INFORMATION BROCHURE

& APPLICATION FORM

2017

FOR CIT ENTRANCE EXAMINATIONS - 2017
CITEE-2017, CITDEE-2017, CITBDAT-2017, CITLET-2017

केन्द्रीय प्रौद्योगिकी संस्थान कोकराझार

CENTRAL INSTITUTE OF TECHNOLOGY, KOKRAJHAR
(A Centrally Funded Institute Under Ministry of HRD, Govt. of India)
KOKRAJHAR, BTAD, ASSAM, INDIA, PIN - 783370

WELCOME TO

CENTRAL INSTITUTE OF TECHNOLOGY, KOKRAJHAR

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&
APPLICATION FORM FOR CIT ENTRANCE EXAMINATION 2017

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1. INTRODUCTION

1.1 About the Institute

Central Institute of Technology (CIT), Kokrajhar is an autonomous Institute under the Ministry of Human Resource Development (HRD), Government of India. It was established as an outcome of the Memorandum of Settlement (MoS) on Bodoland Territorial Council (BTC) signed between the Assam Government, the Union Government and the Bodo Liberation Tigers, on February 10, 2003, in New Delhi. The foundation stone of CIT Kokrajhar was laid on 10th of February, 2003 by the then honourbale Chief Minister of Assam, Sri Tarun Gogoi in the presence of the then Honourable Deputy Prime Minister of India Sri L. K. Advani. Consequently, CIT started its academic and administrative functions from December 06, 2006. The Institute is run by an autonomous body registered with the Societies Registration Act 1860 and functions under a Board of Governors (BoG).

CIT was established for the basic objective of fulfilling the aspirations of the Bodo people relating to their cultural identity, language, education and overall economic development of the region. The academic programmes and curriculum lay emphasis on imparting the youth with requisite technological and vocational training to produce the required manpower to give an impetus for economic growth of the area and to integrate the people of Bodoland into the mainstream of technical and vocational Education.

CIT is mandated to impact technical and vocational education such as Information Technology, Bio-Technology, Food Processing Technology, Rural Industries, Business Management, etc. as part of the concerted efforts being made by the Government of India and the Government of Assam to fulfill the aspirations of the people of Bodoland and the entire north-east region.

1.2 Location

Central Institute of Technology, Kokrajhar is located at a serene landscape at about 12 kilometers north from the district headquarter of Kokrajhar District of lower Assam. It is located in a peaceful environment comprising of the cultivation lands and villages of various sections of indigenous peoples. The Institute is easily accessible by Railway and Highway. It is at a distance of 10 kilometers north of Kokrajhar Railway station, 20 kms south of NH-31 and about 230 kilometers from Guwahati (airport), the nearest airport .

1.3 Infrastructure

CIT Campus is presently spread over an area of about 250 bighas. The campus consists of Academic Blocks, Administrative Block, Director's Residence, New Library Building, Workshop Building, Four Hostels, Guest House, Faculty and Staff Quarters, Heath Centre, Recreational Centre, Sports Complex and Playgrounds. The constructional activities of new faculty and staff quarters, auditorium, new hostels, new academic blocks etc. are in progress.

1.4 Administration

Central Institute of Technology Kokrajhar is administered by a Board of Governors (BoG). The Board of Governors consists of members appointed as per the norms of Government of India. CIT is a Centrally Funded Technical Institute (CFTI) under Ministry of HRD, Government of India. IIT Guwahati is the mentor of the Institute. Presently, Director and Registrar are in the highest positions of administration and are assisted by various sub-committees.

1.5 Academics

CIT is currently following a two structure modular pattern of education with Diploma and Degree Modules.The Diploma and Degree programmes were started in the year 2006 and 2009 respectively. In 2016 B. Des. programme also started. At present, CIT Kokrajhar has seven core departments: Electronics and Communication Engineering, Computer Science and Engineering, Instrumentation Engineering, Food Engineering and Technology, Civil Engineering, Information Technology and Multimedia Communication and Design .

Other departments include Basic Science Department comprising of Mathematics, Physics and Chemistry sections, Allied Engineering Department comprising of Electrical and Mechanical sections and Humanities and Social Sciences Department comprise of English, Economics and Sociology.

The total students enrolled in various courses under Diploma, Bachelor of Design and Bachelor of Technology programmes are more than 1400. The Institute has more than 80 faculty members from diverse fields of Science, Engineering and Technology and Humanities and Social Sciences.

1.6 MoU

The Institute has signed MoUs with IIT Guwahati and Bodoland University, Kokrajhar for extending collaboration in various educational and professional programmes. IIT Guwahati is also serving as the mentor of the Institute since 2013.

2. MISSION AND VISION

Mission of Central Institute of Technology, Kokrajhar, is

- To establish a world class institute for education, career, technology and vocational training

- To promote a two cycle modular structure with the objective to make students free from a single career path by enabling them to opt for alternatives at different stages of their study.

- To ensure access to education, training, knowledge and technology for promoting skills and innovations to all.

- To foster skill development with innovative teaching techniques and learning technologies such as e-business and e-learning.

- To address challenges in rapid shifts in the nature of demand for skills by emphasizing on research, development, commercialization and industrialization with necessary thrust to shift from traditional mass approaches to provide more customized training.

- To focus on Institute-Industry partnership to implement innovative strategies to create new entrepreneurs, enterprises and industries with access to leading edge skills and technology.

- To empower the people to fulfill their aspirations by fostering know how in technology and vocational training to produce skilled and trained manpower from the Bodoland area by serving as a link between education, industry and economic self-reliance.

Central Institute of Technology, Kokrajhar, has a vision

- To be a Centre of Excellence in Technical and Vocational Education.

- To build a high-tech campus with all infrastructure and state-of-art facilities, committed to facilitate and promote latest technology, vocational skills and training.

- To encourage innovative teaching, training and learning methodologies and implement target group-specific skill development programmes.

- To foster Institute-Industry participation to build synergies in entrepreneurship, market oriented programmes and employability of participants in technology-intensive enterprises.

- To create a vibrant environment for education with an ethos for research and development.

- To build a Green Campus by emphasizing on adopting energy efficient buildings, power from alternative energies, rainwater harvesting, showcase technology for energy conservation and address climate change issues.

- To contribute to the socio-economic development of the region.

- To create a unique brand name for itself in the field of technical and vocational education in the country.

3. PROGRAMMES OFFERED BY THE INSTITUTE

The institute offers the following programmes:

1. **Diploma** (3 years) in Electronics and Telecommunications, Computer Science, Control and Instrumentation Engineering, Food Processing Technology, Construction Technology and Animation and Multimedia Technology.

2. **B. Tech.** (4 years) in Electronics and Communications Engineering, Computer Science and Engineering, Instrumentation Engineering, Food Engineering and Technology, Civil Engineering and Information Technology.

3. **B. Des.** (4 years) bachelor degree programme in Multimedia Communication & Design.

4. RECOGNITION & AFFILIATION

The Diploma courses are approved by AICTE and affiliated to State Council for Technical Education, Assam. B.Tech. courses are approved by AICTE and

affiliated to Gauhati University, Guwahati and B. Des. Course is approved by AICTE and affiliated to Assam Science and Technology University, Guwahati, Assam.

5. FACILITIES OF THE INSTITUTE

5.1 Hostel Facility

The Institute has separate hostels for boys and girls both inside and outside the campus. Currently, two hostels with a capacity of 230 each have been used as boys hostel inside the campus.The Institute designated hostels for boys and girls outside the campus. Two new hostels with a capacity of 350 each is recently constructed inside the campus and will be open from the new session.The Hostel Management Committee of CIT Kokrajhar comprising of Member Secretary, Chief Warden and the Wardens of individual hostels look after the overall affairs and administration of the hostels. It is mandatory for all the hostels boarders to obey the hostel rules and regulations. The Institute endeavors to provide hostel accommodation to all the admitted candidates but does not guarantee one.

5.2 Laboratory Facility

The Institute has well established laboratories in all the departments as per the requirements of Diploma and Degree Programmes. All the laboratories are equipped with state-of-art infrastructure with modern facilities including uninterrupted power supply and internet facilities to create an amiable atmosphere for laboratory classes and R&D activities. The institute give due emphasis on designing the laboratory classes in accordance with the concepts taught in the theory classes. The institute is committed to provide best experimental practices to all the students under the expert guidance of faculty members and laboratory staffs. Every year the institute gives due importance in upgrading its existing laboratories facilities with latest equipments and software tools .

5.3 Research and Development Facility

The Institute is emphasising on enhancing its R & D facilities in the departmental laboratories to facilitate research activities among the faculty members and students of the institute. The faculty members and students of the institute have published many research journals and presented papers in international and national conferences in the year 2016. The institute has a R & D committee to assist and guide new research activities in the institute.

5.4 Computer Centres

The Institute has two central computer centres with more than two hundred and fifty nodes with the latest Operating Systems and applications software. The computer centres are connected with a 2 Mbps leased line for Internet access through a wireless LAN and NKN connectivity of 100 Mbps leased line. In addition to this, departments like ECE, IE, CE, IT and AMT have individual computer centres to cater departmental needs.

5.5 Library Facility

The Central Library of CIT is located in the ground floor of the Academic Building-II covering 5400 sq. feet area. The permanent building for the library is under construction. The library is the liveliest place in the campus providing a safe, comfortable and friendly environment that enables learning and advancement of knowledge and promotes discovery and scholarship. The mission of the Library is to facilitate creation of new knowledge through acquisition, organization and dissemination of knowledge resources and providing for value added services. At present the library has a collection of more than 40000 books other resources for the users. It also subscribes important daily newspapers and magazines. Library has subscribed IEEE (IEL-Online Level -II) for accessing E-Journals. It also has Purchased E-Books of Elsevier Science Direct and have 5 Subject collections access to its journals with Food Science and Technology subject complementary access.

The library is fully automated using RFID technology with the help of SOUL 2.0 software developed by the INFLIBNET centre Ahmedabad. The library has become the first library in Assam and one of the few libraries in North East India fully automated using RFID technology enabling self-issue and return facility and dual lane gate security system. The library is also equipped with CCTV for the surveillance purpose. It has successfully launched dedicated Web OPAC with separate server. Users can search its holdings from anywhere anytime. After launching Web OPAC, the library has become the one of the few libraries in NE India providing such facilities.

The library is dedicated to serve the users with highest degree of professionalism and upgrades with the technological advancement.

Innovative services like "Library on Demand" where problems of the users are solved through telephone and Campus Delivery System of the reading materials has been introduced which has received tremendous support from all sections. Community Outreach programme are being conducted through our Career Counselling Cell of the Library. Numbers of such programs have already been conducted.

5.6   Transport Facility

CIT has 8 buses plying to and fro from Kokrajhar town to facilitate the transportation of the students to the Institute.

5.7   Training and Placement Cell

The Institute has a separate cell for Training and Placement consisting of three faculty members headed by a Training & Placement Officer (TPO). The Cell organizes and coordinates Campus Placement Programmes, frequent industrial visits, inplant trainings and projects of industrial relevance to the students, with the sole aim of zeroing down the hiatus between the industry and the academia.

5.8   Games and Sports Facility

Games and sports are encouraged among the students of the Institute since it keeps a healthy balance between physique and mind of an individual. The institute provides all the basic sporting facilities to the hostel boarders. The Institute has a sport complex with facilities to play Basketball, Volleyball, Lawn Tennis, Badminton etc. Recently, the institute has modernized the sport complex with new facilities. The Institute playground is under construction and will be open in the new session. Every year sports competitions are organized among the students during "Ecstasy", the annual week of the Institute.

5.9   Canteen

The Institute has a Canteen to cater the food requirements of both the staffs and the students. A new canteen is recently introduced in the campus to meet the need of the staff and the students.

5.10   Internet Facility

The Institute provides full-fledged internet and LAN connectivity to administrative block, academic block, laboratories, workshops, staff quarters, guest house and hostels within the campus. Wifi Connectivity is also available to both the staff and the students inside the campus.

5.11   Medical and Health Service

The Institute has a health centre inside the campus. It is equipped with all the primary medical facilities. A medical officer and a staff nurse is in-charge of the health centre to address the medical needs of both staffs and students of CIT. Ambulance service is available for 24×7 service to cater medical emergencies of both staff and students.

5.12   Guest House

The Institute has a Guest House with AC and Non AC rooms which is primarily meant for the guests of the institute. A full-fledged Conference Room forms a part of the Guest House.

5.13   Virtual Classroom

A well-equipped virtual class room has been recently inaugurated for attending and interacting e-classes broadcast from institutes like IITs, IISC etc. and for organizing e-conferences, seminars, invited talks etc.

5.14   Student Affairs

Student's affair section conducts various recreational and developmental activities among students and provides necessary guidance while addressing issues of students relating to academics, hostels or other grievances. Student Affairs Cell comprises of faculty members and it holds a strong responsibility in maintaining a cordial atmosphere in the institute.

5.15   Recreational Centre

The Institute has a recreation centre which is used for recreational activities like showing of documentaries or movies, invited talks, workshops and other recreational events.

CENTRAL LIBRARY

6. BRANCHES AND INTAKE CAPACITY

Central Institute of Technology presently offers the following programmes:

1. A three years Diploma programme.

2. A four years Bachelor of Technology (B. Tech.) programme and

3. A four years Bachelor of Design (B. Des.) programme.

6.1 Diploma Programme

The details about branches and their intake capacities under Diploma programme are mentioned below:

Branches	Intake Capacity
Electronics and Telecommunication Engineering (Et)	30
Computer Science (Co)	30
Control & Instrumentation Engineering (CAI)	30
Food Processing Technology (FPT)	30
Construction Technology (CT)	30
Animation & Multimedia Technology (AMT)	30

Out of the total number of seats in Diploma Programme, 80% of the seats are offered through CITEE conducted by CIT, Kokrajhar while 20% of the seats drawn from those seats reserved for BTAD and North East Assam are offered through Polytechnic Admission Test (PAT) conducted by State Council of Technical Education, Assam.

6.2 B. Tech. Programme

The details about branches and their intake capacities under Degree programme are mentioned below:

Branches	Intake Capacity (Direct Entry)
Electronics and Communication Engineering (ECE)	45
Computer Science and Engineering (CSE)	45
Instrumentation Engineering (IE)	45
Food Engineering and Technology (FET)	45
Civil Engineering (CE)	45
Information Technology (IT)	45

Out of the total seats under Direct Entry Scheme of B. Tech. Programme, 40% of the seats are offered to qualified candidates in JEE (Main) 2017 and have qualifying marks above the cut-off marks as decided by the Admission Committee of CIT Kokrajhar. The remaining 60% of the seats are filled through CITDEE-2017 Entrance Examination.

CIT offers direct admission to second year (third semester) of B. Tech. Course through Lateral and Vertical Entry scheme. The details about the intake capacity is given below:

Branches	Intake Capacity		
	Vertical	Lateral	Total
Electronics and Communication Engineering (ECE)	15	6	21
Computer Science and Engineering (CSE)	15	6	21
Instrumentation Engineering (IE)	15	6	21
Food Engineering and Technology (FET)	15	6	21
Civil Engineering (CE)	15	6	21
Information Technology (IT)	15	6	21

Under the Vertical Entry scheme, 15 seats in each branch are reserved for eligible candidates of CIT and in Lateral Entry scheme, 6 seats in each branch are open for candidates from any other AICTE/UGC recognized institutes.

6.3 B. Des. Programme

CIT, Kokrajhar has started the Bachelor of Design (B. Des.) programme from the year 2016 with an intake capacity of 20 seats. This year intake capacity is increased to 45 seats.

Programme	Intake Capacity		
	Direct	Vertical	Total
B. Des.	45	15	60

Under the Vertical Entry scheme, the candidates who have completed 3 years diploma in Animation and Multimedia from CIT Kokrajhar are eligible to apply to the Bachelor of Design (B. Des.) programme. There will be no lateral entry scheme in 3rd semester as the programme has a specialized course structure and one is allowed to enter from 1st semester to complete the programme.

7. ELIGIBILITY CRITERIA

7.1 Diploma Programme

Educational Qualifications: Candidates must have passed HSLC or equivalent with 45% marks in the aggregate and 50% of marks (without any grace marks) in Science, Mathematics (or Advanced Mathematics) and English taken together for GEN/OBC candidates (45% of marks for ST/SC/PC candidates)

Age limit: The age of the candidates as on 01-08-2017 must not exceed the following age limit for different categories-

        (i) GEN/OBC: 19 years

        (ii) SC/ST/PC: 24 years

        (iii) Female Candidates: 22 years

7.2 B. Tech. Programme

Educational Qualification:

(i) Direct Entry: 10+2 (Science) with 45% marks in the aggregate and 50% of marks (without any grace marks) in Physics, Chemistry and Mathematics taken together for GEN/OBC candidates (relaxed upto 5% for ST/SC/PC candidates).

(ii) Vertical Entry: Diploma in the concerned branch of Engineering/Technology from CIT with 65% marks for GE/OBC (relaxed upto 5% for SC/ST/PC).

(iii) Lateral Entry (CITLET): Diploma in AICTE recognized related branch of Engineering/Technology with 60% marks or equivalent CGPA for GEN/OBC (relaxed upto 5% for SC/ST/PC) or B.Sc. (with Mathematics as one of the compulsory subjects) with minimum of 55% marks or equivalent CGPA for GEN/OBC (relaxed upto 5% for SC/ST/PC)

Age limit:

(i) Direct Entry: Candidates must not be above 21 years, or below 17 years of age as on 01-08-2017. The upper age limit is relaxed to 3 years for Schedule Caste and Schedule Tribe candidates.

(ii) Lateral Entry: 40 years (45 years for SC/ST/PC and 43 years for OBC and female candidates) as on 01-08-2017

7.3 B. Des. Programme

Educational Qualification:

(i) Direct Entry: 10+2 (Science/Arts/Commerce or equivalent**) with 50% marks (without any grace marks) in the aggregate for GEN/OBC candidates (relaxed upto 5% for ST/SC/PC candidates).

(ii) Vertical Entry: Diploma in Animation and Multimedia from CIT Kokrajhar with 65% marks for GEN/OBC (relaxed upto 5% for SC/ST/PC).

