Computational methods for solving problems in : linear algebra, nonlinear equations, approximations, interpolation, integration and ordinary differential equations.

ME-104 Basic Mechanical Engineering Sessional

3 hours. every alternate week 50 Marks.

sessional classes based on ME-103.

ME-112 Basic Mechanical Engineering Drawing

3 hours. every alternate week 50 Marks.

Introduction, Scale drawing, Sectional views, Isometric views. Missing Line. Auxiliary view.

EEE-109 Introduction to Electrical Engineering

3 hours. per week 200 Marks.

PART A

Fundamental electrical concepts and measuring units, D. C. voltage, current resistance and power. Laws of electrical circuits and methods of network analysis. Principles of D.C. measuring apparatus. Laws of magnetic fields and methods of solving simple magnetic circuits.

PART B

Alternating current-instantaneous and r.m.s. current, voltage and power, average power for various combinations of R, L and C. circuits. Phasor representation of sinusoidal quantities.

EEE-110 Introduction to Electrical Engineering Laboratory

3 hours. every alternate week 50 Marks.

laboratory experiments based on EEE-109.

2nd Year

CSE-200 Software Development-I

3 hours. per week 100 Marks.

Students will develop structured programs with proper documentations in at least two high level languages as assigned and will run on micro/mainframe computers.

CSE-201 Discrete Mathematics and Numerical Analysis

2 hours. per week 150 marks.

PART A

Set theory, Elementary number theory, Graph theory, Paths and trees, Generating functions, Algebraic structures, Semigraph, Permutation groups, Lattices, Finite fields and coding theory, Linear programming, Mathematical Logic, Propositional calculus and predicate calculus.

CSE-203 Data Structures and Algorithms

2 hours. per week 150 Marks.

PART A

Basic data structures : representation of data, lists, trees, arrays, graphs, strings, files, stacks and string manipulation. Development of efficient algorithms : use of recursion, data types, parsing, grammars and compilling.

PART B

Methods for the design of efficient algorithms : divide and conquer, dynamic programming, greedy analysis. Design and analysis of algorithms for sorting, merging, hashing and merging large data sets. Methods of algorithmic analysis. algorithmic entropy and information.

CSE-204 Data Structures and Algorithm Laboratory

3 hourrs. per week 100 Marks.

Laboratory based on CSE-203.

CSE-205 Machine and assembly Language Programming

2 hours. per week 150 Marks.

PART A

Basic structure of a digital computer. The main memory, control unit, I/O organization & peripherals. Registers. machine and Assembly instruction types and their formats. Character representation Instructions. Instruction execution. Machine language programming (large systems). Instruction sets and their implementations. The assembly process. Addressing methods. Subroutines, macros and files. I/O programming, interrupts and multiple processes.

PART B

Advance programming techniques in Assembly language. Interfacing with high level languages. Timing and bench-marking techniques. Programming of microcomputers in machine and assembly language. Methods of addressing and machine control.

CSE-206 Assembly Language Program Development

3 hours. per week 100 Marks

Students will develop application programs with proper documentations in Assembly language assigned in groups or individually.

CSE-207 Switching Theory and Logical Design

2 hours. per week 150 Marks.

PART A

Number systems and codes. Digital Logic : Boolean algebra, De-Morgan's law, Logic gates and their truth tables, canonical forms, combinational logic circuits, Minimization techniques. Arithmetic and data handling logic circuits, decoders, drivers and encoders. Multiplexers and demultiplexers. Combinational circuit design. Flip-flops, race around problems. Counters : asynchronous counters, synchronous counters and their applications. Odd sequence counter design. Registers : different types and their applications. Minimization of sequential circuits. Memory units.

PART B

Review of odd sequence counter design. Logic design of functional digital units-binary and decimal, serial and parallel digital arithmetic units; control unit design and microprogramming. Concept of bus structure. Design of control unit of a small digital computer, memory subsystems, channels, I/O and storage subsystems.

CSE-208 Switching Theory and Logical Design Laboratory

3 hrs. in alternate week 50 Marks.

Laboratory works based on CSE-207.

EEE-209 Electronic Devices and circutis

2 hrs. per week 150 Marks.

PART A

Semiconductors, Juncton diode characteristics, Bipolar transistor characteristics, Small -signal low frequency h-parameter model. Hybrid model. Amplifiers, the darlington pairs. Introduction to oscillators, differential amplifiers,

PART A

Semiconductors, Juncton diode characteristics, Bipolar transistor characteristics, Small -signal low frequency h-parameter model. Hybrid model. Amplifiers, the darlington pairs. Introduction to oscillators, differential amplifiers, operational amplifiers. Linear applications of opamps, gain, input and output impedances, off-set null adjustments, frequency response and noise.

PART B

Introduction to JFET, MOSFET, PMOS, NMOS and CMOS; Biasing and application in switching circutis. SCR, TRIAC, DIAC, UJT : Characteristics and applications. Introduction to rectifiers, active filters, regulated power supply. Basic idea about IC fabrication techniques.

EEE-210 Electronic Devices and circuits laboratory

3 hrs. in alternate week 50 Marks.

Laboratory works based on EEE-209.

EEE-213 Electrical Technology

2 hrs. per week 150 Marks.

PART A

Review of D.C. circuit, single phase AC circuit analysis, network theorem and application, coupled circuits-self and mutual inductance, transient analysis of simple circuits Polyphase circuit analysis and power measurement. Single phase transformers, equivalent circuits, three phase transformers.

PART B

D.C Generator and motor : operation and characteristics, 3-phase induction motors : types, operations, equivalent circuit, characteristics, starting. Introduction to 3-phase alternators and synchronous motors. Fractional horse-power motors.

EEE-214 Electrical Technology Laboratory

3 hrs. in alternate week 50 marks.

Laboratory based on EEE-213.

HUM-203 Accountancy And Industrial Management

3 hrs. per week 250 Marks.

Accountancy

1 hrs. per week 100 marks.

PART A

Basic Accounting principles. Different kinds of cheque. Cash book-Petty cash book. Elements of cost: Direct costs. Overhead allocation.

PART B

Preparation of cost sheet. Marginal analysis. Computation of breakeven point. Standard costing, Cost variance.

Industrial Management

2 hrs. per week 150 Marks.

PART A

Authority and responsibility, administration, management and organization. Scientific management and organization; Time and motion study; Learning curve; Organization structure; Principles of organization chart; Span of control; Policies; Decision making.

Analytical methods in management-Linear programming; Waiting line and cost data for decision, network analysis, arrow diagram, critical path; Planning-Types of planning; investment policy and criteria; Depreciation, various methods; Equipment policy. Personnel menagement-Selection and recruitment of employees, Interview and indoctrination; training and its types; Promotion; Basis of promotion-industrial reaction; Wage systems and incentive and supplementary wage and salary administration; Accident prevention and safety instruction. Job-evaluation and merit rating. Statistical quality control.

PART B

Plant layout, layout of physical facilities, Transportation and storage, material handling. Maintenance; Classification of objects to be maintained; Mainterance policy; Planning maintenance function, turnaround or stand by machine, control of maintenance function. Production control in intermittent and continnous manufacturing Industry; objectives and functions of production control; Supplementary planning; Scheduling; Dispatching; Assembly line control. Forecasting; utility and various methods; Coordination between sales and manufacturing; Manufacturing economics.

Purchasing procedure : Inventory control-need and methods of control; Factors affecting inventory build-up, economic lot size and re-order point. Sales; organization and promotion; Measures of performance, measurement and analytical problem of productivity, cost of management and industrial

reorganization. Production standard and work measurement; work sampling and its methods; Allowance in production standards.

MATH-215 Mathematics

3 hours. per week 300 Marks.

PART A

Statistics :

Frequency distribution, Mean Median Mode and other measure of central tendency. Standard deveation and other measures of dispersion, Moments, Skewness and Kurtesis, Random Variables and expectation.

Elementary probability theory. Discontinuous probability distribution e.g. Binomial, poisson and negative-Binomial, the geometric and hypergeometric. Continuous probability distribution e.g. normal and exponential. Elementary sampling theory, confidence integral Tests of hypothesis.

Complex Variable:

Complex number, argan diagram, power and roots, Function of complex variables, Mapping of $\frac{1}{z}$, z^n, $z\frac{1}{2}$, e^z etc. Linear and bilinear transformation. Limits, continuity and differentiation formulae, Cauchy-Riemann equations and conformal transformations.

PART B

Matrices:

Rank and elementary transformations of a matrix, Solution of linear equation by matrix methods. Vector spaces, linear dependence and independence of vectors. Quadratic forms. Matric polynomials. Determination of characteristic roots and vectors. Null space and nullity of a matrix.

Vector Calculus:

Differentiation and integration of vectors together with elementary applications. Definitions of line, surface and volume integrals. Gradient of a scalar function. Divergence and curl of a vector function. Physical significance of gradient, divergence and curl. Various formula.

Partial Differential Equation:

Solution of differential equations with variable co-efficient, Solution of first order partial differential equations. Solution of partial differential equation with constant and variable coefficient, application.

3rd Year

CSE-300 Software Development -II

3 hrs. per week 100 Marks

Students will work in groups or individually to produce high quality software including new I/O drives and similar projects involving operating system modules in different languages. Students will write structural programs and use proper documentation.