** Minimum of 2 years Diploma after 10th Standard in relevant field of study (e.g., Visual Art, Fine Art, Commercial Art, Fashion Technology etc.) from any Govt. recognized institute approved by State Technical Board/AICTE/University.

Age limit:

Direct Entry: Candidates must not be above 21 years, or below 17 years of age as on 01-08-2017. The upper age limit is relaxed to 3 years for Schedule Caste and Schedule Tribe candidates.

Vertical Entry: 40 years (45 years for SC/ST/PC and 43 years for OBC and female candidates) as on 01-08-2017.

8. RESERVATION POLICY

In filling up of the available seats, the institute shall follow the following reservation policy.

1. 60% from BTC (60% ST, 5% SC, 15% OBC and 20% General)

2. 20% from North-East region excluding BTC.

3. 17% from All India excluding North-East Region.

4. 03% for physically challanged (PC) candidates irrespective of region.

The selection of serial no. (2), (3) & (4) will follow the reservation policy for SC, ST, OBC and General as laid down by the Central Government. In case the seats as mentioned in (2), (3) & (4) are not filled up by respective candidates, the seats will be filled up by candidates from the BTAD region.

8.1 Lateral Entry Seat Distribution Scheme

REGION	CATEGORY	ECE	CSE	IE	FET	CE	IT	TOTAL
BTAD (22)	ST (13)	3	2	2	2	2	2	13
	SC(1)	1						1
	OBC(3)			1	1	1		3
	GEN(5)		1	1	1	1	1	5
NE (7)	ST (1)						1	1
	SC(1)		1					1
	OBC(2)				1	1		2
	OPN(3)		1		1		1	3
AI (6)	ST (1)			1				1
	SC(1)	1						1
	OBC(2)					1	1	2
	OPN(2)	1	1					2
PH	OPN(1)			1				1
TOTAL	36	6	6	6	6	6	6	36

9. ADMISSION PROCEDURE

9.1 Diploma

A candidate may be admitted into the Diploma programme of CIT in two ways. The candidate has to clear the CITEE-2017 entrance examination followed by counselling at CIT, Kokrahar. The second way is to appear in Polytechnic Admission Test (PAT) 2017 conducted by State Council for Technical Education (SCTE), Guwahati, Assam. The candidates appearing in PAT are to attend counseling called by SCTE whereby their eligibility would be verified and their admission forwarded to CIT, Kokrajhar. Out of the total seats 80% of seats shall be filled up by the candidates qualified in CITEE-2017 and remaining 20% of seats shall be filled up by the candidates through PAT-2107 conducted by SCTE, Assam.

9.2 B. Tech. (Direct)

A candidate may be admitted into the first semester of B. Tech. programme of CIT in two ways. The candidate has to clear the CITDEE-2017 entrance examination followed by counselling at CIT, Kokrajhar. The second way is by applying and appearing in JEE (Main) 2017 conducted by CBSE, New Delhi. The JEE(Main) candidates should separately apply to CIT, Kokrajhar and submit the JEE (Main) score cards to the Member Secretary, Admission Committee, within ten days of the declaration of the JEE (Main) 2017 results. A separate selected list will be prepared for JEE (Main) qualified candidates depending on the cut-off marks decided by the Admission Committee of the Institute. Candidates appearing for CITDEE-2017 may also submit their JEE (Main) scores to the Member Secretary, Admission Committee, CIT, mentioning CITDEE-2017 Roll No/Application No. for consideration of their candidature for selection under the JEE (Main) qualified list. Out of the total seats 60% of seats shall be filled up by the candidates qualified by CITDEE-2017 and remaining 40% of seats shall be filled up by the candidates through JEE (Main) 2017 conducted by CBSE, New Delhi.

9.3 B. Tech. (Vertical/Lateral)

Candidates who have passed diploma from CIT in the current year having requisite qualifying marks should submit their application and would be admitted without any entrance examinations. Those candidates who have passed diploma from CIT and did not get the qualifying marks for Vertical Entry and has qualifying marks for Lateral Entry should apply and appear in the CITLET-2017. Candidates who have passed Diploma from other AICTE/UGC recognized institutions have to apply and appear in CITLET-2017 for consideration of their candidature for admission into the third semester (second year) of B. Tech. programme under the Lateral Entry scheme.

9.4 B. Des. (Direct)

A candidate may be admitted into the first semester of B. Des. programme of CIT in two ways. The candidate has to clear the CITBDAT-2017 entrance examination followed by counselling at CIT, Kokrahar. The second way is by applying, appearing and has to qualify in UCEED-2017 conducted by IIT BOMBAY. These candidates should also separately apply to CIT, Kokrajhar and submit the UCEED-2017 score cards to the Member Secretary, Admission Committee, as per notification by CIT Admission Committee on institute's official website www.cit.ac.in.

9.5 B. Des. (Vertical)

Candidates who have passed 3 years diploma in Animation and Multimedia Technology from CIT Kokrajhar in the current year having requisite qualifying marks should submit their application and would be admitted without any entrance examinations.

9.6 Medical fitness

Admission into any of the diploma/degree programme of the institute shall be subject to the candidates being declared medically fit by the Institute Medical Officer or a medical officer of Govt. Hospital for the purpose. Necessary fees as prescribed by the medical officer shall have to be paid by the candidate for such test.

N. B.: The Admission Committee shall determine from time to time the percentage of marks/CGPA and other requirements for admission into various courses offered by the institute and incorporates in the information brochure for admission into different diploma/degree programmes.

10. SELECTION PROCESS

The selection of aspiring candidates for admission shall be based on their performance in the respective Entrance Examinations. However, the candidates must fulfill the eligibility criteria of essential Educational Qualification and Age Limit. The selection will be based on merit separately for all regions and reservation categories. Candidates who fail to furnish the proofs for their claims in respect of reservation of seat pertaining to region and category shall not be considered.

A single merit/ranking list would be prepared based on the performance of the candidates in the Entrance examination. The ranking for CITEE-2017 will depend on the marks obtained in the total, then in Mathematics, Physics, Chemistry, Biology and English. The ranking for CITDEE-2017 will depend on the marks obtained in the total, then in Mathematics, Physics, Chemistry and English. The ranking for CITLET-2017 will depend on the marks obtained in the total Paper I and Paper II, then in Paper II and Mathematics, Physics, Chemistry and English in Paper I.

Those candidates who have already appeared in CITDEE-2017 and are seeking admission through JEE Main 2017 scores must submit their score cards to Member Secretary by Speed Post/Email (scanned copy) within 10 days of declaration of JEE Main 2017 results mentioning clearly the CITDEE-2017 Roll No/Application Form number.

Those candidates who have not appeared CITDEE-2017/CITBDAT-2017 and are seeking admission through JEE Main/UCEED scores, must buy the application form of CIT and submit it along with their JEE Main/UCEED score cards to Member Secretary by Speed Post/Email (scanned copy) within 10 days of declaration of JEE Main results. For UCEED candidates, separate notification will be published on institute's website. Online application forms must always be accompanied with the requisite amount of Demand Draft/e-payment receipt.

11. HOW TO APPLY

Offline Mode: Candidates may collect the information brochure along with application form from designated centres on payment of requisite amount and submit it to **"THE MEMBER SECRETARY, ADMISSION COMMITTEE, CIT KOKRAJHAR, P.O.: Kokrajhar B. T. A. D. Assam PIN- 783370"** by speed post/general post/registered/courier.

Online Mode: Candidates may fill online application form and send hard copy accompanied by demand draft or e-payment receipt of requisite amount and submit it to **"THE MEMBER SECRETARY, ADMISSION COMMITTEE, CIT KOKRAJHAR, P.O.: Kokrajhar, B. T. A. D., Assam, PIN- 783370"** by speed post/general post/registered/courier. The

application forms received after the last date will not be entertained. The institute will not be responsible for postal delay. Incomplete application form will be summarily rejected. Application fees are non-refundable.

12. ENTRANCE EXAMINATION FEES

The candidates collecting the Application Forms from different selling centers need not submit any examination fees (the price of Information Brochure is inclusive of Examination fees). However, the candidates applying in the Online Application Form from CIT website must submit a demand draft of Rs.1000/- (One thousand) only for GEN/OBC candidates and Rs.500/- (Five hundred) for SC/ST/PC only in favour of **"Entrance Examination CIT, Kokrajhar"** payable at **'SBI, Balagaon, Kokrajhar'** drawn on any nationalized Bank of India along with the Application Form.

While filling up the Application Form, refer to the Guidelines for filling the Application Form.

13. GENERAL ACADEMIC REGULATIONS

13.1 General Conduct & Discipline
All students must conduct themselves as responsible people (as ladies & gentlemen). Students are not allowed to:

1. Willfully damage or steal or remove property/belongings of the Institute/Hostel or fellow students.
2. Indulge in possession, consumption or distribution of alcoholic drinks and drugs.
3. Take part in noisy and unseemly behaviour and disturb studies of fellow students.
4. Resort to ragging fresher/fellow students.
5. Take recourse to unfair means in examinations.
6. Use Mobile Phones/I-Phones etc. in the academic buildings, library, laboratories & workshops.

13.2 Leave of Absence (Degree/Diploma)

All leave applications have to be submitted to the concerned Course Coordinators/HoDs stating fully the reasons and supported with documents. Leave of absence will be accepted only within a week of the student's rejoining of classes after ailments or other granted leaves. If a student will be away from the Institute for more than one week then prior application has to be submitted to the Director through the concerned HoD and such leaves will have to be sanctioned in advance. If a student is absent from the Institute for more than 06 (six) weeks without permission then that will result in his/her name being struck off from the Institute's Rolls. Under no circumstances should a student's attendance fall below 65%. In other words no consideration in attendance will be made once a student's attendance falls below 65% in a subject.

13.3 Change of Branch (Degree/Diploma)

Depending on the availability of seat, changing of branch in 3rd Semester is allowed based on the performance of the student during the first two semesters.

1. A maximum of 10% of the total number of seats in a Branch may be offered to applicants for change of branch subject to availability of seats in that branch.
2. The selection of applicants will be based on merit. Students in Diploma module who have secured at least 60% marks in aggregates in both 1st and 2nd semester are only eligible for branch change. In case of degree module, students who have secured at least 7.0 CGPA in aggregates in both 1st and 2nd semester are only eligible for branch change. No applicant with back paper(s) will be considered for change of branch.
3. Students who passed 1st and 2nd semester examinations in one sitting can only eligible for branch change.

13.4 Registration (Degree/Diploma)

A student has to register for continuation of study every Odd Semester. Registration Fees will be fixed and announced by the Registrar's Office from time to time. Dis-Collegiate students will have to re-register for the semester they are re-admitting to and such fees will also be duly notified from time to time.

14. REGULATIONS FOR DIPLOMA

[The following rules and regulations are taken from the Examination Rules and Regulations (2006-2007) Amended issued by DTE, Assam.]

14.1 Attendance, Examination & Mobility Rules

Rule 4.10 states "An internal student of an institute shall be permitted to appear in semester examinations as regular student who has attended at least 75% of classes held in each of the theory and practical subject individually."

Rule 4.15: The head of the institute shall be competent to disallow a candidate from appearing in the whole or part of the examination if the candidate is found to be:

1. Deficient in the attendance of requisite number of classes held and/or deficient in securing the minimum pass marks in the sessional.

2. Showing misconduct or ill behavior to any of the Institute staff member, invigilating officer, examiner or any member of the examination cell of the Institute.

3. Resorting to strike and/or adopting unfair means in examination in any paper of any subject and/or violating the rules of examination.

Rule 5.2: A student has to attain a minimum attendance in each subject and secure the minimum pass marks prescribed for a pass in the sessional of each subject.

Rule 5.3: A student failing to attain the minimum attendance and sessional event in a single subject will not be allowed to appear in the semester end examination and he/she has to repeat the semester again by attending classes.

Rule 5.4: Such type of candidate will not be allowed to move to the higher semester without sitting in the previous semester end examination.

Rule 5.7: A student will be allowed to appear altogether in 11 subjects only in end semester examinations including all subject of the regular semester with five arrear back subjects to be cleared.

Rule 5.9: A student must clear all back subjects of 1st semester for promotion to 5th semester, similarly must clear all back subjects of 2nd semester for promotion to 6th semester.

Rule 5.10: Those students who are not promoted and cannot take admission in 5th and 6th semester can appear in back subject of the lower semesters.

Rule 5.11: To pass in a subject a candidate must secure pass marks in both theory and practical/viva component individually.

Rule 5.12: A student failing in any one component of a subject (either theory or practical) will have to reappear in that component only as back candidate in which he/she has failed.

Rule 5.13: Total marks and pass marks of a subject will be as per curriculum structure and scheme of examination.

14.2 Duration for Completion of Course

Rule 5.14: Maximum permissible period for completion of Diploma course by a student shall be 6 academic calendar years from the date of admission.

14.3 Re-examination & Re-evaluation of Answer Scripts

Rule 7.6: Re-examination of answer scripts may be allowed provided the candidates concerned apply with a re-examination fee as prescribed per paper within 21 days from the date of publication of result of the respective examination to the Secretary of Examination Committee of SCTE, Assam. Re-examination means re-totaling of marks and scrutiny of any answer not valued already. No re-evaluation or re-examination of practical and sessional works of any examination shall be permitted.

14.4 Award of Diploma/Class/Division

Rule 8: A student is eligible for award of Diploma only if he/she passes in all subjects. The award of class shall be based on the marks obtained in the 4th, 5th & 6th semester examinations. However, the division will be (i) First class with Hons.: 60% and above and passing all the subjects of all the six semester examinations in single sitting (ii) First class: 60% and above (iii) Second class: less than 60%.

14.5   Diploma Evaluation Schemes

Theory	
Sessional	**End Semester Exam**
Mid Semester Exam: 10 marks Other Evaluations: 10 marks Attendance: 10 marks Total = 30 marks (Pass Mark: 30% for Humanities & Basic Sciences; 40% for Core Engg. papers)	70 Marks (Pass Mark: 30% for Humanities & Basic Sciences; 40% for Core Engg. Papers; 50% for Project Seminar etc.)
Practical	
Sessional	**End Semester Exam**
25 Marks (Pass Mark: 13)	25 Marks (Pass Mark: 12)

15.   REGULATIONS FOR B. TECH. DEGREE

REGULATION FOR B. TECH. PROGRAMME

15.1   Attendance

Attendance in all classes (lectures, tutorials, laboratories, practical, workshops, etc) must be at least 75% of the total classes. Students with shortage of attendance will not be allowed to write the semester examinations and will be awarded an F grade (i.e. Fail) in that subject. Such students have to reregister and go through the entire course once again (Sessional & Semester End Examinations).

15.2   Duration for Completion of B. Tech. Programme

The normal duration for completion of B.Tech. Programme is 8 Semesters. However a student may be allowed up to 16 consecutive semesters from the first semester registration.

15.3   B. Tech. Evaluation Scheme

Theory	
Sessional	**End Semester Exam**
Mid Semester Exam: 25 marks Other Evaluations: 10 marks Attendance: 5 marks Total = 40 marks (Pass Mark: 12)	60 marks (Pass Mark: 18)
Practical	
Sessional	**End Semester Exam**
30 marks (Pass Mark: 09)	70 marks (Pass Mark: 21)

Students must pass all the above four components separately. Students failing in sessional will not be allowed to register for the higher semester.

15.4   The Grading System in force as per Gauhati University is as under

Range of Marks	Letter Grade	Grade Point
90 − 100	A	10
75-89	B	08
55-74	C	06
40-54	D	04
30-39	E	02
Below 30	F	00
Attendance < 75%	FA	00

Grade Point	Description
10	Excellent
08	Good
06	Fair
04	Average
02	Poor
00	Fail
00	Fail

Conversion Formulae:

For GPA below 9.0 : % of marks = 10*CGPA – 5
For GPA above 9.0 : % of marks = 15*CGPA – 50
For Class I : Minimum CGPA must be 7.0
For Class II : Minimum CGPA must be 5.0

15.5 Re-evaluation of Answer Scripts

Revaluation for B. Tech. Programme will be as per Gauhati University Guidelines and students are required to follow the same.

16. REGULATIONS FOR B. DES. DEGREE

REGULATIONS FOR B. DES. PROGRAMME

16.1 Attendance

Following are the rules relating to attendance requirements:

16.1.1 Every student is expected to have 100% attendance in each subject in which he/she has registered in the beginning of the semester. However, condonation for shortage of attendance up to 25% may be granted on On-duty, Medical or other genuine grounds. Such students must submit to the Head of the Institution/HoD a medical/relevant certificate/document from the appropriate authority, within a week after they return to the Institute. Certificates submitted after one week shall not be entertained on any account.

16.1.2 Students not having the mandatory requirement of attendance in any subject, shall not be permitted to appear for the end semester examination in that subject and is awarded 'R' Grade in that subject. Such student has to register for the subject in which he / she has shortage of attendance, as and when the course is offered next.

16.1.3

- If the period of absence is for a short duration (of not more than two weeks), application for leave shall have to be submitted to the Head of the Institution concerned stating fully the reasons for the leave requested for along with supporting document(s). The Head of the Institution will grant such leave.

- Absence for a period not exceeding two weeks in a semester due to sickness or any other unavoidable reason for which prior application could not be made, may be condoned by the Head of the Institution provided he/she is satisfied with the explanation.

16.1.4 If the period of absence exceeds two weeks, a prior application for grant of leave will have to be submitted to the Head of the Institution with the supporting documents. The decision to grant or condone such leave shall be taken by the Head of the Institution, if the attendance is at least 75%.

16.1.5 A resident student must take prior permission from the corresponding warden before proceeding on leave. Failing to do so will be construed as breach of discipline and will be dealt with as per provisions.

16.1.6 The percentage of attendance is calculated up to the last working day, and the percentage will be indicated by a Letter Code in Grade Sheet for the semester against each subject as follows:

Sl No.	Attendance	Remark	Code
1	95% and above	Very Good	VG
2	85% to 94%	Good	G
3	75% to 84%	Normal	N
4	Below 75%	Repeat	R

16.1.7 A student representing the Institute in approved extracurricular activities such as Sports, Games, Cultural meets, Seminar, Workshop, Conference and Interview arranged through Training & Placement Department, shall be considered as on-duty subject to a maximum of five days in a semester. Prior permission from competent authority is required for availing on-duty permission. However, this period of absence shall be counted as present for the purpose of computation of attendance letter grade only.

16.2 Duration for completion of B. Des. Programme

Total Duration: 4 years / 8 semesters.

16.3 B. Des. Evaluation scheme

Assessment of academic performance

1. There will be continuous assessment of a student's performance throughout the semester and grades will be awarded by the subject teacher/co-ordination committee formed for this purpose.

2. Each theory subject in a semester is evaluated to 100 marks, with the following weightages.

Sub-components Weightage

Internal Evaluation

Class tests/Surprise tests/assignments/quizzes: **20 marks**

Mid-semester Examinations: **20 marks**

End-semester Examination (Entire syllabus): **60 marks**

3. The mid-semester examination will be conducted after 7 or 8 weeks of instruction (classes).

4. The mode and nature of the evaluation and the corresponding weightages, for the subcomponent (a) Shall be intimated to the students at the beginning of the semester along with the lecture schedule.

5. Each laboratory course in a semester is evaluated for 50 marks, with the following weightages:

Sub-component Weightage

Continuous evaluation (Lab report, Viva, Quiz): **10 marks**

Skill test: **10 marks**

End Semester examination: **30 marks**

16.4   The Grading System in force as per ASTU

16.4.1 Grading System

16.4.1.1

(a) As a measure of student's performance, a 9-scale grading system using the following letter grades and corresponding grade points per credit shall be followed:

Internal	Conducted by Respective Institutions/ College	Central Evaluation	Grand Total% (CE +MS + ESE)	Grading System			
CE	MS/ST	ESE	Grand Total= CE+MS+ESE	Marks %	Grade	Description	Grade Point
20	20	60	100	90 & above	O	Outstanding	10
				80 − 89	A$^+$	Excellent	9
				70 − 79	A	Very Good	8
				60 − 69	B$^+$	Good	7
				50 − 59	B	Above Average	6
				45 − 49	C	Average	5
				35 − 44	P	Pass	4
				Below 35	F	Failed	0
					Ab	Absent	0

CE – Continuous Evaluation (Internal), both for theory and practical.

MS – Mid Semester Conducted by Respective Institutions/ College only for theory subjects.

ST – Skill Test (for practical, laboratory, work-shop etc.)

ESE – End Semester Examination (Central Evaluation)

(b) To be eligible to appear for ESE, a total attendance of 75% (minimum) is mandatory separately for both theory and practical classes (Laboratory, workshop, seminar and project).

(c) The minimum marks of CE should be 7 out of 20 marks for theory subjects which is necessary to become eligible to appear in the End Semester Examination (ESE).

(d) The Mid Semester examination should be conducted by respective institutions/colleges, covering at least 30% of the syllabus of each subject. The portion of the syllabus to be covered in Mid semester (MS) will be specified by the University. Attendance in the Mid Semester (MS) is mandatory for a student to appear in the End Semester Examination.

(e) To be eligible to pass in a theory subject with minimum 'P' grade, the following conditions must be fulfilled .

i) Must appear in CE, MS and ESE.

ii) Must obtain 35% marks in CE (i.e. 7 marks out of 20 marks).

iii) Must obtain 35% marks in ESE (i.e. 21 marks out of 60 marks).

iv) Must obtain 35% marks in (CE+MS+ESE) out of 100 marks.

(f) To be eligible to pass in a Practical (Laboratory, Seminar, Project, Workshop etc.) subject, a student –

i) Must appear in CE, ST and ESE

ii) Must obtain 35% marks in (CE+ST) i.e. 7 marks out of (10+10) marks

iii) Must obtain 35% marks in ESE i.e. 11 (rounded) marks out of 30 marks

iv) Must obtain 35% marks in (CE+MS+ESE) i.e. 18 (rounded) marks out of 50 marks.

16.4.1.2 The norms for the award of the letter grade are as follows:

(a) No student can be awarded P or better grade without securing at least 4 Grade Point in any course.

(b) It is also mandatory that the student should secure at least 4 Grade Point in the End Semester examination in the subject for award of P or better Grade.

In addition, a student may be assigned the grades 'PS' and 'NPS' for pass marks and non-passing marks respectively, for pass/ No-pass courses, or the transitional grade 'I' (incomplete).

i) A student is considered to have completed a course successfully and earned the credits if she/he secures a letter grade other than 'F','NPS' or 'I'.

ii) A letter grade 'F' or 'NPS' in any course implies a failure in that course.

iii) In exceptional cases, a student is assigned the grade 'I' in a course if the student was compelled to absent himself/herself from the end-semester examination on account of

A) Illness or accident which disabled him from appearing at the examination.

B) A calamity in the family at the time of examination which, in the opinion of the College/ Institute, required the student to absent himself from the examination.

iv) A student will be eligible for the award of grade 'I' only if his/her attendance at classes and performance in other components of assessment are complete and satisfactory.

16.4.1.3 At the end of each semester, the following measures of the performance of a student in the semester and in the programme up to that semester will be computed and made known to that student together with the grades obtained by the student in each course:

i) The Semester Grade Point Average (SGPA): From the grades obtained by a student in the courses of a semester, the SGPA will be calculated using the following formula:

$$SGPA = \frac{\sum_{i}^{n} GP_i \times NC_i}{\sum_{i}^{n} NC_i}$$

Where

GP$_i$ = Grade points earned in the course

NC$_i$ = Number of credits for the course and

n = the number of courses in the semester.

ii) The Cumulative Grade Point Average (CGPA): From the SGPAs obtained by a student in the completed semesters, the CGPA will be calculated using the following formula:

$$CGPA = \frac{\sum_{i}^{n} SGPA_i \times NSC_i}{\sum_{i}^{n} NSC_i}$$

Where

SGPAi = Semester Grade Point Average of the ith semester.

NSCi = Number of credits for the ith semester.

n = Number of semesters completed.

iii) Both the SGPA and CGPA will be rounded off to the second place of decimal and recorded as such.

iv) The CGPA may be converted into a percentage, using the following formula:

Percentage marks = (CGPA X 10) – 5.

16.4.1.4 Whenever a student repeats or substitutes a course in any semester, the higher grade(s) obtained by him/her in the course is to be considered for the computation of CGPA.

16.4.1.5 Both the SGPA and CGPA will be rounded off to the second place of decimal and recorded as

such. Whenever these CGPA are to be used for the purpose of determining the merit ranking of a group of students, only the rounded off values will be used.

16.4.1.6 When a student gets the grade 'I' for any course during a semester, the SGPA for that semester and the CGPA at the end of that semester will be tentatively calculated ignoring the 'I' graded course(s). After the conversion of 'I' grade(s) to appropriate grade(s), the SGPA for that semester and CGPA will finally be recalculated after taking the converted grade(s) into account.

16.4.1.7 There are academic and non-academic requirements for the B. Des. programme where a student will be awarded the 'PS' and 'NPS' grades. All non-credit courses (such as NCC/NSO/NSS, industrial training, field visits and Extra Academic Activities) belong to this category. No Grade points are associated with these grades and these courses are not taken into account in the calculation of the SGPA or CGPA. However, the award of the degree is subject to obtaining a 'PS' grade in all such courses.

16.4.1.8 In the case of an audit course, the letters 'AU' shall be written alongside the course name in the Grade Sheet. A student is not required to register again for passing a failed audit course.

16.4.2 Transitional Grades

(a) Grade I:

When a student gets I Grade for any subject(s) during a semester, the SGPA of that semester and the CGPA at the end of that semester will be tentatively calculated ignoring this (these) subjects. After these transitional grades have been converted to appropriate grades, the SGPA for the semester and CGPA at the end of the semester will be recalculated after taking into account the new grades.

(b) About grade R:

When a student gets the R grade in any subject(s) during a semester, the SGPA of that semester and the CGPA at the end of that semester will be tentatively calculated by taking 'zero point' for these subject(s). After this transitional grade has been converted to appropriate grades, the SGPA for the semester and CGPA at the end of the semester will be recalculated after taking into account the new grade.

(c)   About Grade F:

When a student gets the 'F' grade in any subject during a semester, the SGPA and the CGPA from that semester onwards will be tentatively calculated, taking only 'zero point' for each such 'F' grade. After the 'F' grade has been substituted by better grades during a subsequent semester, the SGPA and CGPA of all the semesters starting from the earliest semester in which the 'F' grade has been updated will be re-computed and recorded to take this change of grade into account.

Note: If any other grade e.g. 'W' for withdrawn subjects and 'X' for expelled student need to be included later on if necessary. And necessary condition for calculation for SGPA and CGPA will be same as 'R' grade.

16.5   Examination Rules and Regulations

Internal evaluation & end-semester examinations

16.5.1 The mid semester examination will be conducted by the respective Institutes/colleges.

16.5.2 Head of the Institution/College sends the list of courses registered by each student for the semester along with percentage of attendance.

16.5.3 Class tests, surprise tests, assignments, quizzes, viva-voce, laboratory assignments etc. are the constituent components of continuous assessment process, and a student must undergo the continuous assessment process as prescribed by the teacher/coordination committee of the subject. If due to any compelling reason (such as his/her illness, calamity in the family etc.) a student fails to meet any of the requirements within/on the scheduled date and time, the teacher/coordination committee in consultation with the concerned Department may take such steps (including the conduct of compensatory tests/examinations) as are deemed fit.

16.5.4 If a candidate fails to appear in mid semester examination on medical ground, he/she has to produce a certificate from competent authority like District/ sub division medical officer, Professor / HOD of the medical colleges. In such cases the candidates will be allowed to appear in the ESE by treating the MS result as zero.

16.5.5 Appearing in the end-semester examination in the theory and laboratory subjects is mandatory for a student. Unless exempted as stated below, if a student fails to appear for the end–semester examination, he/she shall be awarded 'F' grade in the subject. He/She can be permitted to appear in the examinations as and when this is held along with the end semester examination.

The evaluation of end semester examination will be controlled by the Controller of Examination of the University.

16.5.6 However, if a student misses the end-semester examinations due to a compelling reason like serious illness of himself/herself which necessitates hospitalization or a calamity in the family, he/she may appeal to the Head of the Institution and Medical Officer of the Institution for permitting himself/herself to appear in the subsequent examination (s), when conducted next. In such cases, transitory grade 'I' is temporarily awarded to the student in the subject.

16.5.7 Students will be permitted to appear in the examinations in only those subjects for which they have registered either for study or for examination at the beginning of the semester.

16.5.8 Any change of grade of a student in a subject consequent upon detection of any genuine error of omission and/or commission on part of the concerned teacher must be recommended by the Controller of Examinations and shall be forwarded by the Principal/Chairman, Coordination Committee through the Head of the concerned Department within 20 (twenty) days from the commencement of the next semester.

16.5.9 As a process of learning by students and also to ensure transparency, the answer scripts after correction of class tests, mid-semester examinations, assignments etc., will be shown to the students within one week from the date of test/examination.

16.5.10 The student can appeal to the Controller of Examination for any arbitration within 20 days from the date of official publication of results.

16.5.11 The valued scripts shall be preserved for

a maximum period of 1 year after publication of results.

16.5.12 Examination record of all students shall be maintained in both soft and hard copy form in the office of the Controller of Examination, of the University.

Further, there shall not be any provision for improving CE/MS/ST marks for the above category of candidates.

16.6   Re-evaluation of answer scripts

Eligible for appearing (repeat) the examination with grade F and I

Students appearing in Examination shall be governed by the following rules:

16.6.1 In case of "R" grade (for attendance), the internal marks of CE/ST in the concerned subject(s) will be considered afresh. Besides, he/she needs to appear in the ESE of the concerned subject(s), as and when it is held in the subsequent Academic Session. However, in case of "R" grade (for subject drop), the student needs to appear in all components CE/MS/ST/ESE in the concerned subject(s) as and when these are held in the subsequent Academic Session.

16.6.2 Students with "F" or "I" grade, are eligible to repeat only the corresponding End-Semester Examinations as and when it is held.

16.6.3 A student who has obtained "F" grade in the Examination, may register in the subsequent semester for the course either for "study" or for "Examination".

16.6.4 A student with "F" or "I" grade can register for repeating an End-Semester Examination for a maximum of 6 (six) subjects (both Theory and Practical taken separately) as and when it is held.

16.7   Temporary withdrawal from the Institute

A student who has been admitted to an undergraduate degree course of the Institute may be permitted to withdraw temporarily for a period of one semester or more from the Institute on grounds of prolonged illness or acute problem in the family, which compelled him/her to stay at home, provided that he/she applies to the Institute within 15 days of the commencement of the Semester or from the date he/she last attended his/her classes whichever is later, stating fully the reasons for such withdrawal together with supporting documents and endorsement of the parent/guardian. The Institute is satisfied that, including the period of withdrawal, the student is likely to complete his/her requirements for the degree within the time limits specified.

17.   EXAMINATION RULES AND REGULATIONS

1. The Institute follows a continuous evaluation system and all assessments made during the semester carry weightage to the final marks obtained by a student in a particular course/subject.

2. Attendance in lectures, tutorials and practical is compulsory. A student has to secure minimum 75% attendance separately in lectures, tutorials and practical in order to be able to sit for the final semester examination which is held at the end of every semester.

3. Performance in attendance will be made known to the students at the end of every month. Warnings will be issued to those students who have less attendance and such students will be asked for their reason(s) of absence by the respective Course Instructors.

4. Students who fail in attendance (in more than 2 subjects) are not allowed to sit for the semester examination. Such students will be declared "Dis-Collegiate" and will not be promoted to the higher semester. They will have to re-register and repeat the whole semester with a junior batch.

5. However, concession in attendance will be made in the following cases:

    (a) Illness of the student.

    (b) Natural calamity at home.

    (c) The student has represented the Institute in such events which are important to the Institute.

    (d) Application with valid reasons of absence

has been submitted to the respective Course Instructors/ Head of Departments within a week of re-joining classes in case of (a) above and prior application has been granted by the Head of the Institute through the respective HoD in cases (b) & (c).

(e) No applications for leave will be accepted once the final attendance has been declared by the Examination Branch even if they are forwarded by Course Instructors or HoDs.

6. Under no circumstances students' attendance below 65% will be considered. In other words, if a student's attendance comes below 65% in any course(s) then concessions for attendance will not be made unless otherwise approved by the Head of the Institute on extraordinary grounds.

7. At least one assessment (class test/assignment/ quizzes/surprise test/open book test etc.) will be made before the mid semester examination and marks obtained by the students will be displayed by the respective Course Instructor(s).

8. A student must clear all back subjects of 1st semester for promotion to 5th semester, similarly must clear all back subjects of 2nd semester for promotion to 6th semester.

9. Mid Semester examination will be centrally conducted by the respective departments and the time schedule will be notified by the Examination Cell of the Institute.

10. At least one more assessment (class test/assignment/quizzes/surprise test/open book test etc.) will be made after the mid semester examination and displayed to the students.

11. Evaluations made in Sl. No. 7, 8 & 9 along with marks allotted for attendance constitute the Sessional component of a subject. A student is to secure the minimum passing mark in Sessional of all the subjects of a semester otherwise he/she will be declared "Dis-Collegiate" and not promoted to the higher semester. Such students will not be allowed to sit the semester examinations of all subjects. They will have to re-register and repeat the whole semester. This will apply for both theory and practical components of a paper. Pass marks in Sessional are different for different

components: 30% of total marks for B.Tech. & it varies from 30% – 50% for Diploma depending on the nature of the course(s). Information may be obtained from the Course Structures available with the Examination Cell or from the different Departments.

18. HOSTEL ADMISSION AND GENERAL HOSTEL RULES

For hostel Admission, the candidates have to apply separately in the Application Form to be distributed on the day of counseling and submit it to the Member Secretary, Hostel Committee. The selected list will be finalized by 'Hostel Admission Committee' and approved by 'The Head of Institution'. All the admitted candidates to the hostels have to furnish an undertaking of not resorting to ragging in the hostels and the Institute. A student must remember that the hostel is the home of the students in the Campus and so is expected to behave in such a manner as to bring credit to oneself and to the Institution.

The following rules have to be followed by all students residing in the hostels. Violation of hostel rules will make students liable for disciplinary actions including expulsion from the hostel.

1. Each student must occupy the room allotted to him/her for the session by the warden and no change of room shall be made without his/her permission.

2. No student shall keep any unauthorized person in his/her room.

3. In the event of mischief/foul play or accident etc. the warden can break to open the room for investigation.

4. Whenever the student proposes to leave station or to remain outside the hostel for the night, he/she should obtain prior permission of the warden.

5. No female visitor is allowed to enter the boys' hostel and male visitor in girls' hostel without the written permission of the respective warden.

6. Students are forbidden to utilize the hostel staffs as privates or abuse them in any way.

7. Electric stoves, room heaters or other electric appliances are not allowed in the hostel.

8. Strictly forbidden in the hostel are:
   - Possession or use of alcoholic beverages.
   - Possession or use of addictive or hallucinogenic drugs.
   - Possession or use of firearms/explosives or any lethal weapons.
   - Gambling
   - Playing cards
   - Loitering around unnecessarily.

9. Ragging is strictly prohibited in the hostel room and compound. Ragging is a symbol of immaturity. To eliminate such incidents students of the first year are urged not to visit other hostels without the Warden's permission.

10. Cleanliness of the rooms is to be maintained by the student himself.

11. Hostel students are not allowed to use motorized vehicles inside the Campus.

12. Students should carry their Identity Card all the time and to produce the same whenever demanded by the authority.

13. Parents are especially requested to guide their wards so that their wards don't indulge in any physical violence.

14. Any point/issue not covered by these rules shall be decided by the Director.

All the students admitted into the hostels have to submit an affidavit provided in Annexure III within one month from the date of hostel admission.

19.   DECLARATION OF RESULT

The Results of Entrance Examination and the selected list of the eligible candidates for admission will be declared on **May 26, 2017 at 5:00 pm** for CITEE-2017 (Diploma), CITDEE-2017 (Degree), CITLET-2017 (Degree Lateral) and CITBDAT-2017. The Results and selected list will be available on the Notice Board of the Institute. The candidates may also log on to CIT website: **www.cit.ac.in** to check their status.