CSE-303 Database and Management Information System

2 hrs. per week 200 Marks

PART A

Concepts and methods in data base system. File organization and retrieval. Data manipulation. Query formulation and language. Data base models. Data decription languages, data base integrity and security. Data dictionary/directory systems, data base administration. Data base design. Survey of some existing data base management systems.

PART B

Development of computerized information system in support of the key decision making responsibilities of management. Some applications using COBOL program. An introduction to the role of information and system theory in managerial design makings. The effectiveness and critical analysis in meeting the needs of management.

CSE-304 Database and Management Information Systems Laboratory

3 hrs. per week 100 Marks

Laboratory work based on CSE-303

CSE-305 Data Communication

2 hrs. per week 200 Marks

PART A

Introduction to modulation techniques : Pulse modulation; pulse amplitude modulation; pulse width modulation and pulse position modulation. Pulse code

modulation; quantization; Time and frequency multiplexing, phase shift keying, frequency shift keying, representation of noise; threshold effects in PCM and FM. Probability of error for pulse systems, Concept of channel coding and capacity.

PART B

Asynchronous communications; synchronous communications. Concept of networks; store and forward message system; low level protocol; modems and protocols. Virtual terminal protocols. Data security, encryption, public keys; local area networks : types, protocols, hardware interfaces, software structures, capacity assignment in networks. Network design; multiplexers, concentrators and buffers.

CSE- 307 Computer Architecture and Operating Systems

2 hrs. per week 200 Marks

PART A

A functional description of computer hardware, hardware/concepts and current technology. An investigation of computer system design concepts including requirements, specifications, implementation and modification. Memories, buffers, CPU characteristics, performance factors, overlay, parallel and pipeline system, vertual memory organization; I/O systems. Interrupt mechanisms; channels; control units; input devices including telecommunication equipment.

PART B

Principles of operating systems; Design objectives; sequential processes; concurrent processes, concurrency, functional mutual exclusion, processor cooperation and deadlocks, processor management. Control and scheduling of large information processing systems. Resource allocation, dispatching; processors access methods, job control languages.

Memory management, memory addressing, paging and store multiplexing. Multiprocessing and time sharing, batch processing. Scheduling algorithms, file systems, protection and security; design and implementation methodology, performance evaluation and case studies.

CSE-309 Microprocessors and Interfacing
2 hrs. per week 200 Marks

PART A
Introduction to different types of microprocessor. Microprocessor architecture, instruction set, interfacing, I/O operation, Interrupt structure, DMA. Microprocessor interface ICs.

PART B
Review of interface ICs. Bit slice microprocessors; Advanced microprocessor; parallelism in microprocessors. Concept of Microprocessor based systems design.

CSE-310 Microprocessors and Interfacing Laboratory
3 hrs. in alternate week 50 Marks
Laboratory work based on CSE 309.

CSE-313 Digital Electronics and Pulse Techniques
2 hrs. per week 200 Marks.

PART A
Diode logic gates, transistor switches, transistor transistor gates, MOS gates, Logic Families: TTL, ECL,IIL and CMOS logic with operation details. Propagation delay, product and noise immumity. Open collector and High impedance gates. Electronic circuits for flip-flops, counters and register, memory systems, PLAS. A/D, D/A converters with applications. S/H circuits, LED, LCD and optically coupled oscillators. Non-linear applications of OP AMPs. Analogue switches.

PART B
Linear wave shaping: diode wave shaping techniques, clipping and clamping circuits, comparator circuits, switching circuits. Pulse transformers, pulse transmission. Pulse generation; monostable, bistable and astable multivibrators; Schmitt trigger; blocking oscillators and time-base circuit. Timing circuits. Simple voltage sweeps, linear current sweeps.

CSE-314 Digital Electronics & Pulse Techniques Laboratory
3 hrs. per week 100 Marks.
Laboratory based on CSE-313.

CSE-320 Digital Circuit Design
6 hrs. per week 200 Marks.

Digital computing system design project; Design of memory, control, arithmetic units, input and output in a computer.

EEE-315 Electrical Circuit Theory
2 hrs. per week 200 Marks
PART A
Analysis of non-sinusoidal waveforms by Fourier series. Fourier methods applied to linear circuits Laplace transformation and its application.

PART B
Impulse function; convolution integral and its application. Introduction to analogue and digital filters.
Z-transformation. HF Transmission lines theory.

EEE-317 Measurement and Instrumentation
2 hrs. per week 200 Marks

PART A
Multiplexers, Comparators, Amplifiers in instrumentation: Differential, Logarithmic, Chopper amplifiers. Phase, Frequency and Period measurement. Digital voltage measurement; instrumentation characteristics and limitations. Measurement of signal in presence of noise. Noise reduction in instrumentation.

PART B
Recorders and display devices. Spectrum analyzers, logic analyzers. Introduction to instrument transducers, characteristics for interfacing to digital systems. Measurement and control of Temperature, pressure, flow level, displacement; vibration, acceleration, density and humidity. Nondestructive testing-ultrasonic and eddy current test methods. Data logger/Direct digital control.

EEE-318 Measurement and Instrumentation Laboratory
3 hrs. in alternate wek 50 Marks.
Laboratory experiments Based on EEE-317

MATH-315
Mathematics
2 hrs. per week 200 Marks
PART A
Statistics : Analysis of variance,Two factor factorial experiments, Stochastic processes and queuing Discrete-time Markov Chains, Continuous time Markov Chains. The Birth-death process in queuing, Queuing models.

Laplace's Transform : Definition of laplace's transforms, Elementary transformations and properties, Convolution. Solution of differential equations by Laplace's transforms. Evolution of improper integrals by Laplace transforms.

Part B:
Fourier Series : Fourier series expansion, Complex form of fourier series, fourier Integral theories. Fourier transforms and Applications.

Harmonic Analysis : Laplace's equation in cartesian, polar, Cylindrical and spherical co-ordinates, Solutions of Laplace's equation in different co-ordinates, Application of spherical Harmonic in determinig gravitational potential due to a ring and potential about spherical surface kept at prescribed potential.

4th Year
CSE-400 Project and thesis
6 hrs. per week 200 Marks
Study of problems in the field of Computer Science & Engg.

CSE-403 Computer Networks
2 hrs. per week 200 Marks

PART A
Network Architectures-Layered Architechtures and ISO Reference Model. Switching Techniques: Physical layer-X. 21 interface. Data link protocols; Error-correcting codes, HDLC, X.25; Network layers. Flow and Congestion control. Overview of ARPANET, SNA and DECNET. Topological design.

PART B
Distributed Computing systems. Use of shared memory and distributed data bases, Synchronization and concurrency problems in disttibuted systems. Geographically distributed systems. Satellite networks, Packet radio network and Local Area Network. Multiple Access Protocols and Queuing methods for networks-analysis.

CSE-405 Computer system analysis
2 hrs. per week 200 Marks.
PART A
System concepts. System and Systems Analysis, systems planning, approach to systems development, user involvement, feasibility assessmemt System investigations: objectives, methods, recording. Logic system design, physical design of computer and manual sub-system, project management and documentation.

PART B
Software project management; life cycle, specification design, documentation, maintenance and control; Nature and sources of software tools. Program system organization, analysis of program performance, testing and verification methods, Editing, Formatting, Microprocessing coordination of multiple programs.

CSE-407 Computer Graphics and Pattern Recognition
2 hrs. per week 200 Marks

PART A
Introduction to Graphical data processing. Fundamentals of interactive graphics programming. Architecture of display devices and connectivity to a computer. Implementation of graphics concepts of two-dimensional and three-dimensional viewing, clipping and transformations. Hidden line Algorithms. Raster graphics concepts : Architecture, algorithms and other image synthesis methods. Design of interactive graphic conversations. Future trends in computer graphics.

PART B
Introduction to pattern recognition : features, classification, learning. Applications to speech recognition, remote sensing and biomedical area. Learning algorithms. Syntactic approach : Introduction to Pattern grammars and languages. Parsing techniques. Pattern recognition in computer aided design. Recent trends.

CSE-408 Computer Graphics and Pattern Recognition Laboratory
3 hrs. alternate week 50 Marks
Laboratory works based on CSE-407

CSE-409 Artificial Intelligence and Expert Systems
2 hrs. per week 200 Marks
PART A
Survey of concepts in artificial intelligence. Knowledge representation, search and control techniques. 'A machines and features of the LISP and PROLOG languages.

PART B
Problem representation; search, inference and learning in intelligent systems; systems for general problems solving, game playing, expert consultation, concept formation and natural language processing: recognition, understanding, and translation. Some expert systems.

CSE-410 Expert System Design
3 hrs. in alternate week 50 Marks.
Students will develop expert systems using expert system development tools with proper document.

CSE-411 Computers and Societal Problems
2 hrs. per week 200 Marks.

PART A
Application of the digital computer to the analysis and synthesis of physical, social, cultural, economic, and environmental processes and systems. History of computing and effects of computers on society. Group projects emphasizing research and investigation related to student interests.

PART B
Principles and operations of personnel administration and industrial relations systems. Historical, legal, economic and behavioral dynamics of management relationships in private and public sectors.