20.   COUNSELLING AND ADMISSION

The counseling and admission for Diploma courses will be conducted on 28th June 2017 for CITEE-2017 and that for Degree Courses will be on 28th June 2017 for CITDEE-2017 and 18th July 2017 for CITLET-2017 qualified candidates. Counselling date for CITBDAT-2017 candidates will be 28th June for Direct Entry and 18th July for Vertical Entry.

Candidates selected for admission must get themselves admitted by payment of the fees on the date of counselling failing which their selection shall automatically be treated as cancelled.

During the days of counselling, the candidates have to apply for the available branches separately in the Counselling Form to be issued before the start of counselling and the branches will be allotted by the Chairperson of the Admission Committee after thorough verification of requisite eligibility criteria by the Counselling Committee.

Discrepancies found in the information furnished in the Counselling Form and that in the Application Form may result in the cancelation of admission.

The presence of the candidate is compulsory during counseling. Under exceptional cases, a parent may be permitted to stand in lieu of the candidate.

All the qualified candidates (i.e those scoring above a minimum cut-off mark) would be called for counselling on a single day. However, all candidates called for counselling are not guaranteed a seat. Admission depends on fulfillment of eligibility and availability of seat.

The candidates should not forget to bring the original and photo copy of all the requisite certificates during the day of counselling. At the time of counselling and admission the selected candidates must provide the following certificates:

1. Four passport size photos
2. Age proof certificate
3. Marksheet of HSLC or equivalent
4. 3 attested Mark Sheets of 10+2 (Sc) or equivalent.
5. Permanent Residential Certificate (PRC)
6. Caste Certificate (in case of SC/ST/PC)

7. Physically Challanged (PC) Certificate (if applicable)

8. Conduct/Character Certificate from the institution last attended.

9. Gap Certificate (if applicable)

10. Transfer Certificate in original

11. Migration Certificate in original.

12. A photo copy of Registration Card of HSSLC (10+2)

The certificates listed from (b) to (i) are compulsory for counselling and the rest must be submitted within 15 days from the date of admission otherwise the admission stands cancelled.

21. MEDIUM OF INSTRUCTION

The medium of instruction is English.

22. ANTI-RAGGING

Ragging is banned in CIT and any one indulging in Ragging during the entire period of his/her study in CIT is likely to be punished appropriately which may include expulsion from the Institute, suspension from the Institute or classes for a limited period, or fined with a public apology. The punishment may also take the shape of

a) Withholding Results

b) Withholding Scholarships or other benefits

c) Suspension or expulsion from the Hostel or Mess or Collective Punishment if the individual committing or abetting ragging is identified, and/or an entry in the conduct certificate mentioning the act of ragging indulged in by the students concerned.

All the admitted students have to submit an affidavit on a non judicial stamp paper duly notarized by the Oath Commissioner by the student and the parent/guardian separately in a format that is provided in Annexure I and II respectively within one month from the date of admission otherwise the admission stands cancelled. Further all the students admitted into the hostels have to submit a separate affidavit provided in Annexure III.

23. FEE STRUCTURE FOR ADMISSION

The fee structure for admission (excluding hostel fees) to the institute of the current year is as given below:

1st Year	Diploma
GE/OBC	Rs. 12950/-
SC/ST/PC	Rs. 11600/-

1st Year	B. Tech. Degree		
	Assam (DTEA, Boards)	Assam (AHSEC, CBSE)	Outside Assam
GE/OBC	Rs. 23400/-	Rs.22260/-	Rs. 30540/-
SC/ST/PC	Rs. 19050/-	Rs. 17910/-	Rs. 26190/-

1st Year	B. Des. Degree		
	Assam (DTEA, Boards)	Assam (AHSEC, CBSE)	Outside Assam
GE/OBC	Rs. 30080/-	Rs. 21800/-	Rs. 30080/-
SC/ST/PC	Rs. 25730/-	Rs. 17450/-	Rs. 25730/-

N.B.: The institute reserves the right to review the fee structure. (The Council/University fees may change as notified by them).

24. ADMISSION WITHDRAWAL RULE

Withdrawal of Admission is allowed till 30 days from the date of admission. Refund of Fees after deducting processing fees would be done within this date. No request for refund of fees would be entertained after this period.

25. ATTENDANCE IN CLASS AFTER ADMISSION

Attendance on the first day of class of the semester is compulsory. Absence from class without proper intimation during the first 15 days would be treated as withdrawal of admission and such a student would not be allowed to join the classes.

26. DEPARTMENTAL PROFILES

26.1 ELECTRONICS & COMMUNICATION ENGINEERING

The Department of Electronics and Communication Engineering was established in the year 2007 offering 3 Years Diploma in Electronics and Telecom-

munication Engineering with an annual intake of 30 Students. From 2009, the Department offered 4 years B. Tech. degree program in Electronics and Communication Engineering with an annual intake of 66 students (45 Direct entries +15 Vertical + 06 Lateral entries).

Mission

The primary objective of the department is to impart quality education, training and research in various areas of Electronics and Communication Engineering with broad emphasis on design aspects of electronic systems.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Ms. Namita Das** HOD & Asst. Prof.	B. Tech., M. Tech. (Optoelectronics & Optical Communication)
2	**Mr. Rajiv Chetia** Asst. Prof.	M. Tech., M. Phil. (Electronics circuit design)
3	**Mr. Antaryami Panigrahi** Asst. Prof.	B. Tech., M. Tech. (CMOS IC Design)
4	**Mrs. Bornali Bora Patowary** Asst. Prof.	B. Tech., M. Tech. (Networking, Cryptography)
5	**Mr. Agile Mathew** Asst. Prof.	M. Tech., Ph.D. (Linear system & signals, Control)
6	**Mr. Arindum Mukherjee** Asst. Prof.	B. Tech., M. Tech. (Microwave Photonics, Opto-Electronic Oscillator [OEO], Teager Energy Operator)
7	**Mr. Haradhan Chel** Asst. Prof.	M. Tech. (Image processing)
8	**Ms. Priyanka Mondal** Asst. Prof.	M. Tech. (VLSI Design)
9	**Mr. Kaushlendra Kr. Pandey** Asst. Prof.	M. Tech. (Wireless Communication)
10	**Dr. Sunandan Bhunia** Associate Prof.	Ph.D. (Microwave Engineering)
11	**Mr. Rajesh Borgoyary** JTS	Diploma in Electronics & Telecommunication Engineering
12	**Manoj Sarma** JTS	M.sc in Electronics.
13	**Rindao Borgayary** JTS	Diploma in Electrical Engineering

The Infrastructure

The Department is equipped with 14 labs, a departmental computer centre, departmental library, classrooms equipped with modern teaching aids and staff rooms. The laboratories include Analog Electronics Lab, Linear Integrated Circuits Lab, Digital Electronics Lab, Analog Communication Lab, Digital Communication Lab, VLSI Design Lab, RF, Microwave Engineering & Propagation Lab, Digital Signal Processing (DSP) Lab, Microprocessor Lab, Audio and TV Engineering lab, Satellite and Telemetry Communication lab, Circuit Theory lab, Linear Signals & Systems Lab, Basic Electronics Lab.

The Scopes

There are ample job opportunities in Electronics and Communication Engineering discipline. An electronics engineer can be employed in the public and private sector industries and organizations such as the Indian Telephone Industries, MTNL, National Physical Laboratories, AIR, Civil aviation, and the police wireless departments. Electronics engineers are also absorbed into the entertainment transmission industry, research establishments, and defense. Many IT sector companies like Yahoo, TCS, Infosys, Accenture, CTS, etc. also recruit electronics engineers. Robotics is another vast field where opportunities abound.

26.2 COMPUTER SCIENCE & ENGINEERING

The Department of Computer Science and Engineering was established in the year 2007 offering 3 Years Diploma in Computer Science with an annual intake of 30 Students. From 2009, the department offered 4 years B.Tech Degree program in Computer Science and Engineering with an annual intake of 66 Students (45 Direct entries +15 Vertical + 06 Lateral entries.

Mission

The aim of the department is to provide high quality

education with a blend of high quality experiments, to produce leading edge quality professionals.

Faculty Profile

Sl. No	Name & Designation	Qualification & Area of specialization
1	Mr. Sanjib Narzary HOD & Asst. Prof.	M. Tech (CSE & IS), B. Tech (CSE) (Information Security/ Network Security/Cryptography)
2	Mr. Pranav Kr. Singh Asst. Prof.	PhD (Pursuing, QIP, on 3 Yrs leave), M. Tech (IT), B. Tech (CSE) Computer Networks/ IOT
3	Mr. Mithun Karmakar Asst. Prof.	M. Tech., (Information Technology)
4	Mr. Prasanta Baruah Asst. Prof.	M. Tech. (IT) (Information Technology)
5	Ms. Tania Sarkar Asst. Prof.	PhD (Pursuing), M. Tech. (IT), B. Tech. (CSE) Information Technology
6	Mr. Ranjan Maity Asst. Prof.	PhD (Pursuing), MS (IT), B. Tech (CSE) (Human Computer Interaction)
7	Mr. Dharani Kanta Roy Asst. Prof.	M. Tech. (CSE) (Computer Science)
8	Mr. Apurbalal Senapati Asst. Prof.	M. Tech. (CSE), PhD (Pursuing) (Natural Language Processing, Theory of Computation)
9	Dr. Pankaj Pratap Singh Asst. Prof.	Ph.D. (Artificial Intelligence)
10	Mr. Ashish Kr. Roy JTS	MSc. (IT), BCA
11	Mr. Swrang Boro JTS	B. Tech. (CSE)
12	Mr. Bipin Kr. Brahma Lab Attendant	Diploma (Hardware Networking

Infrastructure

The Department is equipped with 18 labs exclusively for the department, 2 departmental computer centres.

All computers in the lab have wireless LAN facility connected with NKN of 100 Mbps and BSNL of 2 Mbps. The classrooms are equipped with modern teaching aids. The laboratories include programming with C/C++, Data Structure, Java programming, Compiler design, Operating System/Linux, PC System Technology, Computer Network Lab, Information Security etc. Softwares used are JDK open source, Visual Studio 2010, Fedora Core 12 open source, I-security Simulator, Embarcadero, Turbo C++.

Scopes

Computers have become an ubiquitous part of modern life, and new applications are introduced every day. The use of computer technology is also a common place in all types of organizations, academia, research, industry, government, private and business organizations. As computers become even more pervasive, the potential for computer-related careers will continue to grow and the career paths in computer-related fields will become more diverse.

The career opportunities for computer science graduates can be classified into seven categories: programming and software development, information systems operation and management, telecommunications and networking, computer science research, web and Internet, graphics and multimedia, training and support, and computer industry specialists. Some careers require additional formal training or study, and experience working in the field. Graduates find opportunities in many IT sector companies like TCS, Infosys, Accenture, CTS Cognizant Technology Solutions, Computer Associates, Cordys, Cybage Software, Dell, DST Global Solutions, Google, HCL, HP ,IBM, IGATE Global Solutions, Infosys, Larsen &Toubro Ltd, NUT Ltd, Microsoft, Oracle, Yahoo etc.

26.3 INSTRUMENTATION ENGINEERING

The Instrumentation Engineering Department of CIT Kokrajhar was established in the year 2007, initially started with Diploma programme in Control and Instrumentation with an annual intake of 30 students. The Degree programme was introduced in the year 2009 with an annual intake of 66 students (45 Direct entry +15 Vertical entry + 06 Lateral entry).

Mission

- To inculcate the students to acquire outstanding skills in the emerging technologies and analytical thinking in the field of Instrumentation and Control Engineering to meet the challenges in the field of industry and academics.

- To contribute for the overall development of the region by creating an ambience for technical education and research.

- To emphasize on skill and entrepreneurship developmental activities among young students with a vision towards innovation.

- To initiate industry–institute partnership activities and to take up consultancy projects for the benefit of the entire region.

Vision

To emerge as a major centre of excellence in teaching, research and industrial support in the field of Instrumentation and Control.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	Mr. Dipankar Sutradhar Asst. Prof.	M. Tech. (Bioelectronics)
2	Mr. Dipen Deka Asst. Prof.	M. Tech. (Biomedical Instrumentation)
3	Mr. Rajesh Kondareddy Asst. Prof.	M. Tech. (Industrial Process Instrumentation)
4	Mr. Kaushik Chandra Deva Sarma Asst. Prof.	M. Tech., Ph.D. (pursuing) (Electronics Design and Technology)
5	Mr. Jeet Dutta Asst. Prof. & HOD	M. Tech. (Electronics Design , Instrumentation)
6	Mr. Ganesh Roy Asst. Prof.	M. Tech. (Mechatronics)
7	Mr. Apurba Kumar Raibaruah Asst. Prof.	M. Tech. (Electronics Design and Technology)
8	Mr. Borat Basumatari Asst. Prof.	M. Tech. (Electronics Design, MOS Gas sensors)
9	Dr. Susmitha Wils. K Asst. Prof.	Ph.D (Biomedical Devices and Technology)
10	Mr. Arpan Nath JTS	M. Tech. (Embedded Systems, Instrumentation, Electronics Design)
11	Mr. Bhimraj Prasai Chetry JTS	B.Tech. (Instrumentation)
12	Mr. Anjoy Basumatary JTS	M. Sc. (Instrumentation)

Infrastructure

The Department is equipped with 11 labs, one departmental computer centre, a departmental library, classrooms equipped with modern teaching aids and staff rooms. The laboratories include the Transducers Lab, Measurements lab, Process Control Lab, Bio Medical Instrumentation Lab, Advanced Instrumentation Lab, Electronics Devices and Digital Lab , Computer Center, Microprocessor Laboratory, Virtual Instrumentation Lab and Embedded systems Lab. Apart from this the students are also trained in the Basic Electronics Lab, Digital & Integrated Circuits Labs, Communication skills Lab, DSP Lab and Microprocessor Lab.

Scopes

Instrumentation Engineers are required in Process industry, manufacturing, EPC industries and research organizations for the design, development, engineering, procurement, installation and commissioning, maintenance, calibration, operation and troubleshooting of all kind of instruments. Instrumentation Engineers also play the role of Control and Automation Engineer in industries or manufacturing units to control and monitor the industrial processes or operations in real time by using STATE OF THE ART TECHNOLOGY using automated systems like PLC, SCADA and DCS.

Instrumentation Engineers are mostly employed in industries such as Refinery, Oil and Gas,Petrochemicals, Power plant, Steel, Cement,Fertilizers, Chem-

ical, Medical, Aerospace, Pharmaceuticals, Pulp and Paper, Glass, Defence etc. There are well known industries to name a few reputed PSUs ie. BHEL, NP-CIL, HZL, HCL, ONGC, NTPC, IOCL, OIL India Ltd, SAIL,GAIL, BCPL, EIL, Reliance Petrochemicals, ESSAR , BPCL, HPCL, HINDUSTAN PAPER MILLS, State Public Sector Industries, Central PSUs, etc. Instrumentation engineers are also recruited in telecommunication sectors like BSNL, Reliance Jio, Vodafone etc. and software industries like TCS, CTS, Infosys, WIPRO etc. As a Biomedical Engineer, instrumentation engineers find employment in industries like GE, Philips, Siemens, Schneider etc.

Instrumentation Engineers find employment as a Technical Officer in various Government research and Educational establishments.

Instrument engineers find suitable employment with the manufacturers of instrumentation products eg. SIEMENS, EMERSON, YOKOGAWA, ENDRESS & HAUSER, ABB, INSTRUMENTATION LTD, PALAKKAD, INVENSYS, METSO, GE, HITACHI, TOSHIBA, SCHNEIDER ELECTRIC, ALLEN BRADLEY/ROCKWELL, FUJI ELECTRIC, HONEYWELL, MIL, KSB. There are numerous industries in MSME sector situated in India and abroad who are manufacturers of small scale instrumentation products, hires Instrumentation Engineers and technicians.

Instrumentation Engineers also find employment in leading Consulting and EPC organizations like MECON, EIL, TCE, L&T, PDIL, DESEIN, FLOUR DANIEL, SCHLUMBERGER, HYUNDAI, SNAM-PROGETTI etc.

26.4   FOOD ENGINEERING AND TECHNOLOGY

The Department of Food Engineering and Technology was established in the year 2007 offering 3 Years Diploma in Food Processing Technology with an annual intake of 30 Students. From 2009, the Department offered 4 years B.Tech degree program in Food Engineering and Technology with an annual intake of 66 students (45 Direct entries +15 Vertical + 06 Lateral entries).

Mission

To be a center of excellence which integrates all facets of food technology and be recognized as the focal point for catalyzing the growth of the food processing industry in North east in the global context.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	Mr. Anuck Islary Asst. Prof.	M. Tech., Ph.D. (Pursuing) (Microbiology/Bio-chemistry)
2	Mr. Prakash K. Nayak Asst. Prof.	M. Tech., Ph.D. (submitted) (Unit Operations in Food Processing / Drying)
3	Dr. Santosh Kumar Asst. Prof.	M. Tech., Ph.D. (Food Biotechnology/Bio-Nano-technology/Bio-chemical Engineering)
4	Mr. Abhijit Das Asst. Prof.	M. Tech., Ph.D. (Pursuing) (Bio-chemical Engineering /Quality Control)
5	Ms. Elina B Hazarika Asst. Prof. & HOD	M. Tech. (Food Engineering)
6	Dr. K. Radhakrishnan Asst. Prof.	Ph.D. (Food Processing)
7	Ms. Mainao Alina Gayary Asst. Prof.	M. Tech., Ph.D. (Pursuing) (Food Processing)
8	Dr. Sucharita Sen Maiti Asst. Prof.	Ph.D. (Biochemical Engg.)
9	Mr. Kailash Barman JTS	Diploma, B. Tech. & M. Tech. (Food Technology)
10	Mr. Jaydeep Kar JTS	Diploma in Food Processing Technology (Food Technology)
11	Mr. Bhaskarjyoti Basumatary JTS	B. Tech. in Food Processing Technology (Food Technology)

Infrastructure

The Department is equipped with 07 labs, a departmental library and classrooms equipped with modern teaching aids. The laboratories include the Food Packaging Lab, Food Engineering Lab, Fluid Mechanics Lab, Food Separation Lab, Food Product Development Lab, Food Microbiology Lab and Food Quality Analysis Lab.