CSE-413 Computer Peripherals and applications
2 hrs. per week 200 Marks.

PART A
Magnetic devices, keyboard, tape and disk equipment. DCR, OMR, Speech I/O devices. Bulk store devices : continuous run magnetic tape (CRMT), magnetic drums, disk, magnetic core, semiconductor memory, magnetic bubble memory, CCD, microfilm store. Display peripherals. Printers. New devices; fiber optics,

video disks, optical disks. Advanced trends computer interfacing, buses and their functions, peripheral control units, Buffered I/O (BIO) channels.

PART B
I/O control systems-software device drivers. Analogue and digital interfacing, performance factors; Interfacing of different peripherals. Interfacing standards. Computer control of stepper motors; use of optical isolators and transducers for interfacing. Real time data processing. Digital control systems. Computers in measurement instrumentation, communication and control. Instruments for medical, industrial and other applications.

CSE-416 Microprocessor Based Design
3 hrs. in every week 100 Marks
Design of microprocessor and microcomputer hardware and software; use of microprocessor in control of systems. Use of simulators, cross-compilers and development systems.

CSE-421 Systems Programming and Software Engineering Methods
2 hrs. per week 200 Marks
PART A
Review of machine structure and evaluation of programming systems and operating systems. assembler; general design procedures. Designing an assembler, Table processing. Macro language and Microprocessor. Loaders : loader schemes, design of absolute loader; design of a direct linking loader, programming languages. Formal systems & programming languages.

PART B
Concepts in software engineering : requirements definition, modularity, structured design, data specification, functional specifications, verification, documentation, software maintenance. Programming using program design languages, HIPO charts. Software tools. Software project organization, quality assurance approaches.

CSE-422 System Programming and Software Engineering Methods Laboratory
3 hrs. alternate week 50 marks
Laboratory experiments based on CSE-421.

CSE-423 Fault tolerant systems
2 hrs. per week 200 Marks
PART A
Introduction to Fault Tolerant Systems and Architectures. Fault detection and location in combinational and sequential circuits; Fault test generation for combinational and sequential circuits; Digital simulation as a diagnostic tool.

PART B
Automatic test pattern generator, Fault modeling, automatic test equipment, Faults in memory, memory test pattern and reliability. Performance monitoring, self checking circuits, Burst error correction and Triple modular redundancy; Maintenance processors.

CSE-424 Fault Tolerant Systems Laboratory
3 hrs. alternate week 50 Marks
Laboratory experiments based on CSE-423.

CSE-425 Compiler Design
2 hrs. per week 200 Marks

Part A :
Introduction to compilers. Programming Languages data elements and structures, operators, assignment statements, parameter transmission storage management. Finite automata and Lexical analysis.

Part B:
Syntactic specification of programming languages. Basic parsing techniques. Automatic construction of efficient parsers syntax directed translation; symbols, error detection and recovery; code optimization, loop optimization. Compiler projects.

CSE-426 Compiler Design Laboratory
3 hrs. every alternate week 50 Marks.
Laboratory based on CSE-425.

CSE-427 Computer Simulation
2 hrs. per week 200 Marks

PART A

Simulation methods : random number generation, queuing, discrete random variable. Simulation languages. Model building. Validation and verification technique.

PART B
Digital simulation of continuous systems. Hybrid computation. Statistical analysis of results. Application of simulation to problems e.g. shops, business, operation research, operating system computer design. Introduction to development of simulation packages.

CSE-428 Computer Simulation Laboratory
3 hrs. every alternate wek 50 Marks
Laboratory Based on CSE-427

CSE-429 Computer Vision and Robotics
2 hrs. per week 200 marks
PART A
An introduction to computer vision and perception. Imave generation, the physics of imagesand sensors, statistical estimation, binary vision and industrial vision systems, representations of the visual world.

PART B
Introduction to robotics. Intelligent robot control systems. Robot Programming systems, geometric reasoning, assembly planning, collision avoidance, mobile robots, the robotic. I/O test, smart robotics.

CSE-430 Computer Vision and Robotics Laboratory
3 hrs. per alternate week 50 Marks
Laboratory works based of CSE-429

CSE-431 VLSI Design and Applications
2 hrs. per week 200 Marks

PART A
Design and analysis techniques for VLSI circuits. Design of reliable VLSI circuits, noise consideration, design and operation of large fan out and fan in circuits, clocking methodologies, techniques for data path and data control design. Simulation techniques.

PART B

Parallel processing, systolic architechtures, special purpose architectures in VLSI, properties of VLSI layouts partitioning and placement routing and wiring in VLSI. Reliability aspects of VLSI design.

CSE-432 VLSI Design and applications Laboratory

2 hrs. alternate week 50 Marks.

Department of Computer Science & Engineering

UNDERGRADUATE COURSES FOR NON-DEPARTMENTAL STUDENTS

CSE-101 Computer Techniques

2 hours per week 150 marks

PART A

Elements of computer structures and languages. Number system. Binary arithmetic. Principles of programming. Flow charts. The FORTRAN language.

PART B

Numerical methods and computational algorithms. Application of computers in solving electrical and electronic engineering problems.

CSE-102 Computer Techniques Sessional

3 hours every alternate week 50 marks

Laboratory experiments based on 101

CSE- 301 Digital Techniques

2 hours per week 200 Marks

PART A

Number System and Codes: Number system-binary, decimal, octal and hexadecimal number systems and their representation, conversions, complementation, addition, subtraction, multiplication and division. BCD, alphanumeric, gray and excess-3 and parity codes.

Digital logic: Boolean algebra, De Morgan's laws, logic gates and their truth tables. Canonical forms, combinational logic circuits, Karnaugh Map. Logic Families : TTL, ECL, I2L, and CMOS; logic, brief description and principle of operation. Propagation delay, speed delay; product and noiseimmunity. Arithmetic and data-handling logic circuits : Half adder, full adder, half

subtractor, full subtractor, BCD to decimal decoders, BCD to seven segment decoder/drivers, encoders, mulltiplexers/demultiplexers. Study and use of TTL Data Handbooks.

PART B

Review of Combinational Circuits; Combinational Circuit design. Flip-Flops. R-S Flip-Flop, Clocked R-S Flip-Flop, simple D-type Flip-Flop, race problems. T Flip-Flops, J-K master-salve Flip-Flop, direct set and reset facilities. Counters-Asynchronous counters, propagation delay in asynchronous counters, synchronous counters and applications. Registers-different types, shift registers, serial to parallel and -parallel to serial, left shift, right shift and circular registers and their applications, D to A and A to D converters with applications. Different types of digital storage media.

CSE-302 Digital Techniques Sessional

3 hours every alternate week 50 Marks

Laboratory experiments based on CSE-301

CSE-401 Microprocessors and Digital Computers

2 hours per week 200 marks.

PART A

Introduction to different types of microprocessors. Instruction sets. Hardware organization. Microprocessor interfacing. Introduction to available microprocessor peripheral IC's. Bit-slice processors. Microprocessor applications.

PART B

Design of digital computer substems, flow of information and logical flow diagram in timing and control signals. System organization. Hardware structures. Design of the control unit of a digital computer. Introduction to microprogramming. Multi-programming, time-sharing and real time computer systems.

Data and instructions. Data systems, addressing of operative memory. Machine instructions. Channel programs. Assembler program. Program execrtion. Interrupt systems. I/O systems. Inter-connection of computers. Operating systems. Control program. File handler. Program structure Virtual memory.

CSE-402 Microprocessors and Digital Electronics Sessional

3 hours every alternate week 50 Marks
Laboratory experiments based on CSE-401

POSTGRADUATE COURSES

CSE 6101 Microcomputers and Microprocessors 3 Credits
Review of the hardware and software of microcomputers, programming in microcomputers. Hardware-software interfacing in microcomputer system design. I/O structure and auxiliary electronics. Interrupt structure, direct memory access. Priority interrupt structure. The design of digital systems based around microcomputers-timing considerations. Input/output design and total system design. Case studies including CPU and peripheral IC's of Intel, Motorola, Zilog etc.

CSE-6201 digital Computer Theory and Design 3 Credits
Introduction to stored program computers. Overall computer organization with specific examples as IBM 360/370 and IBM 4331/4341. System organization of digital systems including minicomputer and microprocessor architecture and comparision. Control unit design-hardwared control and microprogram control. Control unit organization to include serial-parallel modes of operation.

Design of the control unit of a small digital computer for laboratory use. Characteristics of computer system hardware and software to provide for multiprocessing, multiprogramming and time-shared operation. Interrupt systems. Concurrent process in mulltiprocessors.

CSE 6202 Computer Organization 3 Credits
Stored program computers : Data representation; algorithmic treatment; Instruction formats, Computer units, Systems structures, special features of Intel 8080, 8085, 8086, Mototola 6800/68000, PDP-8 and PDP-11, IBM-370, IBM-4300, CDC 7600. Elliac and the latest Microprocessors. Hardware desctiption, methodologies, considerations in simulation and testing of designs.

CSE 6203 Advanced Topics in Microcomputers 3 Credits
Latest developments in microprocessor field including 32 bit microprocessors-hardware structure and software capabilities, memory development with examples, bubble memories. Microcomputer development systems. Bit slice Microprocessors and Microprogramming, design of and instruction. Set using micro-control. Software for microcomputers, assemblers high level microprogramming languages.

CSE 6204 Data C0mmunication and Computer Networks 3 Credits
Principles and practice of modern data communication techniques. Transmission-Codes, modes for data transmission, multiplexers, concentrators, terminals. Modems and interfaces. Digital network interface. Error control, cryption, security. Network protcols and line control procedures. Protocols for buffer Management, reassembly, queue control. Communication/carrier systems planning. Distributed intelligence. Message and packet switching. Hardware and software interfacing. International data communication, analytical results on network topology, alternatives, resource sharing and file allocation.

CSE 6301 Computer Science 3 Credits
Relaxation methods, succesive over relaxation, convergence criteria; Optimization techniques, simulation: Hybrid computation, Time-sharing. Computer aided design (CAD). application to engineering problems.

CSE 6302 Machine and Assembly Language Programming 3 Credits
Machine instruction types, number representation and addressing schemes, programming of microprocessors and microcomputers and mainframe computers in machine and assembly language. Use and design of macro-assemblers; Conditional assembly, control of I/O via access methods. Program status and control, Interrupt handling, job control languages and file structures. File and storage managements. Linkers, loads and load modules. Introduction to operating systems. Assembly language programme testing in mainframe computer IBM-370/115. Applications using BUET Computer.

CSE 6303 Operating system I 3 Credits
Introduction to operating systems for batch oriented multiprogrammed computer system. Memory management in fixed and variable partitions; device and storage management. Input-output programming, interrupt structure and processing. Information managements. File systems; systems programming. Access control verifications. Performance modelling and evaluation.

CSE 6304 Operating system II 3 Credits
Operating system for time-shared and multiprocessor computer systems, processor management-state modelling, job scheduling, process scheduling, process synchronization, time slicing and time-sharing operating systems and sub-systems. Memory Management in a paged and segmented virtual memory

systems. Performance evaluation of computer network software, introduction to computer as a utility. Introduction to security and large data base system.

CSE 6305 Data base Management **3 Credits**
Relational network and hierarchical data models; sequential, indexed sequential, inverted, multilist, computer access and clustered files; External sorting algorithms, secondary indices optimization, security decomposition of query; Differential fields; evaluation of the organization, current literature.

CSE 6306 Compiler Construction **3 Credits**
Theory and practice of constructing translators for high level programming languages. Scanning and parsing of formal languages, introductory theory of context free languages and syntactic analysis. Object code generation and economization. Automatic generations of syntax analyzers, translator writing systems, extensible translations.

CSE 6307 System Analysis and Design **3 Credits**
The systems cycle. Structured systems analysis. Detailed analysis and feasibility study. Tools for the systems designer. Systems design-Input and output design; organizing and designing files - designing a data Base; Process design and acquisition of hardware and software; design reviow and Program Definition Module Design; programming and coding and testing, documentation and maintenance; management of the systems process .

Department of Electrical and Electronic Engineering

UNDERGRADUATE COURSES

EEE 101 Basic Electrical Engineering
3 hours per week 200 marks
for first year EEE

PART A
Electrical units and standards, electrical networks and circuit theorems, introduction to measuring instruments. Magnetic concepts and circuits.

PART B
Alternating current, definition of A. C. quantities, phasors, RL, RC, RLC series and parallel circuits.

EEE 102 Basic Electrical Engineering Sessional
3 hours every alternate week 50 marks
For first year EEE
Leboratory experiments based on EEE 101

EEE 103 Basic Electrical Engineering (Technology)
3 hours per week 200 Marks
For First year Civil Engineering

PART A
Electrical units and standards. Electrical networks and circuit solutions series, parallel and mesh current methods. Measurement of electrical quantities-current, voltage, resistance, Measuring instruments; ammeters, voltmeters, watt meters and multimeters.
Instantaneous current, voltage and power, effective current and voltage, average power.

PART B
Phasor algebra (as applied to A. C. circuit analysis), sinusoidal singlephase RLC circuits, balanced three phase circuits, Introduction ot electrical wiring for residential and commercial loads. Familiarization with different types of electrical machines such as D. C. generators and motors. A. C. alternators,

motors, transformers. Working principles of transformers, induction motors. Introduction to electronics principles with simple applications.

EEE 104 Basic Electrical Engineering (Technology) Sessional
3 hours every alternate week 50 marks
Laboratory experiments based on EEE 103

EEE 105 Electrical Engineering Fundamentals
(Basic Electrical Engineering)
2 hours per week 150 Marks
For First year ChE and MetE
PART A
Electrical units and standards. Electrical networks and circuits theorems, in troduction to measuring instruments.

PART B
Alternating current, RLC series, parallel circuits, magnetic concepts and magnetic circuits.

EEE 106 Electrical Engineering Fundamentals Sessional
(Basic Electrical Engineering Sessional)
3 hours every alternats week 50 Merks
Laboratory experiments based on EEE 105.

EEE 107 Electrical Engineering Principles
3 hours per week 150 Marks
For first year ME and NAME
PART A
Electrical units and standerds, electrical networks and circuit theorems, introduction to measuring instruments.

PART B
Alternating current, RLC series, parallel circuits, magnetic concepts and magnetic circuit.

EEE 108 Electrical Engineering Principles Sessional
3 hours every alternate week 50 Marks
Laboratory experiments based on EEE 107.

EEE 109 Introduction to Elèctrical Engineering
3 hrs/Week, 200 Marks
For first year CSE

Part-A
Fundamental electrical concepts and measuring units, D.C. voltage, current resistance and power. Laws of electrical circuits and methods of network analysis, Principles of D. C. measuring apparatus, Laws of magnetic fields and nmethods of solving simple magnetic circuits.

PART B
Alternating current-instantaneous and r.m.s. current, voltage and power, average power for various combinations of R, L and C circuits. Phasor representation of sinusoidal quantities.

EEE 110 Introduction to Electrical Engineering Laboratory
3 hours every alternate week 50 Marks
For first year CSE
Laboratory experiments based on EEE 109

EEE 200 Electrical Design and Drafting
3 hours every alternate week 50 Marks
Safety rules, electricity rules and electricity codes. Electrical and electronic symbols. Electrical wiring, house wiring, industrial installation wiring. Insulation measurement, use of meggers. Battery charging.

EEE 203 Electrical Circuits
3 hours per week 250 Marks

PART A
Waveforms, response of single elements to different waveforms. Sinle Phase circuit analysis. Q of a cicuit, wave trap, maximum. power transfer, Network theorems, Y-Delta transformation; coupled circuits, Polyphase balanced and unbalanced cicuits; Power measurement.

PART B
Priodic nonsinusoidal waves, frequency spectrum, effective values and power. Electric wave filters: basic principles, constant K, M-deried half and full-section, transients.

EEE 204 Electrical Circuits Sessional
3 hours every alternate week 50 Marks
Experiments based on EEE 203

EEE 205 Electrical Machines 1
3 hours per week 250 Marks
PART A
D. C. generator: Principles, construction, classification, armature winding, voltage build up: Armature reactions and commutation, performance and testing. D. C. motor operation, types, speed-torque characteristics, methods of speed control.
Transformers: Construction, cooling, principle, vector diagrams and voltage regulation.

PART B
Transformer: Equivalent circuits, performance and testing, special transformers uses and hormonics in polyphase transformers.
Induction motors: Principle of operation, constructional details, equivalent circuits, wpeed-torque relations, losses and efficiency. Circle diagram, Induction generator.
Synchronous Generators: General outline of synchronous generators; salient pole and non-salient pole. Armature and field cores. Winding insulation, cooling.

EEE 206 Electrical Machines Sessional
3 hours every alternate week 50 Marks
Experiments based on EEE 205

EEE 207 Electronics I
3 hours per week 205 Marks
PART A
Electronic phenomena in metals and semi-conductors; Election emmissions and their different types; vacuum types-diodes, triodes, tetrodes, pentrodes, and multigrid tubes, their characteristics and equvalent circuits. Semi-conductor diodes, bipolar and field effect transistors, MOSFETS and other electronic devices, their characteristics and equivalent circuts. Applications of vacuum diodes and semi-conductor diodes in rectification and power supplies, logic circuits and swiching circuits (All treatment circuit & device oriented).

PART B
Detailed discussion of load line, bias and stabilization for transistor and FET amplifiers. Different transistor configurations and their equivalent circuits. h-parameters, Basic transistor and tube amplifiers and their analysis at I.F., M.F., and H. F. rages; Untuned voltage amplifires. Regulated power supplies using zener diodes and transistors.

EEE 208 Electronics I Sessional
3 hours every aternate week 50 Marks
Laboratory experiments based on EEE 207

EEE-209 Electronic Devices and circuits
2 hours. per week 150 Marks.
For second year CSE
PART A
Semiconductors, Junction diods characteristics, Bipolar transistor characteristics, small signal low frquency h-parameter model. Hybrid II model. Amplifiers, the darlington pairs. Introduction to oscillators, differential amplifiers, operational amplifiers. Linear applications of op. amps, gain, input and output impedances, off-set null adjustments, frequency response and noise.