Scopes

Food technologists are required in food processing (snack food, beverages, meat, winery, dairy etc.) sector, food service sector, supply chain, post harvest, food retailing, food regulations, health and wellness service providers. Amul, Godrej Industrial Limited, Dabur India Ltd, PepsiCo India Holdings, Nestle India Pvt Ltd, Britannia Industries Ltd, ITC Limited, Parle Products Pvt Ltd, Agro Tech Foods, Perfetti India Ltd, Cadbury India Ltd, Hindustan Lever Limited, Milkfood, MTR Foods limited etc are some of the popular companies that recruit food technologists in India.

26.5 CIVIL ENGINEERING (CONSTRUCTION TECHNOLOGY)

The Department of Construction Technology was established in the year 2009 offering 3 Years Diploma in Construction Technology with an annual intake of 30 students. From 2011, the department offered 4 years B. Tech. degree program in Civil Engineering (Construction Technology) with an annual intake of 66 students (45 Direct entries +15 Vertical + 06 Lateral entries

Mission

To be recognized asleaders in higher education and research, and to develop human power with creativity, technology and passion for the betterment of India and humankind.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	Ms. Neelu Das Asst. Prof. & HOD	M. E., Ph.D. (Pursuing) (Soil Mechanics and Foundation Engineering)
2	Mr. Amit Kumar Dey Asst. Prof.	M. Tech., Ph.D. (Pursuing) (Environmental Science & Engineering)
3	Mr. Yachang Omo Asst. Prof.	M. Tech., Ph.D. (Pursuing) (Environmental Science & Engineering)
4	Ms. Omem Peron Asst. Prof.	M. Tech., Ph.D. (Pursuing) (Environmental Science & Engineering)
5	Mr. Shafi Kamal Rahman Asst. Prof.	M. E. (Soil Mechanics and Foundation Engineering)
6	Mr. Rajashekar M Hubballi Asst. Prof.	M. Tech. (Geotechnical Engineering)
7	Mr. Pranjal Barman Asst. Prof.	M. E., Ph.D. (Pursuing) (Geotechnical engineering)
8	Dr. Abhijit Deka Asst. Prof.	Ph.D. (Geotechnical Engineering)
9	Mr. Soumen Maji Asst. Prof.	M. Tech., Pursuing Ph.D. (Hydraulic and Water Resources Engineering)
10	Mr. Jackie Brahma Asst. Prof.	M. Tech. (Structures)
11	Mr. Avijit Paul Asst. Prof.	M. Tech. (Hydraulic and Water Resources Engineering)
12	Mr. Abhijit Das JTS	Diploma Civil Engineering
13	Ms. Soma Paul JTS	Diploma Civil Engineering
14	Mr. Khanindra Saloi JTS	B.E. Civil Engineering

Faculty

The Department has 05 members of faculty (04 Assistant Professor and 01 Guest Lecturer) and 2 Lab Technician. The faculty has teaching expertise in various specializations like Design of Structures, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Hydraulics Engineering, Solid Mechanics and Transportation Engineering etc.

Infrastructure

The Department is equipped with 10 Labs exclusively for the department, one departmental computer centre, and departmental library, classrooms equipped with modern teaching aids and staff rooms. The laboratories include the Surveying Lab, Geotechnical Lab, Concrete Technology, Pavement lab, Traffic and transportation planning Lab, Water resource Lab, Environmental Lab, Geology and Seismic Lab, Geoinformatics Lab, Computational Lab.

Scopes

Civil engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like bridges, roads, canals, dams, and buildings in both public and private sectors. It focuses on the infrastructure of the world which may include Water works, Sewers, Dams, Power Plants, Transmission Towers/Lines, Railroads, Highways, Bridges, Tunnels, Irrigation Canals, River Navigation, Shipping Canals, Traffic Control, Mass Transit, Airport Runways, Terminals, Industrial Plant Buildings, Skyscrapers, etc. Indian Railways, BEML, NHPC, PWC, NTPC, DVC, ONGC, BHEL, Jaypee, L&T, Reliance Infra Pvt etc. are some of the private and public sector companies recruits Civil engineers.

26.6   INFORMATION TECHNOLOGY

The Department of Information Technology was established in the year 2011 offering 4 year B.Tech Degree program in Information Technology with an annual intake of 66 students (45 Direct entries +15 Vertical + 06 Lateral entries affiliated to Gauhati University.

Vision

The vision is to contribute towards research in the field of Information Technology and to fulfill the increasing demand for highly qualified manpower in the field of software industries as well as academic institutions.

Mission

The mission of the Department is to create knowledge resources and to educate and train youths in the latest technologies in IT, to imbibe in them human values, self-confidence and independent thinking in tackling diverse problems in the field of IT so that they can serve the country and the human society at large.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	Dr. Krishnamachar Sreenivasan Distinguished Professor	Ph.D. (University of Pennsylvania) (Cooling of Computer Chips, Performance Modeling, queuing theory, Discrete event Simulation, Cloud Computing, Stability of Computer Flows, Computer Architecture)
2	Mr. Kongkon Kalita Asst. Prof. & HOD	M. Tech. (Network Security & Computer Networking)
3	Mr. Bikramjit Choudhury Asst. Prof.	M. Tech. (Computer Networks)
4	Mr. Ranjan Patowary Asst. Prof.	M. Tech. (Network Security)
5	Mr. Anup Kumar Barman Asst. Prof.	M. Tech. (Natural Language Processing, Machine Translation)
6	Mr. Nayan Moni Barman JTS	Diploma in Computer Science &Engg. (Networking)
7	Mr. Abhijit Das JTS	Diploma in Computer Science &Engg. (Networking)

Infrastructure

The Department is equipped with excellent infrastructure. The laboratories include Information Security lab, Network lab, Multimedia lab, Software lab, and Hardware lab etc. The software available in the lab are Redhat Linux, i-security simulator, Oracle 11g, Visual Studio 12, adobe CS6, LAN-trainer simulator, IBM Rational Rose, IBM DB2,IBM AIX server etc.

Scopes

Broad categories of career options in the IT field are Information Technology- Hardware, Information Technology- Software, IT enabled Services (ITeS), Business Process Outsourcing (BPO) and Knowledge Process Outsourcing(KPO) etc., Typical designations/roles of jobs available in IT field are Business Analyst, Database Administrator (DBA), Database Architect/ Designer, ERP, Graphic Designer/ Animator, Game designer ,Web administrator, Network Administrator, Project Leader/ Project Manager ,Quality Assurance – Manager , Software Engineer/ Programmer , Software Test Engineer, System Administrator, System Analyst, Tech Architect, Team Leader/ Technical Leader, Technical Support Engineer and Quality Assurance etc. Job opportunities in software engineering are available in many software companies in India which include Accenture, ADP, Apps Associates, Birla soft, Broad ridge, Cap Gemini, Capital IQ, Caritor, CMC Ltd, Cognizant Technology Solutions, Computer Associates, Cordys, CSC, Cybage Software, Dell, DST Global Solutions, Google, HCL, HP, IBM, IGATE Global Solutions, Infosys, Larsen & Toubro Ltd, NUT Ltd, Microsoft, Oracle, Tata InfoTech Ltd, Polaris, Tata Consultancy Services, Yahoo etc.

26.7 MULTIMEDIA COMMUNICATION AND DESIGN (MCD)

The Department of Multimedia Communication and Design (MCD) formerly known as the Department of Animation and Multimedia Technology, has been upgraded to offer under graduate Bachelor of Design (B. Des.) programme in Multimedia Communication and Design with 4 year / 8 semester duration along with existing 3 year / 6 semester diploma programme in Animation and Multimedia Technology. To widen up the scope of the department it has also been renamed to make it more contemporary as well as fit into the scope of the department.

Vision

Department of Multimedia Communication and Design envisions a holistic environment for creative education at CIT that shapes the students into responsible contributors to the society. It enables them to identify significant contemporary problems, inculcate critical thinking and challenge the status quo to arrive at creative solutions through collaborative team efforts at different levels of society and influencing policymaking that lead to innovations.

Apart from teaching, the department also plans to set up itself as one stop solution point to the creative demand of the industry as well as society by offering hi-end research oriented as well as consultancy services.

Mission

- Contribution to BTAD region: As part of its social responsibility, Department of Multimedia Communication and Design would like to contribute to the BTAD region as well as to the NE region by associating itself in various creative and educational programmes and help the region to excel in the creative field.

- The programme at Multimedia Communication and Design is meant to develop Knowledge, Skills, Abilities and Aptitude among students to become creative problem solvers and to bring about innovative ideas in the communication and multimedia and entertainment industry.

- To get involved in research based and thematic projects of national interest as well as regional interest and through that address Design education and Design Research activities through collaborative teams of users, industry, NGOs and government. It endeavours to promote long-term interaction and develop a symbiotic relationship between academia, industry and government bodies.

- Extension to offer Masters and Ph.D. degree along with research projects and consultancy services.

- Starting a State-of-the-art incubation centre.

- Hosting national and international conferences for a better exposure of the region.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Mr. Debarshi Kumar Brahma** Asst. Prof.	MCA, Professional Diploma in 3D Animation and VFX. (CG Lighting, Rendering)
2	**Mr. Bhaskar Saha** Asst. Prof.	M. Sc. (Multimedia Technology), Ph.D. (pursuing), BVA (Fine Arts), Diploma in 3D Animation, Diploma in Multimedia. (2D, 3D Modeling, Texturing)
3	**Ms. Susmita Roy** Asst. Prof.	M.Sc. (IT), M.A. (Visual Effects and Animation), CIM, Omega Maya. (Rigging, 3D Animation, VFx)
4	**Mr. Subash Rai** Asst. Prof. & HOD	M. Sc. (Multimedia Technology), Advanced Diploma in 3D Animation and Visual Effects. (VFX, Audio Video Editing and Graphic Design)
5	**Mr. Abhijit Padun** Asst. Prof.	Mater of Design (M.Des.), Ph.D. (pursuing), B. Tech. (Civil), Advanced Diploma in 3D Modeling. (Graphic Design, Visual Communication, 2D Animation, Web Design)
6	**Mr. Chandan Kumar Baro** JTS	B.Sc. (IT) (3D Modeling)
7	**Mr. Ritupan Bora** JTS	Diploma in A/V Editing (Audio/Video editing)

Infrastructure

Labs

The Multimedia Communication and Design Laboratory is currently equipped with 50 up-to-date High End Workstations including 10 iMacs for the students to work on 3D Modeling, Texturing, Rigging, Animation, Lighting, Dynamics, Audio and Video Editing with the latest versions of the 3D Software installed and with Internet Connectivity.

1. **2D Lab (Pre-production):** This lab is well equipped with 10 no's of Light boxes to carry out 2D Classical animation (Cell animation). Also a system to digitize the hand drawn animations is allotted to line test their animations.

2. **3D Lab1 (Production):** This is where the students start their lab sessions on Flash Animation, Web Design, Photoshop, Modeling, Texturing and Rigging using Autodesk.

3. **Maya 3D Lab2 (Post-production):** The students in the Final year work on their post productions in this lab, which is equipped with more advanced hardware capable of running any dynamics or simulation thrown at it. This is where they learn on advanced topics such as animation, texturing, lighting, rendering, compositing, and conduct VFX & simulation experiments.

4. **Chroma Lab:** This lab is where the students get to experiment on VFX shots. A green screen stage with lights and up to date cameras enable our students to learn the fundamentals of VFX and composition. It also acts as a room for them to work on their acting and performance.

5. **Audio and Video Editing Lab:** In this lab, the students get to learn Audio & Video editing on a different platform other than Windows. 10 iMac's with Final cut pro enable them to learn about the process of NLE (Non Linear Editing).

Scopes

Students have a wide range of career options which not only restricted to design field only but also areas on IT, Software and other such engineering areas. Just to mention, a students can choose –Design industry such as Advertising, Film and VFX, Animation, Gaming, Print production and so on, as well as other industries such as Web related, IT related, Mobile phone and Digital media industry etc.
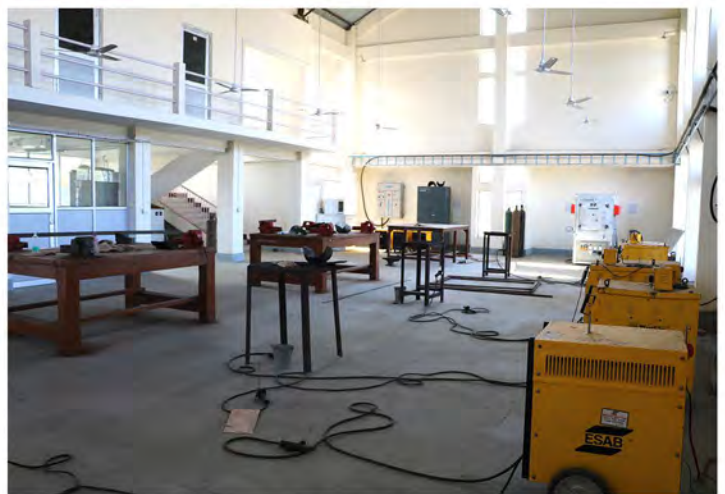
26.8   ALLIED ENGINEERING BRANCHES

The allied engineering branches include Mechanical and Electrical Engineering.

26.8.1 MECHANICAL ENGINEERING

The Department is equipped with excellent infrastructure. Currently Mechanical Engineering Department have 2 (two) laboratories for the students. The laboratories include Mechanical Engineering Workshop and Engineering Mechanics Laboratory. The machines and instruments available in the lab are lathe machines, milling machines, shapers machines, slotting machines, welding machines hydraulic drilling machine etc.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Mr. Haradip Kumar Mahilary** Asst. Prof. & HOD	M. Tech (Energy Technology), B.E. (Mechanical Engg.) (Mechanical Engg., Energy Technology)
2	**Mr. Shayaram Basumatary** Asst. Prof.	M. Tech (Energy Technology), B.E. (Mechanical Engg.) (Mechanical Engg., Energy Technology)
3	**Mr. Surjengra Islary** JTS	Diploma in Mechanical Engg.
4	**Mr. Meghnath Goyary** JTS	Diploma in Mechanical Engg.
5	**Ms. Suchitra Sukladas** JTS	B.E in Automobile Engg., Diploma in Automobile Engg.
6	**Mr. Dhananjoy Das** JTS	B.E in Mechanical Engg.
7	**Mr. Horendra Muchahary** Lab Attendant	ITI

26.8.2 ELECTRICAL ENGINEERING

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Dr. Ranjay Das** Asst. Prof. & Co-ordinator	Ph.D. (Power Systems)
2	**Mr. Sourav Deka** Asst. Prof.	M. E. (Power Systems)

26.9   BASIC SCIENCES

The Department of Basic Sciences includes faculties from Mathematics, Physics, Chemistry and Environmental Sciences.

26.9.1 PHYSICS

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Mr. Mahanada Brahma** Asst. Prof.	M. Sc. (Laser & spectroscopy, astrophysics)
2	**Dr. Sandeep Kumar Srivastava** Asst. Prof. & Co-ordinator	Ph.D. (Experimental Material Science)
3	**Dr. Manasi Buzar Baruah** Asst. Prof.	Ph.D. Plasma Physics

26.9.2 CHEMISTRY

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Dr. Gunajyoti Das** Asst. Prof.	Ph.D. (Computational Chemistry)
2	**Ms. Anamika Kalita Deka** Asst. Prof.	M. Sc. (Organic Chemistry)
3	**Mr. Gobinda Chhetry** JTS	M.Sc. (Inorganic Chemistry), B. Ed.

26.9.3 MATHEMATICS

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	**Mr. Anjalu Albis Basumatary** Asst. Prof.	M.Sc. (Pure Mathematics)
2	**Mr. Jeevan Krisna Khaklary** Asst. Prof.	M.Sc. (Number Theory and Topology)
3	**Mr. Samiran Das** Asst. Prof.	M.Sc. (Ph. D pursuing) (Relativity, Fluid Dynamics, Plasma Physics)
4	**Dr. Gautam Chandra Ray** Asst. Prof.	Ph.D. (Topology, Fuzzy Topology, Neutrosophic Topology)
5	**Dr. Diganta Jyoti Sarma** Asst. Prof.	M.Sc., M. Phil, Ph. D. (Pure Mathematics)
6	**Mr. Sahalad Borgoyary** Asst. Prof.	M.Sc. (Ph. D pursuing) (Fuzzy Mathematics, Partial Differential Equation, Operations Research)

26.10   HUMANITIES & SOCIAL SCIENCES

The Humanities and Social Sciences is multi-disciplinary, and currently it consists of three disciplines, namely, English (Communication Skills), Economics, and Sociology. These courses aim at cultivating critical mind and analytical capabilities.

Present day world looks for skilled people not only in their respective areas but very importantly certain basic skills to be a complete package in professional area. To fulfill these needs of the competitive job market, efficiency in English communication in both written and spoken is much demanded everywhere. Hence this discipline aims at the development of effective communication skills both in written and spoken forms. These include practices on leadership skills, team management, interpersonal skills, presentation skills, preparing reports etc.

The study of economics and management aims at improving students' managerial skills and making them to work towards the goal of technical application with greater productivity and lesser cost. The studies of economics also provides students with extensive technical knowledge of management and the ability to co-ordinate programme , plan ,supervise and control a wide range of industries from an administrative

point of view. Since the organizational activities includes planning ,budgeting ,managing etc. ,therefore ,to effectively and efficiently handle these activities of an organization , CIT has introduced economics as one of the subjects in the Diploma and Degree programmes.

In the past few years, mass media have focused on several machines and notorious cases. These cases have gained the attention of general public and lead to the awareness of the importance of the notion of society and ethics within engineering profession .This made the engineers to realize how their technical work has impact on the society. Thus the responsibility of engineers can directly affect public health and safety. Moreover, their work can influence business, politics and even spare of society. So, it is essential that the engineering students need to have an idea about the society so that they will be prepared to respond appropriately to the challenges from the society.