PART B
Introduction to JFET, MOSFET, PMOS, NMOS and CMOS : Biasing and application in switching circuits. SCR, TRIAC DIAC, UJT : Charecteristics and aplications. Introduction to rectifiers, active filters, regulated power supply. Basic idea about IC fabrication techniques.

EEE 210 Electronic Devices and circuits laboratory
3 hours. in alternate week 50 Marks.
Laboratory works based on EEE 209
For second year CSE

EEE 211 Electrical and Electronics Technology
3 hours per week 250 Marks
For Second year ME and NAME
PART A
Balanced three-phase circuit analysis and power measurement. Single phase transformer-equivalent circuit and laboratory testing, introduction to three-phase trasformer.

D. C. Generator- Principle, types, performances and characteristics D. C. motor-principles, types of motor, performances, speed control, starters and characterisitics. A. C. Machines-three phase induction motor principles, eqivalent circuit. Introduction to synchronour machines and fractional horse power motors.

PART B

Vacuum tubes, Semiconductor diode, Transistor-characteristics, equivalent circuits, self-biasing circuits, emitter follower amplifiers, push- pull amplifier. Introduction to sillicon controlled rectifier and its application, Oscilloscope. Transducers : Strain, temperature, pressure, speed and torque measurements.

EEE 212 Electrical and Electronics Technology Sessional

3 hours every slternate week 50 Marks

Laboratory experiments based on EEE 211.

EEE 213 Electrical Technology

2 hours. per week 150 Marks

For Second year CSE

PART A

Review of D. C. circuit, single phase AC cicuit analysis, network theorem and application, coupled circuits-self and mutual inductance, transient analysis of simple circuits, polyphase circuit analysis and power measurement. Single phase transformers, equivalent circuits, three phase transformers.

PART B

D. C. generator and motor : operation and characteristics, 3-phase induction motors : types, operation, equivalant circuit, characteristics, starting. Introduction to 3-phase alternators and synchronous motors. Fractional horse-power motors.

EEE 214 Electrical Technology Laboratory

3 hours in alternate week 50 Marks

Laboretory Based on EEE 213.

For Second year CSE

EEE 231 Electrical and Electronic Technology

3 hours per week 300 Marks

For third year ChE and MetE

PART A

Balanced three-phase circuit analysis and power measurement, single phase transformer-equivalent circuit and laboratory testing. Introduction to three-phase transformer.

D. C. Generator-principle, types, performances and characteristics. D. C. motor-principle, types of motors, performances, speed control, starters and characteristics. A. C. machines-three phase induction motor-principles, equivalent circuit. Introduction to synchronous machines and fractional horse power motor.

PART B

Vacuum tubes, Semiconductor diode, transistors-characteristics, equivalent circuits, self-biasing circuits, emitter follower amplifiers, push-pull amplifier. Introduction to sillicon controlled rectifier and its application; Oscilloscope. Transducers; Strain, temperature, pressure, speed and torque measurements.

EEE 232 Electrical and Electronic Technology Sessional

3 hours every alternate week 50 Marks

Laboratory experiments based on EEE 231

EEE 300 Electronics Shop Sessional

3 hours every alternate week 50 Marks

Radio receivers-study and circuit tracing, fault finding by signal injection and other means, alignment. Trouble shooting of amplifiers, oscillators, oscilloscopes. Trouble shooting of television receivers.

EEE 301 Electronics II

3 hours per week 300 Marks

PART A

Feedback, effect of feedback on apmlifier characteristics; Typers of feedback, stabillity, Nyquist criterion; Negative feedback amplifiers; Feed back amplifier frequency response. Conditions of self-oscillation and study of different types of oscillators. Direct coupled amplifiers. Tuned voltage amplifiers, untuned power amplifiers- Class A, Class AB and Class B.

PART B

Tuned Class B and Class C power amplifiers : Modulation-amplitude modulation and demodulation : study of superheterodyne radio receivers, AGC. Television engineering : Introduction and principles of operation; Camera tubes; Synchronising pulses; Television transmitters and receivers; Introduction to colour television.

EEE 302 Electronic II Sessional
3 hours per week 100 Marks
Laboratory experiments based on EEE 301

EEE 303 Electrical Circuits II
3 hours per week 300 marks

PART A
Characteristics of a linear system-methods of transient and steady state solutions of Differential and Integrodifferential equations, Network theorems, Analogous systems. Analysis by Fourier methods.

PART B
Laplace Transformation and its application to finear circuits. Impulse function; Convolution integral and their applications. Matrix with simple applications in circuits: Network function, poles and zeroes of a network. Introduction to Topological concepts in electrical and magnetic circuits network.

EEE 305 Electrical Machines II
3 hours per week 300 marks

PART A
Synchronous Generators : Air gap flux and voltage expressions, armature winding, alternator regulation, determination of machine parameters from tests, vector diagrams, armature reaction, direct and quadrature-axis reactances. losses and efficiency. Blondel's two reaction analysis, transient conditions in alternators, interconnected system of alternators, conditions, methods and problem of parallel operation and load sharing of alternators. synchronous motors : General constructional features, theory of operation, motor terminal characteristics, mathematical analysis, vactor diagrams, V-curves, motor tests, losses, efficiency and starting.

PART B
Generallized energy conversion processes, general principles of electro-mechanical energy conversion, energy storage, transformation and conversion methods of formulation of motion equations and co-ordinate transformaiton. Interpretion of generalized machines from field concepts.
Special Machines: Single phase machines-types, principle of operation, characteristics and starting problems, electrostatic motor, repulsion motor,

permanent magnet motor, hysteresis motor and power modulators, power rectifiers amplidynes, power thyristors and frequency multipliers.

EEE 306 Electrical Machines Sessional
3 hours per week 100 marks
Laboratory experiments based on EEE 305

EEE 307 Measurment and Instrumentation
2 hours per week 200 Marks

PART A
Measurement of resistance, inductance and capacitance. Measurement of conductivity of bulk materials. Cable faults and localization of cable faults. Magnietic measurements, ballistic galvanometers, flux meters. Measurements and separation of iron losses. Illumination measurements. High voltage measurements. Operational amplifiers and their applications.

PART B
Instrumentation amplifiers. Transducers ; Measurement of strain, pressure, temperature and flow. Measuring instruments: Classification. Ammeters, Voltmeters and multimeters; Extension of instrument ranges; Current and voltage transformers; Measurement of power and energy: Wattmeters Watt-hour meters and maximum demand indicators. Measurement of speed, frequency and phase differences: Electronic measuring instruments: Oscilloscopes, Digital meters, DMM, VTVM, Q meters. Statistical methods in measurements.

EEE 308 Measurement and Instrumentation Sessional
3 hours every alternate week 50 Marks
Laboratory experiments based on EEE 307

EEE 309 Electromagnetic Fields and Waves
2 hours per week 200 marks

PART A
Review of Vector Analysis. Electrostatics: Coulomb's Law, force, electric field intensity, electrical flux density. Gauss theorem with application, electrostatic potential, boundary conditions, method of images, Laplace's and Poissons equations, energy of an electrostatic system, conductor and dielectrics.

Magnetostatics: Concept of magnetic field, Ampere's Law, Biot-Savert law, vector magnetic potential, energy of magnatostatic system, mechanical forces and torques in electric and megnetic fields, Curvilinear co-ordinates. Rectangular, cylindrical and spherical coordinates, solutions to static field problems.

Graphical field mapping with applications, solution to Laplace's equation. Rectangular, cylindrical and spherical harmonics with applications.
Maxwell's equations: their derivations, continuity of charges, concepts of displacement current: Boundary conditions for time-varying systems, Potentials used with varying charges and currents. Retarded potentials. Maxwell's equations in different coordinate systems.

PART B
Relation beteen circuit theory and field theory: Circuit concepts and the derivation from the field equations. High frequency circuit concepts, circuit radiation resistance. Skin effect and circuit impendance. Conceptof good and perfect conductors and dielectrics. Current distribution in various types of conductors, depth of penetration, internal impedance, power loss, calculation of inductance and capacitance.

Propagation and reflection of electromagnitic waves in unbounded media: Plane wave propagation, popurization, power flow and poyinting's theorem. Transmission line analogy, reglection from couducting and conducting dielectric boundary; Display lines ion in dielectrics, liquids and solids, plane wave propagation through the ionosphere. Introduction to radiation.

EEE 311 Transnission and Distribution of Electric Power
3 hours per week 300 marks

PART A
Inductance of Transmission Lines: Flux linkage; Inductance due to internal flux; Inductance of single phase two-wire line. Flux linkage of one conductor in a group, inductance of composite conductor lines. G.M.D. examples; 3 phase line with equilateral and with unsymmetrical spacing. Parallel circuit 3 phase lines. Use of table.

Electric field; Potential difference between points due to a charge, capacitance of a two wire line. Group of charged conductors. Capacitances of 3 phase line

with equilateral and with unsymmetrical spacing. Effect of earth; Parallel circuit lines.

Resistance and skin effects: Resistance and temperature, skin effects, influence on resistance. Use of table, current and voltage relation on a transmission line: Representation of line-short, medium, and long transmission line, tee and pye representation, exact solution. Equivalent circuit of a long line. Mechanical characteristics; Transmission line, sag and stress analysis. Wind and ice loading; supports at different elevations; Conditions at erection; Effect of temperature changes.

PART B
Generalized line constant: General line equations in terms of A. B. C. D. constants. Relations between constants, charts of line constants, constants of combined networks, Measurement of line constants.
Circle Diagrams : Receiving and sending end power-circle diagrams. Power transmitted; Maximum power, Universal power-circle diagrams. Voltage and power factor control in transmission systems. Tap changing transformers; On load tap changing. Induction reuglators. Moving coil regulators; Booting transformers. Power factor control; Static condensers; Synchronous condenser, Insulators for overhead lines; Types of insulators, their constructions and performance. Potential distribution in a string of insulators, string efficiency. Methods of equalizing potential distribution; Special types of insulators. Testing of insulators.

Insulated cables: Cables versus overhead lines. Insulating materials. Electrostatic stress grading. Three core cables; Dielectric losses and heating; Modern development; Oil filled and gas filled cables. Measurement of capacitances. Cable testing.

Introduction to Transmission Line Protection: Overcurrent relay and time grading, reverse power relays. Differential protection. Distance relays Distribution: Distributor calculation, ring mains and interconnections.

EEE 314 Electrical Design Sessional
3 hours every alternate week 50 Marks

General design principles of electrical apparatus involving electric and magnetic circuts. Design and specification of chokes, transformers, starters, field regulators etc. Elements of design of rotating machines. Design and interpretation of electrical system layouts.

General design aspect of electronic components; filters, amplifiers, oscillators, audio transformers, Power supply from both mains and batteries. Typical design problems.

EEE 315 Electrical Circuit Theory
2 hours. per week 200 Marks.
For Third year CSE

PART A
Analysis of non-sinusoidal wavefroms by Fourier series. Fourier methods applied to linear circuits. Laplace transformation and its application.

PART B
Impulse function, convolution integral and its application. Introduction to analogue and digital filters. z-transformation. HF transmission lines theory.

EEE 317 Measurment and Instrumentation
2 hrs. per week 200 Marks.
For Third year CSE

PART A
Multiplexers, Comparators, Amplifiers in instrumentation : Differential, Logarithmic, Chopper amplifiers. Phase Frequency and period measurment Digital voltage measurement: instrumentation charecteristics and limitations. Measurement of signal in presence of noise. Noise reduction in instrumentation.

PART B
Recorders and display devices, spectrum analysers, logic analysers, Introduction to instrument transducers, characteristics for Interfacing to digital systems. Measurment and control of temperature, pressure, flow level, displacement; vibration, acceleration, density and humidity. Nondestructive testing ultrasonic and eddycurrent test methods. Data logger, direct digital control.

EEE 318 Measurement and Instrumentation Laboratory
3 hours in alternate week 50 Marks.
For Third year CSE
Laboratory experiments Basod on EEE 317

EEE 323 Basic Electrical Technology for Architects
(Electrical Equipments)
1 hours per week 100 Marks
For third year Architecture

Electrical units and standards, electrical networks and circuits theorems. Alternating current-RLC series and parallel circuits.
Introduction to electrical wiring for residential and commercial loads. Illumination and working principles of different types of lamp.

EEE 400 Project and Thesis
6 hours per week 200 Marks
Stuy of problems in the fields of Electrical and Electronic Engineering

EEE 401 Control Systems
2 hours per week 200 Marks

PART A
Introduction to linear dynamic system and their representation by different equations and Laplace trasform. Block diagram representation and transfer function. Routh's criterion for stability. Frequency response methods-Bode, Nyquist, Nichols plot etc.

PART B
Type of systems and system analysis in time domain. Root locus. Cascade compensation using root locus and frequency methods. Feedback compensation. Introduction ot state variables.

EEE 402 Control Systems Sessional
3 hours every alternate week 50 marks
Laboratory experiments based on EEE 401

EEE 403 Power System Analysis
2 hours per week 200 Marks

PART A
Power network representations, per-unit system of calutations, reactances of a synchronous generator and its equivalent circuits, voltage characteristics of load, power and reactive power flow in simple systems, load flow studies of large systems using the Gauss-Seidel methods. control of voltage, power and

reactive power, use of network analysers and digital computers, symmetrical fault calculations, limitation of short-circuit currents using regulators.

PART B

Symmetrical components positive, negative and zero sequence networks of generators, transformers and lines, sequence network of systems, unsymmetrical fault calculations.

Power system stability involving two-machine systems, swing equation, Equal-area criterion of stability and its applications, solution of swing equation, factors, affecting transient stability.

EEE 404 Power System Analysis Sessional

3 hours every alternate week 50 marks

Laboratory work based on EEE 403

EEE 405 Power Stations

2 hours per week 200 Marks

PART A

Power plant load curves: Estimates of load, load curves, study and analysis of load curves, Interpretation of load curves. Determination of actual demand and capacity of various components in a system, plotting the expected load curve of a system. Use of the load curves. Load growth and extrapolation of load curves. Selection of service requirements, its effect on plant design. Cost consideration. Equations of performance for plant equipment and electric service. Selection of units. Standly units, large or small units. Number and sizes of units. Plant location. Considerations for site selection for different types of plants; General considerations for different types of power plants-Big, medium and small, conventional and nuclear.

PART B

Economic marginal transmission cost. Graphical solution for location of different types of distribution. Recatangular distribution of loads. Economic conductor section. General consideration.

The ideal conductor. Effect of any deviation from the ideal cross section. Limits for size of under ground cables. Selection of ideal supply voltage. Plant performance and operation characteristics. Performance characteristics. Effeciency. Heat rate. Incremental rate method. Station performance characteristics. Station incremental rate. Capacity scheduling. Base load and

peak load. Load division between steam and hydro stations. Bus systems, Importance of power control. Current Limiting reactors. Different types of bus system lay out. Forces on buses in the case of short corcuits. Nuclear power stations. Comparison with conventional generation methods. Chain reactors. Moderators. Classification of reactors. Types of reactors. Special power reactors. Shielding.

EEE 407 Integrated Circuits and Industrial Electronics

3 hours per week 300 marks

PART A

Review and analytical treatment of bipolar-transistor, FET, UJT, MOS and CMOS transistors. IC technology : Fabrication and characteristics of ICs. Detailed study of FET, MOS and CMOS integrated circuits. IC devices: amplifiers, oscillators and special devices.

PART B

Power rectifying devices, gas-filled tubes and power transistors. Controlled rectification using Thyratrons, Ignitrons and SCR, Use of DIACS and TRIACS in power control. Saturable reactors and magnetic amplifiers. Electronic control of motors. Industrial relay circuits. Timing circuits. Photo-electric devices and circuits. Electronic control of welding machines. Induction and dielectric heatings and their application in industry. Solar Cella and their applications.

EEE 408 Integrated Circuits and Industrial Electronics Sessional

3 hours every alternate week 50 marks

laboratory experiments based on EEE 407

EEE 409 Telecommunication Engineering

2 hours per week 200 marks

PART A

Introduction to telegraphy, single current and double current telegraphy, teleprinters. VFT and carrier telegraphy, introduction to telegraphony, manual switching system, electro-mechanical switching-strowger and EMD systems, electronic switching, Reed relays, basic impulsing circuits, uniselectors, group selectors and final selectors; Trunking diagrams – strowger system and EMD systems; Distribution frames – testing and protection of telephone lines, traffic calculations, introduction to network planning.

Introduction to information theory – Measurement of channel capacity, signal transmission through RC network.

PART B

Transmission principles, power levels, attenuation and delay distortions, cross talks, transmission standards, echo and noise, wireless telephony, carrier telephony, repeater, SSB transmitters and receivers, high accuracy crystal latticefilters, introduction to VHF and UHF systems, space communications, troposperic scatter and satellite communication, lasers and masers with application in communications. Frequency modulation and demodulation periodic sample and pulse modultion, comparative analysis of information transmission system, signal to noise ratio calculation in PPM, PCM and qualification for noise, introduction to statistical methods in communications.

EEE 410 Telecommunication Engineering Sessional

3 hours every alternate week 50 marks

Experiments based on EEE 409

EEE 411 Science of Materials

2 hours per week 200 marks

PART

Atoms and aggregates of atoms, crystals, waves in crystals, Schrodinger Wave Eduation. Quantum statistics; Conductivity theory, collision theory and conducvity of metals, conductors, Carrier Transport theory. P-N juction, metal semiconductor juction, surface phenomenon, photocell, solar cell, tunneling principles, dielectric: polar and non-polar dielectries; langevinin function, Clausius-Mossotti equation, ferroelectricity.

PART B

Magnetic properties of materials: magnetic moment, domain wall motion and coercive force in crystals; polycrystalline and permanent magnetic materials, magnetic resonance, testing of magnetic materials, superconductivity. Quantum electronics.

EEE 413 Switchgear and protective Relays

2 hours per week 200 marks

PART A

Circuti breakers; Speed of circuit breakers. Relays Voltage rating (high, medium, lower, low) of circuit breakers. Oil circuit breakers. Circuit breaker

operating mechanisms and control systems. Arc extinction. Recovery voltage. Devices to aid arc extinction in oil. Maintenance of oil circuit breakers. Air circuit breakers. Air blast circuit breakers.