The department is also actively organizing workshops and seminars on Language Studies and Entrepreneurship development. A Short Term Functional English Course is also going to be introduced shortly for working staffs and any other professionals.

Faculty Profile

Sl. No.	Name & Designation	Qualification & Area of specialization
1	Mr. Bihung Brahma Asst. Prof. & HOD	M.A. (NET) (Linguistics)
2	Mr. J. D. H. Basumatary Asst. Prof.	M.A. (NET) Sociology(Sustainable Development)
3	Mr. Gunajit Sarma Asst. Prof.	M.A. (Economics), NET, PGDBM (Agricultural and Industrial Economics)
4	Ms. Monideepa Brahma Asst. Prof.	M.A. English Literature (Indian Writing English)
5	Dr. Tanushree Nayak Asst. Prof.	M.A., Ph.D. (English Literature)
6	Dr. Pradip Brahmachari Associate Professor	M.A., Ph.D. (Mathematical Economics & Development Economics)
7	Mr. Kaushik Barman Asst. Prof.	M.A. (NET) (Economics)
8	Mr. Miloard Brahma JTS	B. Tech. (Information Technology)

27 DIPLOMA COURSE STRUCTURES

1st YEAR : SEMESTER – I (JULY – DEC) : COMMON TO ALL BRANCHES

Sl. No	Code No.	Subject	Study Scheme (Contact hour/ Week			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Hu-101	Communication in English-I	3	-	-	21/70	9/30	-	-	100
2	Sc-102	Mathematics-I	3	1	-	21/70	9/30	-	-	100
3	Sc-103	Chemistry-I	3	-	3	21/70	9/30	15/50	15/50	200
4	Sc-104	Applied Physics-I	3	-	3	21/70	9/30	15/50	15/50	200
5	Me-101	Engineering Drawing	-	1	6	-	-	40/100	50/100	200
6	W-101	Basic Workshop Practice-I	-	1	6	-	-	50/100	50/100	200
									Total	1000

1st YEAR : SEMESTER – II (JAN - JUN) : COMMON TO ALL BRANCHES

Sl. No	Code No.	Subject	Study Scheme (Contact hour/ Week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Hu-201	Communication in English-II	3	-	-	21/70	9/30	-	-	100
2	Sc-202	Mathematics-II	3	1	-	21/70	9/30	-	-	100
3	Sc-203	Chemistry-II	3	-	3	21/70	9/30	15/50	15/50	200
4	Sc-204	Applied Physics-II	3	-	3	21/70	9/30	15/50	15/50	200
5	Me-201	Engineering Mechanics	3	-	3	28/70	15/30	25/50	25/50	200
6	W-201	Basic Workshop Practice-II	-	1	6	-	-	50/100	50/100	200
									Total	1000

ELECTRONICS & TELECOMMUNICATION ENGINEERING

2nd Year: Semester– III

Sl. No.	Code No.	Subject	Study Scheme (Contact hour/ week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	Co-301	Computer Application	2	-	6	28/70	15/30	12/25	13/25	150
2	Hu-302	Engineering Economics & Accountancy	3	1	-	28/70	15/30	-	-	100
3	Sc-303	Mathematics-III	3	2	-	28/70	15/30	-	-	100
4	El-304	Elements of Electrical Engineering	3	-	3	28/70	15/30	12/25	13/25	150
5	Et-305	Analog Electronics-I	3	-	3	28/70	15/30	12/25	13/25	150
6	Et-306	Electronic Workshop	-	1	6	-	-	50/100	25/50	150
									Total	800

2ⁿᵈ Year: Semester– IV

Sl. No.	Code No.	Subject	Study Scheme (Contact hour/ week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	El-401	Electrical Circuit & Network	3	-	3	28/70	15/30	12/25	13/25	150
2	Et-401	Communication Engineering	3	-	4	28/70	15/30	12/25	13/25	150
3	Et-402	Electronic Tests & Measurements	3	-	-	28/70	15/30	-	-	100
4	Et-403	Digital Electronics	3	-	3	28/70	15/30	12/25	13/25	150
5	Et-404	Computer Programming	-	1	6			25/50	25/50	100
6	Et-405	Analog Electronics-II	3	-	3	28/70	15/30	12/25	13/25	150
									Total	800

3ʳᵈ Year: Semester– V

Sl. No	Code No.	Subject	Study Scheme (Contact hour/ week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	Et-501	Communication Engineering – II	3	-	3	28/70	15/30	12/25	13/25	150
2	Et-502	Microprocessor	3	-	3	28/70	15/30	12/25	13/25	150
3	Et-503	Power Electronics	3	-	3	28/70	15/30	12/25	13/25	150
4	Et-504	P.C. System Technology	3	-	6	28/70	15/30	12/25	13/25	150
5	Et-505	Electronic Circuit Trouble Shooting	-	-	6	-	-	25/50	25/50	100
ELECTIVE (ANY ONE)										
6	Et-506	Computer Aided Electronic Design	3	-	-	28/70	15/30			100
7	Et-507	Electronics Instrumentation	3	-	-	28/70	15/30			100
8	Et-508	PCB Technology	3	-	-	28/70	15/30			100
9	Et-509	Control System	3	-	-	28/70	15/30			100
									Total	800

3ʳᵈ Year: Semester– VI

Sl. No	Code No.	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	Hu-601	Industrial Management & Entrepreneurship	3	-	-	28/70	15/30	-	-	100
2	Et-601	Consumer Electronics & Maintenance	3	-	3	28/70	15/30	12/25	13/25	150
3	Et-602	Data Communication & Networking	3	-	3	28/70	15/30	12/25	13/25	150
4	Et-603	Optical Fibre Communication	3	-	-	28/70	15/30	-	-	100
5	Et-610	Project, Seminar, General Viva	-	10	-	-	-	25/50	50/100 25/50	200

		ELECTIVE (ANY ONE)								
6	Et-604	Medical Electronics	3	-	-	28/70	15/30	-		100
7	Et-605	Modern Communication System	3	-	-	28/70	15/30	-		100
8	Et-606	Microwave Techniques	3	-	-	28/70	15/30	-		100
9	Et-608	Digital Signal Processing	3	-	-	28/70	15/30	-		100
10	Et-609	Advance Microprocessor	3	-	-	28/70	15/30	-		100
									Total	800

COMPUTER SCIENCE

2nd Year: Semester– III

Sl. No.	Code No.	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	Co-301	Computer Application	2	-	6	28/70	15/30	12/25	13/25	150
2	Hu-302	Engineering Economics & Accountancy	3	1	-	28/70	15/30	-	-	100
3	Sc-303	Mathematics-III	3	2	-	28/70	15/30	-	-	100
4	Co-304	Programming Using C	3	-	6	28/70	15/30	25/50	25/50	200
5	Et-304	Elements of Electronics Engineering	3	-	3	28/70	15/30	12/25	13/25	150
6	Co-305	Computer Organization & Architecture	3	-	-	28/70	15/30	-	-	100
									Total	800

2nd Year: Semester– IV

Sl. No.	Code No.	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	El-401	Electrical Circuit & Network	3	-	3	28/70	15/30	12/25	13/25	150
2	Co-401	Data Structure using C	3	1	3	28/70	15/30	12/25	13/25	150
3	Co-402	System Programming	3	-	-	28/70	15/30	-	-	100
4	Co-403	Microprocessor	3	-	3	28/70	15/30	12/25	13/25	150
5	Co-404	Elements of Multimedia	3	-	3	28/70	15/30	12/25	13/25	150
6	Et-403	Digital Electronics	3	-	-	28/70	15/30	-	-	100
									Total	800

3rd Year: Semester– V

Sl. No.	Code No.	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	Co-501	Data Base Management System	3	-	4	28/70	15/30	12/25	13/25	150
2	Co-502	GUI Programming Lab	-	1	4	-	-	25/50	25/50	100
3	Co-503	Computer Maintenance	3	-	4	14/35	8/15	25/50	25/50	150
4	Co-504	Computer Communication & Networking	3	-	-	28/70	15/30	-	-	100
5	Co-505	Operating System	3	-	4	28/70	15/30	12/25	13/25	150
6	Co-506	Object Oriented Methodology	3	1	5	28/70	15/30	12/25	13/25	150
									Total	800

3rd Year: Semester– VI

Sl. No.	Code No.	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Mark
						Theory		Practical		
			L	T	P	Exam	Sess	Ex/Viva	Sess	
1	Hu-601	Industrial Management & Entre-preneurship	3	-	-	28/70	15/30	-	-	100
2	Co-601	Business Data Processing	3	-	4	28/70	15/30	12/25	13/25	150
3	Co-602	Internet & Web Technology	3	-	6	28/70	15/30	12/25	13/25	150
4	Co-603	Software Engineering	3	-	-	28/70	15/30	-	-	100
5	Co-610	Project, Seminar, General Viva	-	10	-	-	-	25/50	50/100, 25/50	200
ELECTIVE (ANY ONE)										
6	Co-604	Parallel Processing	3	-	-	28/70	15/30	-	-	100
7	Co-605	VLSI & Embedded System	3	-	-	28/70	15/30	-	-	100
8	Co-606	Graph Theory & Combinatories	3	-	-	28/70	15/30	-	-	100
9	Co-607	Optimization Technique	3	-	-	28/70	15/30	-	-	100
									Total	800

CONTROL AND INSTRUMENTATION

2nd Year: Semester– III

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Co-301	Computer Application	2	0	6	28/70	15/30	12/25	13/25	150
2	Hu-302	Engineering Economics & Accountancy	3	1	0	28/70	15/30	-	-	100
3	Sc-303	Mathematics-III	3	2	0	28/70	15/30	-	-	100
4	CAI-301	Principles of Electrical & Electronics Engineering	4	0	2	28/70	15/30	12/25	13/25	150
5	CAI-302	Computer Programming with C/C++	3	0	4	28/70	15/30	12/25	13/25	150
6.	CAI-303	Digital Circuits	3	1	2	28/70	15/30	12/25	13/25	150
									Total	800

2nd Year: Semester– IV

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	CAI-401	Basic Electrical Circuits	3	0	2	28/70	15/30	12/25	13/25	150
2	CAI-402	Electrical Machines & Control	3	0	2	28/70	15/30	12/25	13/25	150
3	CAI-403	Instrumentation & Process Control	3	0	2	28/70	15/30	12/25	13/25	150
4.	CAI-404	Electronics Circuits & Devices-I	3	1	2	28/70	15/30	12/25	13/25	150
5	CAI-405	Electronic Components & Materials	3	0	0	28/70	15/30	-	-	100
									Total	700

3rd Year: Semester– V

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	CAI-501	Control Systems	3	1	2	28/70	15/30	12/25	13/25	150
2	CAI-502	Generation, Transmission & Distribution of Power	3	1	0	28/70	15/30	-	-	100
3	CAI-503	Principles of Instrumentation	3	0	2	28/70	15/30	12/25	13/25	150
4.	CAI-504	Power Electronics	3	0	2	28/70	15/30	12/25	13/25	150
5	CAI-505	Microprocessors & Applications	3	0	2	28/70	15/30	12/25	13/25	150
6	CAI-506	Electronics Circuits & Devices-II	3	1	2	28/70	15/30	12/25	13/25	150
									Total	850

3rd Year: Semester– VI

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Hu-601	Industrial Management & Entrepre-neurship	3	0	0	28/70	15/30	-	-	100
2	CAI-601	Biomedical Instrumentation	3	0	2	28/70	15/30	12/25	13/25	150
3	CAI-602	Transducers and Signal Conditioning	3	0	2	28/70	15/30	12/25	13/25	150
4.	CAI-603	Substation, Switchgear & Protection	3	0	0	28/70	15/30	-	-	100
5	CAI-61*	Elective (Any one from the following)						-	-	
	CAI-611	Telematics & Satellite Communication	3	1	0	28/70	15/30	-	-	100
	CAI-612	Industrial Instrumentation	3	1	0	28/70	15/30	-	-	100
6	CAI-699	Project, Seminar	0	0	10			25/50	50/100 25/50	200
									Total	800

FOOD PROCESSING TECHNOLOGY

2nd Year: Semester– III

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Co-301	Computer Application	2	0	6	28/70	15/30	12/25	13/25	150
2	Hu-302	Engineering Economics & Account-ancy	3	1	0	28/70	15/30	-	-	100
3	Sc-303	Mathematics-III	3	2	0	28/70	15/30	-	-	100
4	BES-304	Applied Mechanics	3	0	0	28/70	15/30	-	-	100
5	FPT-301	Introduction to Food Processing Technology	4	0	2	28/70	15/30	12/25	13/25	150
6.	FPT-302	Elements of Food Engineering – I	4	0	2	28/70	15/30	12/25	13/25	150
									Total	750

2nd Year: Semester– IV

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	BES-402	Strength of Materials	3	0	0	28/70	15/30	-	-	100
2	CAI-403	Instrumentation & Process Control	3	0	2	28/70	15/30	12/25	13/25	150
3	CAI-406	Computer Programming with C/C++	3	0	4	28/70	15/30	12/25	13/25	150
4	FPT-401	Elements of Food Engineering-II	3	0	2	28/70	15/30	12/25	13/25	150

5	FPT-402	Servicing & Maintenance of Food Machineries	2	0	0	28/70	15/30	-	-	100
6	FPT-403	Basics of Food Chemistry	3	0	2	28/70	15/30	12/25	13/25	150
									Total	800

3rd Year: Semester– V

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	FPT-501	Introduction to Food Microbiology, Biochemistry and Biotechnology	3	0	2	28/70	15/30	12/25	13/25	150
2	FPT-502	Food Engineering Operations – I	3	0	2	28/70	15/30	12/25	13/25	150
3	FPT-503	Food Product Technology – I	3	0	2	28/70	15/30	12/25	13/25	150
4	FPT-504	Food Storage and Packaging	3	0	2	28/70	15/30	12/25	13/25	150
5	FPT-505	Food Analysis for Quality Testing & Evaluation	3	0	2	28/70	15/30	12/25	13/25	150
6.	FPT-599	Industrial Training (Audit course)	-	-	-	-	-	-	25/50	50
									Total	800

3rd Year: Semester– VI

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Hu-601	Industrial Management & Entrepreneurship	3	0	0	28/70	15/30			100
2	FPT-601	Food Engineering Operations – II	3	0	2	28/70	15/30	12/25	13/25	150
3	FPT-602	Food Product Technology – II	4	0	2	28/70	15/30	12/25	13/25	150
4	FPT-603	Tea, Coffee and Cocoa Processing	3	0	2	28/70	15/30	12/25	13/25	150
5.	FPT-699	Project	0	0	10			25/50	50/100 25/50	200
6	FPT-61*	Elective (Any one from the following)	3	0	2	28/70	15/30	12/25	13/25	150
		FPT-611: Dairy Technology & Engineering								
		FPT-612: Fruits and Vegetables Processing								
		FPT-613: Cereals, Pulses and Oilseeds Processing								
		FPT-614: Fermented & Non-Fermented Beverages								
		FPT-615: Bakery & Confectionery Technology								
									Total	900

ANIMATION AND MULTIMEDIA TECHNOLOGY

2nd Year: Semester– III

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Co-301	Computer Application	2	0	6	28/70	15/30	12/25	13/25	150
2	Hu-302	Engineering Economics & Account-ancy	3	1	0	28/70	15/30	-	-	100
3	Sc-303	Mathematics-III	3	2	0	28/70	15/30	-	-	100
4.	IT-301	Information Technology	3	1	0	28/70	15/30	-	-	100
5	AMT-301	Multimedia Systems & Technology	4	0	2	28/70	15/30	12/25	13/25	150
6	AMT-302	Introduction to Animation	2	2	0	28/70	15/30	-	-	100
									Total	700

2nd Year: Semester– IV

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	AMT-401	Fundamental of Art & Design	2	0	4	28/70	15/30	12/25	13/25	150
2	AMT-402	Web Designing	2	0	4	28/70	15/30	12/25	13/25	150
3	AMT-403	3D Modeling & Texturing	2	0	5	28/70	15/30	12/25	13/25	150
4	AMT-404	Audio & Video Editing	2	0	5	28/70	15/30	12/25	13/25	150
5	AMT-405	Layout & Perspective Technique	2	0	0	28/70	15/30	-	-	100
6	AMT-406	Computer Programming with C/C++	3	0	4	28/70	15/30	12/25	13/25	150
									Total	850

3rd Year: Semester– V

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	AMT-501	Digital Animation & Rigging	2	0	6	28/70	15/30	12/25	13/25	150
2	AMT-502	CG Lighting & Rendering	2	0	5	28/70	15/30	12/25	13/25	150
3	AMT-503	Graphic Design and Communication	2	0	4	28/70	15/30	12/25	13/25	150
4	AMT-504	Fundamental of Film Making	3	0	0	28/70	15/30	-	-	100
5	AMT-505	Story boarding & Script writing	3	0	3	28/70	15/30	-	-	100
6	AMT-599	Minor Project	0	0	6	-	-	25/50	25/50	100
									Total	750

3rd Year: Semester– VI

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Hu-601	Industrial Management & Entrepreneurship	3	1	0	28/70	15/30	-	-	100
2	AMT-605	Introduction to Gaming Theory	3	2	0	28/70	15/30	12/25	13/25	150
3	AMT-606	Compositing & Visual Effects	2	0	5	28/70	15/30	12/25	13/25	150
4	AMT-607	Concept of New Media	3	2	0	28/70	15/30	-	-	100
5	AMT-60*	Elective(Any one from the following);	2	0	0	28/70	15/30	-	-	100
		AMT-608: Introduction to Visual Communication								
		AMT-609: TV & Radio Production								
6	AMT-699	Major Project	0	0	10			25/50	50/100	150
									Total	750

CONSTRUCTION TECHNOLOGY

2nd Year: Semester– III

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	Co-301	Computer Application	2	0	6	28/70	15/30	12/25	13/25	150
2	Hu-302	Engineering Economics & Accountancy	3	1	0	28/70	15/30			100
3	Sc-303	Mathematics-III	3	2	0	28/70	15/30			100
4	CT-301	Construction Materials	4	0	2	28/70	15/30			100
5	CT-302	Surveying-I	4	0	2	28/70	15/30	12/25	13/25	150
6.	CT-303	Strength of Materials	4	0	2	28/70	15/30			100
									Total	700