Ratings of power circuit breakers and selection of circuit breakers. Testing of circuit breakers. Protective Relays: General requirements. Relay operation principles. Construction of relays. Relay currents and voltages; Use of instruments transformer for relays.

PART B

Problem of high speed relaying of transmission lines. Overcurrent relays. Directional relays. Distance relays. Sequence and negative sequence relays. Balanced current relaying of parallel line. Ground fault relaying. Pilot relaying principles. Carrier pilot relaying. Operating characterstics of different types of relays. Apparatus protection; Circuits and relay setting. Generator motor protection; Transformer protection. Bus protection; Line protection.

EEE 414 Switchgear and Protective Relays Sessional

3 hour every alternate week 50 marks

Laboratory experiments based on EEE 413

EEE 415 Microwave Engineering

2 hours per week 200 marks

PART A

H. F. transmission lines, Smith chart, impedance matching and applications, E. M. propagation, reflection and refraction, wave guides; parallel plane, rectangular, coaxial wave guides.

PART B

Transit time effects. Velocity modulation, space charge wave, microwave tubes, klystron, magnetron, travelling wave tube amplifier. Wave guide components, cavity resonators, antennas and radiation, hertzian dipole, long antennas analysis, radiation patterns, rhombic and slot antenna, frequency independent and longeriodic antennas, antenna arrays, introduction to antennas and arry design.

EEE 416 Microwave Engineering Sessional

3 hours every alternate week 50 marks

Laboratory experiments based on EEE 415.

EEE 417 Electronic III
2 hours per week 200 marks

PART A
Wave shaping, Electronic circuit design using OPAMP, Television engineering: basic television system, composite vedeo signal and television standards, television cameras, transmission and relay systems. Television reveivers: black and white, Principles of colour T.V.

PART B
Propagation of Radio waves, Ionospheric, Tropospheric and ground wave propagation. Effect of earth curvature on propagation. Radar -principles of operation and radar systems, Radar equation, magnetron, pulser, TR, ATR, tubes, duplexer, radio-aid to navigation, LORAN and IiS; Civil, military and weather application of radar.

EEE 418 Electronics III Sessional
3 hours every alternate week 50 marks
Lboratyr experiments based on EEE 417

419 High Voltage Engineering
2 hours per week 200 marks
PART A
High voltage supplies: AC Cascaded Transformers. Testa coils: DC Vlave rectifier Circuits. Cascaded rectifiers. Electostatic generators; Vande-Graff generators. Corona: Power loss calculations. Break down of solid, liquid and gaseous dielectrics. Insulation tests. Standard specification.

PART B
Impulse generators, impulse shapes. Mathematical analysis and design consideration of impulse generators, Triggering of impulse generators. Measurement of hgi voltages. Transmission line design based on direct strokes, insulation co-ordination, Lightning arresters and protector tubes.

EEE 420 High Voltage Engineering Sessional
3 hours every alternate week 50 marks
Laboratory experiments based on EEE 419

EEE 423 Electrical Circuits III
2 hours per week 200 marks
PART A
Introductory network concepts. Denfinition and symbols. Sign convention. Terminals and ports. Network functions. Complex requency, Driving point and transfer functions, Representation by poles and zeros. Properties of network function, Properties of immititance function; Positive real function. Hurwitz polymomials. Nutural frequencies of network; Parts of a network function (Megnitude phase plots, code and Nyquist diagrams). Minimum phase transfer function, Calculation of a network function from priscrpibed real part, imaginary part magnitude or phases. Synthesis of two element: Kind-one port LC, RC and RL one port network.

PART B
Two port networks, Classification and characterization of two ports. Two port parameters and natural frequencies. Interconnections of two ports. Common two port configuration. Scattering parameters. One end parameters; Iterative and image parameters. Filter; Design frequency transformation, Butterflysis, Block diagrams; Signals flow graphs. State vaiable techniques. Lattic networks. Bartletts bisection throem. Synthesis of Lattice network. Unbalancing of Lattice networks transmission characterstics. Signal distrortions. Relationship between bandwith and rise time, and between rise time, delay time and net-functions.

EEE 424 Electrical Circuits III Sessional
3 hours every alternate week 50 marks
Laboratory experiments based on EEE 423

POSTGRADUATE COURSES

EEE 6011 Engineering Analysis **3 Credits**
Professional methods of dealing with problems. Mathematical and physical principles applied to problems of diverse topics in electrical engineering. Simulation techniques; statistical methods.

EEE 6012 Energy Conversion **3 Credits**
Energy conversion processes; General introduction, energy sources, principles of conservaton of energy balance equations. Direct electrical energy conversion: Introduction; Magnetohydrodynamic (MHD); Fuel cell; Thermo-electrostatic; Ferro-electric; Photo-electric; Photovoltaic, electrostatic and

piezeoelectric energy conversions; characteristics including efficiency, power densities, terminal properties and limitations. Electro-mechanical energy conversion; General introduction of electrical to mechanical energy conversion; General introduction of electrical to mechanical, mechanical to electrical and electrical to electrical conversions; Bulk energy conversion devices; General formulations of equations; Co-ordinate transformation and terminal characteristics.

EEE 6101 Linear System Analysis **3 Credits**
Concepts and properties associated with state and state equations; Linearity and time invariance; State vectors and state quations of time invariant differential systems; Linear time invariant differential systems; Stability of linear differential systems; Impulse response of non-differential linear systems; Impedance functions. Transfer functions and their properties; Discrete-teme systems.

EEE 6102 Network Synthesis I **3 Credits**
Properties of driving point and transfer impedance; Driving point and transfer functions of two-element kind networks; Synthesis of LC driving point impedances; Synthesis of R-C driving point impedances, properties of two terminals-pair networks; Synthesis of loss-less two terminals pair network, real-part sufficiency and related topics; Synthesis of RLC driving point impedances, filter design.

EEE 6103 Network Synthesis II **3 Credits**
Transformer-loss driving point impedance synthesis, conventional methods of transfer function synthesis. Other methods of realizing transfer function. RC tranfer function synthesis. The approximation problems. Time domain synthesis.

EEE 6104 Nonlinear Circuits **3 Credits**
Numerical methods; Graphical methods; Equations with known exact solution; Analysis of singular points; Analytical methods; Forced oscillating system; Systems described by differential difference equations. Linear differential equation with varying co-efficient. Stability of nonlinear systems.

EEE 6105 Advanced Topics in Network Theory **3 Credits**
Approximation problem; Potential analog method; Distributed networks; Filters, delay lines, matching transformers, directional couplers, multiplexers, sensitivity analysis, time domain synthesis.

EEE 6201 Statistical Theory of Communication **3 Credits**
Periodic and random signals; Stationary random processes; Elements of probability theory, statistical characteristics of messages and noise; Autocorrelation; Cross-correlation and spectral analysis. Determination of correlation functions and separation of signals from noise.
Application of correlation techniques. Optimum filter, prodictor etc. Synthesis of optimum linear systems.

EEE 6202 Information Theory **3 Credits**
Fundamentals of probability theory with a brief review of the methods for the representation and analysis of linear system. Definition of a measure of information. Discrete noiseless and noisy systems; Channel capacity, coding the continuous case.

EEE 6203 Telephone Traffic Theory **3 Credits**
Introducton: Types of switching systems; Nature of telecommunication traffic; Full availability; Limited availability and link system: Lost call cleared theory; Lost call held theory; Non-blocking networks; Characteristics of telecommunication network planning; Traffic measurement; Traffic prediction; Traffic simulation.

EEE 6204 Advanced Telecommunication Engineering **3 Credits**
Telecommunications system design, types of information and their characteristics, channel characteristics, economic consideration; Noise, noise allocation in large system, S/N ratio, etc; Telephone transmission, Switching, networks, CCITT recommendations; Multiplexing, FDM, TDM; Communication links, coaxial, line of-sight links, tropospheric scatter, millimeter wave Link, fibre optic; HF, VHF, UHF radio systems, mobile operations; Facsimile communications, basic operation, parameters and standards, PCM and delta modulation, modems, data networks; digital radio, digital microwave links; Radio detection, LORAN; Satellite Communication.

EEE 6301 Power Semiconductor Circuits **3 Credits**
Review of power semiconductor devices thyristors, triacs, power tranistors, GTOs, etc. Circuits, operating principles and analysis of single and three phase ac voltage controllers, rectifiers, inverters and cycloconvereters. DC to DC converters (choppers). Applications of converters to motor drives.

EEE 6302 Design of Power Electronic Circuits **3 Credits**
Characteristics and limitations of power semiconductor as switching devices. Effects of reverse recovery time, stray and series inductances on the commutation circuits. Design of power filter, heat sinks, fuse ratings, snubber and protection circuts. Design of firing and control circuits for different converter configurations.

EEE 6401 Advanced Electronics **3 Credits**
Bias and thermal stability; High frequency and transient behaviour of transistors; Z. Y and H parameters in T and equivalent circuits; Matrix approach; Amplifiers; Amplifier stability; Oscillators; Integrating, differentiating, counting, timing and pulse circuits; Wave forming and wave shaping circuits; Logic circuits.