2nd Year: Semester– IV

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Ex/Viva	Sess.	
1	CT-401	Structural Analysis	4	1	0	28/70	15/30			100
2	CT-402	Water Supply & Sanitary Installation	4	0	0	28/70	15/30			100
3	CT-403	Fluid Mechanics	4	0	0	28/70	15/30			100

4	CT-404	Surveying-II	3	0	2	28/70	15/30	12/25	13/25	150
5	CT-405	Building Construction & Mainte-nance and Civil Engg. Drawing	4	0	4	28/70	15/30	25/50	25/50	200
6	CAI-406	Computer Programming with C/C++	3	0	4	28/70	15/50	12/25	13/25	150
									Total	800

3rd Year: Semester– V

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Exam/Viva	Sess.	
1	CT-501	Construction Technology	3	1	2	28/70	15/30	12/25	13/25	150
2	CT-502	Concrete Technology	3	1	2	28/70	15/30	12/25	13/25	150
3	CT-503	Geotechnical Engineering	4	0	2	28/70	15/30	12/25	13/25	150
4	CT-504	Design of RCC Structure	4	0	0	28/70	15/30			100
5	CT-505	Transportation Engineering	4	0	2	28/70	15/30	12/25	13/25	150
6.	CT-506	Environmental Engineering	3	0	0	28/70	15/30			100
									Total	800

3rd Year: Semester– VI

Sl. No.	Code No	Subject	Study Scheme (Contact hour/week)			Evaluation Scheme				Total Marks
						Theory		Practical		
			L	T	P	Exam	Sess.	Exam/ Viva	Sess.	
1	Hu-601	Industrial Management & Entrepre-neurship	3	0	0	28/70	15/30			100
2	CT-601	Estimation & Costing	4	0	2	28/70	15/30	12/25	13/25	150
3	CT-602	Design of Steel Structures	4	1	0	28/70	15/30			100
4	CT-603	Construction & Project Management	4	1	0	28/70	15/30			100
5	CT-699	Project	0	0	10			25/50	50/100 25/50	200
6	CT-61*	Elective (Any one from the following)	4	0	2	28/70	15/30	12/25	13/25	150
		CT-611: Construction Methods & Machinery								
		CT-612: Water Resource Engineering								
		CT-613: Computational Methods in Civil Engg.								
									Total	800

28   B. TECH. COURSE STRUCTURES

1st YEAR: 1st SEMESTER: COMMON TO ALL BRANCHES

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	MA101	Engineering Mathematics –I	3	1	0	4	4
2.	PH101	Engineering Physics	3	1	0	4	4
3.	CS101	Introduction to Computer Programming	3	1	0	4	4
4.	HU101	Communication Skills	3	1	0	4	4
5.	ES101	Environmental Engineering	3	1	0	4	4
Total of Theory							20
Practical							
1.	PH171	Physics Lab	0	0	3	3	2
2.	CE171	Engineering Graphics Lab	0	1	3	4	2
3.	WS171	Workshop Practice –I	0	1	3	3	3
4.	CS171	Computing Lab	0	0	3	3	2
Total of Practical							09

1st YEAR: 2nd SEMESTER: COMMON TO ALL BRANCHES

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	MA201	Engineering Mathematics –II	3	1	0	4	4
2.	CY201	Engineering Chemistry	3	1	0	4	4
3.	EE201	Basic Electrical Engineering	3	1	0	4	4
4.	ME201	Engineering Mechanics	3	1	0	4	4
5.	EC201	Basic Electronics	3	1	0	4	4
6.	HU201	Professional Ethics and Human value	2	0	0	2	2
Total of Theory							22
Practical							
1.	CY271	Engineering Chemistry Lab	0	0	3	3	2
2.	WS271	Workshop Practice –II	0	1	3	3	3
3.	EE271	Basic Electrical and Electronics Lab	0	0	3	3	2
Total of Practical							07

ELECTRONICS AND COMMUNICATIONS ENGINEERING

2nd YEAR: SEMESTER - III

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	EC301	Electronics Devices and circuits	3	1	0	4	4
2.	EC302	Linear Systems and Signals	3	1	0	4	4
3.	MA301	Engineering Mathematics – III	3	1	0	4	4
4.	IE301	Network Theory	3	1	0	4	4
5.	CS304	Data Structure and Algorithms	3	1	0	4	4
Total of Theory							20
Practical							
1.	EC371	Electronics Circuits & Devices Lab	0	0	3	3	2
2.	IE371	Circuit Simulation Lab	0	0	3	3	2
3.	EC372	Linear Systems & Signals lab	0	0	3	3	2
4.	HU371	Language Lab	0	0	3	3	2
5.	CS374	Data Structure Lab	0	0	3	3	2
Total of Practical							10

2nd YEAR: SEMESTER - IV

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	EC401	Digital electronics	3	1	0	4	4
3.	EC402	Analog communication	3	1	0	4	4
4.	EC403	Linear Integrated Circuits	3	1	0	4	4
5.	MA401	Numerical Methods and C Programming	3	1	0	4	4
Total of Theory							19
Practical							
1.	EC471	Digital electronics Lab	0	0	3	3	2
2.	EC472	Analog communication lab	0	0	3	3	2
3.	EC473	Linear Integrated Circuits Lab	0	0	3	3	2
4.	MA471	Numerical Methods Lab	0	0	3	3	2
Total of Practical							06

3rd YEAR: SEMESTER - V

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU501	Industrial management and entrepreneurship	3	0	0	3	3
2.	EC501	Electromagnetic Waves	3	1	0	4	4

3.	EC502	Digital Communications	3	1	0	4	4
4.	IE501	Microprocessor and Interfacing	3	1	0	4	4
5.	IE506	Control Theory	3	1	0	4	4
Total of Theory							19
Practical							
1.	IE571	Microprocessor Lab	0	0	3	2	2
2.	IE573	Control System Lab	0	0	3	2	2
3.	EC573	Digital Communication	0	0	3	2	2
Total of Practical							6

3rd YEAR: SEMESTER - VI

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU601	Professional Communication	2	0	0	2	2
2.	EC601	Microwave Engineering	3	1	0	4	4
3.	EC602	VLSI Design	3	1	0	4	4
4.	EC603	Digital Signal Processing	3	1	0	4	4
5.	EC604	Communication Networks	3	1	0	4	4
6.	EC61*	Elective	3	0	0	3	3
Total of Theory							21
Practical							
1.	EC672	VLSI Design Lab	0	0	3	2	2
2.	EC673	Digital signal processing lab	0	0	3	2	2
3.	EC671	Microwave lab	0	0	3	2	2
Total of Practical							6

4th YEAR: SEMESTER - VII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	EC71*	Elective	3	0	0	3	3
2.	EC71*	Elective	3	0	0	3	3
3.	EC71*	Elective	3	0	0	3	3
4.	EC71*	Elective	3	0	0	3	3
5.	EC71*	Elective	3	0	0	3	3
Total of Theory							15
Practical							
1.	EC791	Major Project –I	0	0	12	12	8
2.	EC792	Report and Presentation on Practical Training – II	-	-	-	-	3
3.	EC770	Seminar	0	0	3	3	2
Total of Practical							13

4th YEAR: SEMESTER - VIII

Sl. No.	Code	Subjects	L	T	P	Total	Credit points
		Theory					
			L	T	P	Total	
1.	EC81*	Elective	3	0	0	3	3
2.	EC81*	Elective	3	0	0	3	3
3.	EC81*	Elective	3	0	0	3	3
Total of Theory							9
		Practical					
1.	EC891	Major project –II	0	0	18	18	12
2.	EC892	Project Defense	-	-	-	-	4
3.	EC893	Comprehensive Viva Voce	-	-	-	-	8
Total of Practical							24

List of Elective Courses in Electronics and Communications Engineering

Sl. No.	Code	Subjects	L	T	P	Total	Credit
		For VI Semester					
1	EC615	Mobile Communication	3	0	0	3	3
2	EC616	Embedded System	3	0	0	3	3
3	IE615	Power Electronics	3	0	0	3	3
		For VII Semester					
1	EC710	Antenna And Wave Propagation	3	0	0	3	3
2	EC711	Cryptography	3	0	0	3	3
3	EC712	Spread Spectrum Communications	3	0	0	3	3
4	EC713	Wireless System	3	0	0	3	3
5	EC714	Digital Image Processing	3	0	0	3	3
6	EC715	Biomedical Instrumentation	3	0	0	3	3
7	EC716	Operating System	3	0	0	3	3
		For VIII Semester					
1	EC810	Radar And Electronic Navigation Systems	3	0	0	3	3
2	EC811	Artificial Neural Network	3	0	0	3	3
3	EC812	Dsp Procrssors And Architecture	3	0	0	3	3
4	EC813	Database Management Systems	3	0	0	3	3
5	EC814	Satellite Communication	3	0	0	3	3

COMPUTER SCIENCE AND ENGINEERING

2nd YEAR: SEMESTER - III

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	CS301	Computer Organization and Architecture	3	0	0	3	3
2.	CS303	Operating System	3	0	0	3	3
3.	MA301	Mathematics-III	3	1	0	4	4
4.	MA302	Discrete Mathematics	3	1	0	4	4
5.	IE301	Network Theory	3	1	0	4	4
6.	CS304	Data structure	3	1	0	4	4
Total of Theory							22
Practical							
1.	CS373	Operating System Lab	0	0	3	3	2
2.	CS374	Data structure Lab	0	0	3	3	2
3.	IE371	Circuit Simulation Lab	0	0	3	3	2
4.	HU371	Language Lab	0	0	3	3	2
Total of Practical							8

2nd YEAR: SEMESTER - IV

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	EC401	Digital Electronics	3	1	0	4	4
3.	CS401	Database Management systems	3	1	0	4	4
4.	CS402	Computer networks	3	1	0	4	4
5.	MA401	Numerical Methods & Computer Programming	3	1	0	4	4
Total of Theory							19
Practical							
1.	CS471	Database Management systems Lab	0	0	2	2	2
2.	CS472	Networks lab	0	0	2	2	2
3.	EC471	Digital Electronics Lab	0	0	2	2	2
4.	MA471	NMCP Lab	0	0	2	2	2
Total of Practical							8

3rd YEAR: SEMESTER - V

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU501	Industrial Management and Entrepreneurship	3	0	0	3	3
2.	IE501	Microprocessor and Interfacing	3	1	0	4	4

			L	T	P	Total	
3.	CS501	System programming	3	0	0	3	3
4.	CS502	Theory of Computation	3	0	0	3	3
5.	CS503	Design and analysis of algorithm	3	0	0	3	3
6.	CS51*	Elective	3	0	0	3	3
Total of Theory							19
Practical							
1.	IE571	Microprocessor Lab	0	0	2	2	2
2.	CS591	Mini Project	0	0	3	3	2
3.	CS571	Unix programming lab	0	0	2	2	2
Total of Practical							6

3rd YEAR: SEMESTER - VI

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU601	Professional Communication	2	0	0	2	2
2.	CS601	Compiler Design	3	1	0	4	4
3.	CS602	Software Engineering	3	1	0	4	4
4.	CS603	Information Security	3	1	0	4	4
5.	CS604	Computer Graphics	3	0	0	3	3
Total of Theory							17
Practical							
1.	CS672	Compiler Design Lab	0	0	2	2	2
2.	CS674	Computer Graphics Lab	0	0	2	2	2
3.	CS673	Information Security Lab	0	0	2	2	2
Total of Practical							6

4th YEAR: SEMESTER - VII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	CS71*	Elective	3	0	0	3	3
2.	CS71*	Elective	3	0	0	3	3
3.	CS71*	Elective	3	0	0	3	3
4.	CS71*	Elective	3	0	0	3	3
Total of Theory							12
Practical							
1.	CS791	Major Project –I	0	0	12	12	8
2.	CS792	Report and Presentation on Practical Training – II	-	-	-	-	3
3.	CS770	Seminar	0	0	3	3	2
Total of Practical							13

4th YEAR: SEMESTER - VIII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	CS81*	Elective	3	0	0	3	3
2.	CS81*	Elective	3	0	0	3	3
3.	CS81*	Elective	3	0	0	3	3
Total of Theory							9
Practical							
1.	CS891	Major project -II	0	0	18	18	12
2.	CS892	Project Defense	-	-	-	-	4
3.	CS893	Comprehensive Viva Voce	-	-	-	-	8
Total of Practical							24

List of Elective Courses in Computer Science and Engineering

Sl. No.	Code	Subjects	L	T	P	Total	Credit
ELECTIVE COURSES FOR V SEMESTER							
1	CS511	Object Oriented Analysis And Design	3	0	0	3	3
2	CS512	Multimedia	3	0	0	3	3
3	CS513	Neural Computing	3	0	0	3	3
4	CS514	Discrete Stuctures	3	0	0	3	3
ELECTIVE COURSES FOR VII SEMESTER							
1	CS711	Artificial Intelligence	3	0	0	3	3
2	CS712	Mobile Computing	3	0	0	3	3
3	CS713	Advanced Databases	3	0	0	3	3
4	CS714	Parallel Computing	3	0	0	3	3
5	CS715	Digital Speech & Image Processing	3	0	0	3	3
6	CS716	Pattern Recognition	3	0	0	3	3
7	CS717	Cryptography And Network Security	3	0	0	3	3
8	CS718	Graph Theory	3	0	0	3	3
ELECTIVE COURSES FOR VIII SEMESTER							
1	CS811	ATM Networks	3	0	0	3	3
2	CS812	Robotics	3	0	0	3	3
3	CS813	High Performance Microprocessors	3	0	0	3	3
4	CS814	C# And .Net Frame Work	3	0	0	3	3
5	CS815	TCP / IP – Design And Implementation	3	0	0	3	3
6	CS816	Software Testing	3	0	0	3	3
7	CS817	Embedded Systems	3	0	0	3	3

INSTRUMENTATION ENGINEERING

2nd YEAR: SEMESTER - III

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	EC301	Electronic Devices and Circuits	3	1	0	4	4
2.	IE301	Network Theory	3	1	0	4	4
3.	IE302	Fundamentals of Instrumentation	3	1	0	4	4
4.	IE303	Electrical Engineering Materials and Devices	3	1	0	4	4
5.	MA301	Mathematics-III	3	1	0	4	4
6.	ME301	Basic Thermodynamics	3	1	0	4	4
Total of Theory							24
Practical							
1.	EC371	Basic Electronics Lab	0	0	3	2	2
2.	IE371	Circuit Simulation Lab	0	0	3	2	2
3.	HU370	Language Lab	0	0	2	2	2
Total of Practical							6

2nd YEAR: SEMESTER - IV

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	EC401	Digital Electronics	3	1	0	4	4
3.	IE401	Electrical Machines	3	1	0	4	4
4.	IE402	Electrical Measurements and Instruments	3	0	0	3	3
5.	IE403	Linear Systems and Signals	3	1	0	4	4
6.	MA401	Numerical Methods & Computer Programming	3	1	0	4	4
Total of Theory							22
Practical							
1.	IE471	Electrical Machines Lab	0	0	3	2	2
2.	IE472	Instrumentation and Measurement Lab	0	0	3	2	2
3.	EC471	Digital Electronics Lab	0	0	3	2	2
4.	MA471	NMCP Lab	0	0	3	2	2
Total of Practical							8

3rd YEAR: SEMESTER - V

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU501	Industrial Management and Entrepreneurship	3	0	0	3	3
2.	IE501	Microprocessor and Interfacing	3	1	0	4	4

3.	IE502	Transducer Engineering	3	1	0	4	4
4.	IE503	Control System-I	3	1	0	4	4
5.	IE504	Electronic Instrumentation	3	1	0	4	4
6.	IE505	Analytical Instrumentation	3	1	0	4	4
Total of Theory							23
Practical							
1.	IE571	Microprocessor Lab	0	0	3	2	2
2.	IE573	Control Systems Lab	0	0	3	2	2
3.	IE574	Electronic Instrumentation lab	0	0	3	2	2
Total of Practical							6

3rd YEAR: SEMESTER - VI

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU601	Professional Communication	2	0	0	2	2
2.	IE601	Process Control	3	1	0	4	4
3.	IE602	Power Electronics	3	1	0	4	4
4.	IE603	Communication Engineering	3	1	0	4	4
5.	IE604	Control System-II	3	0	0	0	3
6.	EC603	Digital Signal Processing	3	1	0	4	4
Total of Theory							21
Practical							
1.	IE671	Process Control Lab	0	0	3	2	2
2.	IE672	Power Electronics Lab	0	0	3	2	2
3.	EC673	Digital Signal Processing Lab	0	0	3	2	2
Total of Practical							6

4th YEAR: SEMESTER - VII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	IE701	Industrial Instrumentation	3	1	0	4	4
2.	IE702	Instrumentation System Components	3	1	0	4	4
3.	IE703	Fiber Optic and Laser Instruments	3	1	0	4	4
4.	IE71*	Elective-I	3	0	0	3	3
5.	IE71*	Elective-II	3	0	0	3	3
Total of Theory							18
Practical							
1.	IE791	Major Project –I	0	0	12	12	8
2.	IE792	Report and Presentation on Practical Training – II	-	-	-	-	3
3.	IE793	Seminar	0	0	3	3	2
Total of Practical							13

4th YEAR: SEMESTER - VIII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	IE801	Biomedical Instrumentation	3	0	0	3	3
2.	IE81*	Elective	3	0	0	3	3
3.	IE81*	Elective	3	0	0	3	3
Total of Theory							9
Practical							
1.	IE891	Major Project –II	0	0	18	18	12
2.	IE892	Project Defense	-	-	-	-	4
3.	IE893	Comprehensive Viva Voce	-	-	-	-	8
Total of Practical							24