EEE 6402 Quantum Elactronics **3 Credits**
Topics in quantum theory important for measure and other quantum-elctronic devices. Interaction of radiation and discrete energy level systems. Stimulated transitions rate equations; Generalized block equations; Micro wave solid state masers; Optical masers; Noise and fluctuation phenomena in masers and other amplifiers. Introduction to the quantized electromagnetic fields. Interaction of matter with quantized radiation field. Quantum statistics and description of noise; Non-linear quantum effects.

EEE 6403 Solid State Devices **3 Credits**
Solid state diodes and triodes; Solid state microwave devices; Integrated electronic circuits.

EEE 6404 Active Circuit Design **3 Credits**
Multi-stage low pass and feedback amplifiers; High freequency band-pass amplifiers; Coupling and matching networks.

EEE 6501 Electric and Magnetic Properties of Materials **3 Credits**
Crystal structure; Dielectric of materials; Magnetic properties of materials; conduction in materials and semi-conductors. Gaseous discharges and properties of plasma.

EEE 6502 Electronics of Solids **3 Credits**
Cyrstallography; Energy bands and phoneus transport theory of solids with emphasis on semiconductors; Superconductivity. Solid state devices, solid state diodes and triodes; Solid state microwave devices; intergrated electronic circuits.

EEE 6503 Laser Theory **3 Credits**
Quantum electronics applied to electronic energy level transitions. Classical radiation and absorption by electronic narrow band spectra of solids. Principles of gaseous and solid state laser devices. Laser rate equations.

EEE 6601 Applied EM Theory **3 Credits**
Generalized approch to field theory: Introduction to reaction concept; Wave propagation through isotropic, anisotropic and gyrotropic media. Scattering of EM waves. Microwave antennas - theory and design. Advanced topics in EM theory.

EEE 6602 Micorwave Theory and Techniques **3 Credits**
Microwave oscillators amplifiers; Principles generation of millimeter and sub-millimeter wave; Detailed analysis of Klystrons, Magnatrons and TWT amplifiers and backwar wave oscillators. Harmonic generators, Gunn-effect devices, Microwave circuits; Microwave network analysis and synthesis. Matrix representation and scattering cavities and strip-lines Methods of microwave precision measurements.

EEE 6603 Microwave Tubes and Circuits **3 Credits**
Electron guns and their design; Interaction of elctron beams and electromagnetic fields. Details of mircrowave tubes. Masers, parametric amplifiers, solid state microwave devices, microwave circuits; Matrix representation of microwave conponent design. Analysis of waveguide discontinuations and on-reciprocal microwave circuits, selected topics.

EEE 6604 Antennas and Propagation **3 Credits**
Definitions, antenna as an aperature; Arrays of point sources; Reveiw of dipoles, loop and thin linear antennas. Helical antenna, biconical and spheroidal antennas. Internal-equation methods, current distribution; Self and mutual impedances; Arrays; Design and synthesis; Reflectortype antennas. Babiner's principle and complementary antennas; Select and Horn antennas. Lens and other types of antennas. Application of reaction concept and variational principles in antennas and propagation; Frequency independent antennas. Scattering and defraction. Selected topics in microwave antennas. Antenna measurements. Application to broadcasting, microwave links, satellite communications and radio astronomy.

EEE 6701 Non-Linear control Systems **3 Credits**
General introduction: The phase plane; method of isoclines; Linenard's method; Pelts method; Common non-linearities: Transident reasponse from phase trajectory; Describing function and their applicants; Relay servo machanism, Liapunov's method.

EEE 6702 Smapled-Data Control System **3 credits**
Introduction; Transform and modified Z transform; Root-Locus and frequency method of analysis of smapled-data systems. Compensation, discreete and continuous method. Physical realization of discrete compensations.

EEE 6703 Modern Control Theory **3 Credits**
General Introduction; Statre space concept; System design by state — Transition method, concept of controllability and observability. Optimal control-variational calculas method; Principle of maximum and dynamic programming. Strochastic and adaptive control processes. On-line computer control.

EEE 6704 Optimal Control Systems **3 Credits**
The optimal control problem. Cost functionals. Use of calculus of variations in optimal control. Optimization by Pontrygin's maximum princile and dynamic programming; applications. Linear regulator problems. Computational methods of sovling two-point boundary value problems.

EEE 6705 Statistical Models for Engineering Systems **3 Credits**
Introduction to different engineering systems and types of mathematical models. A brief introduction to statistical models with applications. Complex curve fitting, models from sampled time response of various engineering systems with emphasis on electrical engineering systems. Modelling of electrical energy generating systems. Recent advances in system modeling.

EEE 6801 Generalized Machine Theory **3 Credits**
Introduction to generalized machine theory. Kron's primitive machine; Moving to fixed-axis transformation; Parke's transformation; Three-phase to d-q transformation; Variable co-efficient transformation, other transformation; Matrix and tensor analysis of machine, Three-phase synchronous and induction machine; Two-phase servo motor; Single phase induction motor. Smooth-motor two-phase doubly excited machine; Smooth-airgap two-phase synchronous machine. Two-phase induction machine. The n-m winding symmetrical

machine; Diagronalization by a change of variable; Symmetrical three-phase machine and special limiting cases.

EEE 6802 Special Machines **3 Credits**
Course will be broadly on current research topics on electrical machines and devices. The following areas will be covered: Permanent magnet machines, hysteresis machine, eddy currenty torque devices; Homopolar machines, PAM motors, and reluctance machines.

EEE 6803 Advanced Machine Design **3 Credits**
General Treatment Electrical Machine Design. Review of standard procedures in design of D. C. machines, A. C. machines, transformers and special machines. Optimization and synthesis of design procedures.
Application of material balance and critical path principles in electrical design. Design economics and safety factors. Applications of computers in modern designs including the operation of the machine in non-linear ranges; Magnetic flux-plots and heat transfer process, etc. mechanical design of electrical machinery and relation betwen mechanical and electric machine design.

EEE 6901 Optimization of Power System Operation **3 Credits**
General principles of optimization, its application to power system planning, design and operation. Probability analysis for bulk power security and outage data. Economic operation of power system-economic operation of thermal plants, combined thermal and hydro-electric plants. Theory of economic operation of interconnected Areas. Development and application of transmission loss formulae for economic operation of power systems. Method of optimum sheduling and despatch of generator.

EEE 6902 Computer Aided Power System Design **3 Credits**
General review of network and matrix theories. Algorithms for formation of network matrics. Three-phase networks flux-linkage calculations, line parameter caculations, short Circuit Calculations load flow studies, system stability studies, prediction of reliability, over voltage and relay co-ordinations.

EEE 6903 Protective Relays **3 Credits**
Relay design and constructions; Main characteristics of protective relays. Over current, directional differential distance and pilot relays. Static relays, Comparators. Errors introduced by C. T's P. T.'s on relays operation. Linear computers.

Effects of tranients on relay operation. Harmonic relaying. Reliability of relays. Maintenance and testing of relays. Relaying of the future.

EEE 6904 Power System Stability **3 Credits**

The stability problems of power system. Distinction between steady state and tansient stability. The swing equation and its solution. Solution of networks for stablity studies. Transient stablity limits cretieria. Two machine and multimachine problems. Stability under different types of faults. Typical stablity studies and methods of improving stability.

EEE 6905 Transients in Power Systems **3 credits**

Transients in simple electric and magneticaly linked circuits; Fundamentals; Impacts of switching on rotating machinery. Parallel operation of interconnected networks; Distribution of power impacts. Interaction of Governor's in power systems. Overvoltages during power system faults. Systems voltage recovery characterstics. Effect of arc restriking on recovery voltage Switching surges and overvoltage arrester requirements. Overvoltage caused by sudden loss of load and by open conductor.

EEE 6906 Reliabbility of Power System **3 Credits**

Review of Basic probability theory. Basic reliability concepts. Markovian model of generation unit. Development of load models. Probabilistic simulation of generating systems. Reliability indices; Recursive, segmentation and cummulant method to obtain loss of load probality (LOLP). Modeling of forecast uncertainly. Reliablity evaluation of energy limited systems. Different techniques of evaluating reliability, reliability indices of interconnected systems. Composite transmission and generating system reliablity.

EEE 6907 Power System Planning **3 Credits**

Basic objectives of power systems planning; Generation expansion planning process. Electrical demand forecasting; Current demand forecasting approaches. Generating planning; economic analysis, expected energy generation, expected fuel cost, Booth-Baleriux, cummulant and segmentation methods. Probabilistic simulation of hydro and energy limited units. Expected energy production cost of interconnected systems. Economic aspects of interconnection. Different aspects of Load Management; effects of Load Management of reliability and on production cost. Joint ownership of generation.

EEE 6908 Advanced Power System Control **3 Credits**

Introduction to power system monitoring and control: Voltage, power and frequency control. Principles of small-scale and large-scale power system control; applications of network deocmposition and sparsity. Modern control schemes: closed loop generation control, load frequency control and security control. Centralized and decentralized computer control of power system: functional geographical and voltage level hierarchy. Analysis of various on- line functions: network topology, state estimation, short term load forecasting, unit commitment, active and reactive power control. Applications of pattern recognition and artificial intelligence in power system restoration, voltage prediction and contingency analysis.