List of Elective Courses in Computer Science and Engineering

Sl.	Code	Subjects	L	T	P	Total	Credit
List of Elective Papers for VII Semester							
1	IE710	Instrumentation in Petrochemical Industries	3	0	0	3	3
2	IE711	Fluidic Power and Control	3	0	0	3	3
3	IE712	Computer Control of Process	3	0	0	3	3
4	IE713	Digital Image Processing	3	0	0	3	3
List of Elective Papers for VIII Semester							
1	IE810	Virtual Instrumentation	3	0	0	3	3
2	IE811	Operation Research	3	0	0	3	3
3	IE812	Instrumentation & Control in Paper Industry	3	0	0	3	3
4	IE813	Instrumentation in Aerospace & Navigation	3	0	0	3	3

FOOD ENGINEERING AND TECHNOLOGY

2nd YEAR: SEMESTER - III

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit Points
			L	T	P	Total	
1.	FPT301	Basic Microbiology	3	0	0	3	3
2.	FPT302	Principles of Food Processing and Preservation	3	0	0	3	3
3.	ME301	Basic Thermodynamics	3	1	0	4	4
4.	FPT303	Fluid Mechanics	3	1	0	4	4
5.	FPT304	Food Chemistry and Nutrition	3	0	0	3	3
6.	MA301	Mathematics-III	3	1	0	4	4
Total of Theory							21

		Practical					
1.	FPT371	Microbiology Lab	0	0	3	3	2
2.	FPT372	Food Processing Lab	0	0	3	3	2
3.	FPT374	Food Chemistry Lab	0	0	3	3	2
4.	HU371	Language Lab	0	0	3	3	2
Total of practical							8

2nd YEAR: SEMESTER - IV

		Theory					
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit Points
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	FPT401	Food Process Technology-I (Fruits & Vegetables)	3	0	0	3	3
3.	FPT402	Food Process Technology-II (Cereals & Legume Processing Technology)	3	0	0	3	3
4.	FPT403	Transfer Process Engineering	3	1	0	4	4
5.	FPT404	Food Microbiology	3	0	0	3	3
6.	MA401	Numerical Methods and Computer Programming	3	0	0	4	3
Total of theory							20
		Practical					
1.	FPT471	Product Technology- I /II Lab	0	0	3	3	2
2.	FPT472	Transfer Process Engineering Lab	0	0	2	2	2
3.	FPT473	Food Microbiology Lab	0	0	3	3	2
4.	MA471	Numerical Methods & Computer Programming Lab	0	0	2	2	2
Total of practical							8

3rd YEAR: SEMESTER - V

		Theory					
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit Points
			L	T	P	Total	
1.	FPT501	Food Industry Waste Management	4	0	0	4	4
2.	FPT502	Food Product Technology-III (Milk and Milk Products)	3	0	0	3	3
3.	FPT503	Food Process Engineering	3	1	0	4	4
4.	FPT504	Mechanical Design of Process Equipment	3	0	0	3	3
5.	HU501	Industrial Management and Entrepreneurship	3	0	0	3	3
Total of Theory							17
		Practical					
1.	FPT571	Product Technology-III Lab	0	0	3	3	2
2.	FPT572	Food Engineering Lab	0	0	3	3	2
3.	FPT573	Process Equipment Design	0	1	4	5	3
Total of practical							7

3rd YEAR: SEMESTER - VI

Sl. No.	Code	Subjects	Contacts (periods per week)				Credit Points
		Theory					
			L	T	P	Total	
1.	HU601	Professional Communication	2	0	0	2	2
2.	FPT601	Food Packaging Technology	3	0	0	3	3
3.	FPT602	Food Analysis, Quality Control and Management	3	0	0	3	3
4.	FPT603	Biochemistry and Biotechnology	4	0	0	4	4
5.	FPT61*	Elective	3	0	0	3	3
6.	IE604	Process Instrumentation and Control	3	1	0	4	4
Total of theory							19
		Practical					
1.	FPT671	Product Technology- IV/V Lab	0	0	3	3	2
2.	FPT672	Food Packaging Technology Lab	0	0	2	2	1
3.	FPT673	Food Analysis and Quality Control Lab	0	0	3	3	2
4.	FPT674	Biochemistry and Biotechnology Lab	0	0	2	2	1
5.	IE671	Instrumentation Lab	0	0	2	2	1
Total of practical							7

4th YEAR: SEMESTER - VII

Sl. No.	Code	Subjects	Contacts (periods per week)				Credit Points
		Theory					
			L	T	P	Total	
1.	FPT701	Food Hygiene and Plant Sanitation	3	0	0	3	3
2.	FPT702	Food Process Equipment Design	3	0	0	3	3
3.	FPT703	Food Additives and Legislation	3	0	0	3	3
4.	FPT71*	Elective-I	3	0	0	3	3
5.	FPT71*	Elective-II	3	0	0	3	3
Total of Theory							15
		Practical					
1.	FPT791	Major Project-I	0	0	14	14	8
2.	FPT792	Report and Presentation on Practical Training-II	-	-	-	-	3
3.	FPT770	Seminar	0	0	3	3	2
Total of practical							13

4th YEAR: SEMESTER - VIII

Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
		Theory					
			L	T	P	Total	
1.	FPT801	Plant Design and Project Engineering	3	0	0	3	3
2.	FPT81*	Elective-I	3	0	0	3	3

3.	FPT81*	Elective-II	3	0	0	3	3
Total of Theory							9
Practical							
1.	FPT891	Major Project-II	0	0	18	18	12
2.	FPT892	Project Defense	-	-	-	-	4
3.	FPT893	Comprehensive Viva Voce	-	-	-	-	8
Total of practical							24

List of Elective Courses in Food Engineering and Technology

Sl. No.	Code	Subjects	L	T	P	Total	Credit
1	FPT611	Food product Technology-IV (Bakery, Confectionary and Extruded Products)	3	0	0	3	3
2	FPT612	Food Product Technology-V (Oils & Fats Processing)	3	0	0	3	3
3	FPT711	Industrial Microbiology and Enzyme Technology	3	0	0	3	3
4	FPT712	Fermentation Technology	3	0	0	3	3
5	HU711	Marketing and Sales Management	3	0	0	3	3
6	EC718	Applied Electronics	3	0	0	3	3
7	FPT713	Refrigeration and Air conditioning	3	0	0	3	3
8	FPT811	Modeling and Simulation of Food Processes	3	0	0	3	3
9	FPT812	Concentration and Dehydration of Foods	3	0	0	3	3
10	FPT813	Food Product Technology – VI (Fish, Meat & Poultry Technology)	3	0	0	3	3
11	FPT814	Optimization Techniques in Food Engineering	3	0	0	3	3
12	FPT815	Material Science and Technology	3	0	0	3	3
13	FPT816	Specialty Foods: Nutraceuticals & Functional Foods	3	0	0	3	3
14	FPT817	Renewable Energy Technology	3	0	0	3	3

CIVIL ENGINEERING

2nd YEAR: SEMESTER - III

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
			L	T	P	Total	
1.	CE 301	Surveying-I	3	1	0	4	4
2.	CE 302	Strength of materials	3	1	0	4	4
3.	CE 303	Fluid mechanics	3	1	0	4	4
4.	CE 304	Building materials and construction	3	1	0	4	4
5.	CE 305	Engineering geology	3	0	0	3	3
6.	MA301	Mathematics-III	3	1	0	4	4
Total of Theory							23

		Practical					
1.	CE371	Surveying-I	0	0	2	2	2
2.	CE372	Civil Engineering Drawing	0	0	2	2	2
3.	CE373	Material Testing lab	0	0	2	2	2
4.	HU371	Language Lab	0	0	3	3	2
Total of practical							8

2nd YEAR: SEMESTER - IV

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	CE 401	Surveying-II	3	1	0	4	4
3.	CE 402	Structural Analysis-I	3	1	0	4	4
4.	CE 403	Geotechnical Engineering	3	1	0	4	4
5.	CE 404	Environmental Engineering-I	3	1	0	4	4
6.	MA401	Numerical Methods and Computer Programming	3	0	0	3	4
Total of Theory							23
		Practical					
1.	CE 471	Surveying-II	0	0	2	2	2
2.	CE 472	Geotechnical Engineering	0	0	2	2	2
3.	CE 473	Environmental Engineering-I	0	0	2	2	2
4.	MA471	Numerical Methods & Computer Programming Lab	0	0	2	2	2
Total of practical							8

3rd YEAR: SEMESTER - V

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
			L	T	P	Total	
1.	CE 501	Design of Structures-I	3	1	0	4	4
2.	CE 502	Transportation Engineering-I	3	1	0	4	4
3.	CE 503	Structural Analysis-II	3	1	0	4	4
4.	CE 504	Concrete Technology	3	1	0	4	4
5.	HU501	Industrial Management and Entrepreneurship	3	0	0	3	3
Total of Theory							19
		Practical					
1.	CE 571	Transportation Engineering-I	0	0	2	2	2
2.	CE 572	Concrete Technology	0	0	2	2	2
3.	CE 573	CAD	0	0	2	2	2
4.	CE 574	Survey Camp	0	0	3	3	3
Total of practical							9

3rd YEAR: SEMESTER - VI

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
			L	T	P	Total	
1.	HU601	Professional Communication	2	0	0	2	2
2.	CE 601	Design of Structures-II	3	1	0	4	4
3.	CE 602	Environmental Engineering-II	3	1	0	4	4
4.	CE 603	Transportation Engineering-II	3	1	0	4	4
5.	CE 604	Foundation Engineering	3	1	0	4	4
6.	CE 605	Hydraulic Engineering	3	1	0	4	4
Total of Theory							22
Practical							
1.	CE 671	Environmental Engineering-II	0	0	2	2	2
2.	CE 672	Transportation Engineering-II	0	0	2	2	2
3.	CE 673	Hydraulic Engineering	0	0	2	2	2
Total of practical							6

4th YEAR: SEMESTER - VII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
			L	T	P	Total	
1.	CE 701	Estimation and Costing	4	1	0	5	5
2.	CE 702	Structural Analysis-III	4	1	0	5	5
3.	CE71*	Elective-I	3	0	0	3	3
4.	CE71*	Elective-II	3	0	0	3	3
Total of Theory							16
Practical							
1.	CE 791	Major Project-I	0	0	14	14	8
2.	CE 792	Report and Presentation on Practical Training-II	-	-	-	-	3
3.	CE770	Seminar	0	0	3	3	2
Total of practical							13

4th YEAR: SEMESTER - VIII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit
			L	T	P	Total	
1.	CE 801	Design of Structures-III	3	1	0	4	4
2.	CE 81*	Elective-I	3	0	0	4	3
3.	CE 81*	Elective-II	3	0	0	4	3
Total of Theory							10

		Practical					
1.	CE 891	Major Project-II	0	0	18	18	12
2.	CE 892	Project Defense	-	-	-	-	4
3.	CE 893	Comprehensive Viva Voce	-	-	-	-	8
Total of practical							24

List of Elective Courses in Civil Engineering

Sl. No.	Code	Subjects	Contacts (per week)				Credit
			L	T	P	Total	
7th Semester Elective-I (any one)							
1.	CE 711	Hydrology	3	0	0	3	3
2	CE 712	Soil Stabilization and Ground Improvement Techniques	3	0	0	3	3
3	CE 713	Highway Construction Practice	3	0	0	3	3
4	CE 714	Open Channel flow	3	0	0	3	3
7th Semester Elective-II (any one)							
1	CE 715	Pavement Analysis and Design	3	0	0	3	3
2	CE716	Irrigation Engineering	3	0	0	3	3
3	CE 717	Design of Water Supply and Treatment System	3	0	0	3	3
4	CE 718	Optimization Techniques in Engineering	3	0	0	3	3
8th Semester Elective-I (any one)							
1	CE 811	Traffic Engineering	3	0	0	3	3
2	CE 812	Construction Management	3	0	0	3	3
3	CE 813	Finite Element Analysis	3	0	0	3	3
4	CE 814	Earthquake Resistant Structures	3	0	0	3	3
8th Semester Elective-II (any one)							
1	CE 815	Bridge Engineering	3	0	0	3	3
2	CE 816	Advance Foundation Engineering	3	0	0	3	3
3	CE 817	Geometric Designs of Transportation Facilities	3	0	0	3	3
4	CE 818	Environmental Impact Assessments	3	0	0	3	3

INFORMATION TECHNOLOGY

2nd YEAR: SEMESTER - III

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	CS301	Computer Organization and Architecture	3	0	0	3	3
2.	MA302	Discrete Mathematics	3	1	0	4	4
3.	CS303	Operating systems	3	0	0	3	3
4.	MA301	Mathematics-III	3	0	0	3	3
5.	IT301	Digital Logic Design	3	1	0	4	4
6.	CS304	Data structure	3	0	0	3	3
Total of Theory							20
Practical							
1.	CS373	Operating System Lab	0	0	2	2	2
2.	CS374	Data structure Lab	0	0	2	2	2
3.	IT371	Logic Design Lab	0	0	3	2	2
4.	HU370	Language Lab	0	0	2	2	2
Total of Practical							8

2nd YEAR: SEMESTER - IV

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	IT401	Object Oriented Systems	3	0	0	3	3
3.	CS401	Database Management systems	3	1	0	4	4
4.	CS402	Computer Networks	3	1	0	4	4
5.	MA401	Numerical Methods & Computer Programming	3	1	0	4	4
6.	IT402	Web Technology	3	0	0	3	3
Total of Theory							21
Practical							
1.	CS471	Database Management systems Lab	0	0	2	2	2
2.	IT471	OOPS Lab	0	0	2	2	2
3.	MA471	NMCP Lab	0	0	2	2	2
4.	IT472	Web Design Seminar	0	0	2	2	2
Total of Practical							8

3rd YEAR: SEMESTER - V

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit Points
			L	T	P	Total	
1.	HU501	Industrial Management and Entrepreneurship	3	0	0	3	3
2.	CS502	Theory of Computation	3	1	0	4	4
3.	IT501	E-Commerce	3	0	0	3	3
4.	IT502	ERP	3	1	0	4	4
5.	CS503	Design analysis and algorithm	3	1	0	4	4
6.	IE501	Microprocessor and Interfacing	3	1	0	4	4
Total of Theory							22
Practical							
1.	IE571	Microprocessor Lab	0	0	2	2	2
2.	IT572	Mini Project using Web Technology -2	0	0	2	2	2
3.	CS573	Algorithms Lab*	0	0	2	2	2
Total of Practical							6

3rd YEAR: SEMESTER - VI

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	HU601	Professional Communication	2	0	0	2	2
2.	IT601	E-commerce and ERP	3	0	0	3	3
3.	IT602	Computer Graphics And Multimedia	3	0	0	4	4
4.	IT603	Compiler Designer	3	1	0	4	4
5.	IT604	Web Technology	3	1	0	4	4
6.	IT605	Software Engineering	3	0	0	3	3
Total of Theory							20
Practical							
1.	IT671	Computer Graphics Lab	0	0	2	2	2
2.	IT672	Compiler Design Lab	0	0	2	2	2
3.	IT673	Web Technology Lab	0	0	2	2	2
4.	IT674	Mini Project	0	0	2	2	2
Total of Practical							8

4th YEAR: SEMESTER - VII

Theory							
Sl. No.	Code	Subjects	Contacts Contacts (periods per week)				Credit
			L	T	P	Total	
1.	IT701	Data Mining And Data Warehousing	3	0	0	3	3
2.	IT702	Information Security And Cyber Laws	3	1	0	4	4
3.	IT71*	Elective-I	3	1	0	3	3
4.	IT72*	Elective-II	3	0	0	3	3
Total of Theory							13
Practical							
1.	IT791	Major Project –I	0	0	12	12	8
2.	IT792	Report and Presentation on Practical Training – II	-	-	-	-	3
3.	IT770	Seminar	0	0	2	2	2
4.	IT772	Information Security Lab	0	0	2	2	2
Total of Practical							15

4th YEAR: SEMESTER - VIII

Theory							
Sl. No.	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	IT81*	Elective-IV	3	0	0	3	3
2.	IT81*	Elective-IV	3	0	0	3	3
3.	IT81*	Elective-V	3	0	0	3	3
Total of Theory							9
Practical							
1.	IT891	Major project –II	0	0	18	18	12
2.	IT892	Project Defense	-	-	-	-	4
3.	IT893	Comprehensive Viva Voce	-	-	-	-	8
Total of Practical							24

List of Elective Courses in Information Technology

Sl. No.	Code	Subjects	L	T	P	Total	Credit
Elective I							
1	IT711	Software Quality Engineering	3	1	0	4	4
2	IT712	Distributed System	3	1	0	4	4
3	IT713	Image Processing and Pattern Recognition	3	1	0	4	4
4	IT714	Advanced Computer Architecture					

		Elective II					
1	IT715	Artificial Intelligence	3	1	0	4	4
2	IT716	Parallel Computing	3	1	0	4	4
3	IT717	Graph Theory	3	1	0	4	4
4	IT718	Bioinformatics	3	1	0	4	4
		Elective III					
1	IT811	Cryptography and Network Security	3	1	0	4	4
2	IT812	Software Testing	3	1	0	4	4
3	IT813	Robotics and Computer Vision	3	1	0	4	4
4	IT814	Natural Language Processing	3	1	0	4	4
		Elective IV					
1	IT815	Mobile Computing	3	0	0	3	3
2	IT816	Real Time and Embedded Systems	3	0	0	3	3
3	IT817	IT in Forensic Science	3	0	0	3	3
4	IT818	GIS and Remote sensing	3	0	0	3	3
		Elective V					
1	IT819	Fuzzy logic and neural networks	3	0	0	3	3
2	IT820	Intrusion Detection System	3	0	0	3	3
3	IT821	Internet Protocol	3	0	0	3	3
4	IT822	Cloud Computing	3	0	0	3	3
5	IT823	C# and .NET framework.	3	0	0	3	3

29   B. DES. COURSE STRUCTURES

1st YEAR: SEMESTER - I

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
		THEORY / TUTORIAL / PRACTICAL				
1.	BMD 101	Communication Skills	3	0	0	3
2.	BMD 102	Introduction to Design	3	0	0	3
3.	BMD 103	Fundamentals and Principles of Art	2	0	4	4
4.	BMD 104	Computer Fundamentals and Operation	2	0	4	4
5.	BMD 105	Drawing and Illustration Technique	0	1	6	4
6.	BMD 106	Design Studio – I (Digital Drawing Technique)	0	0	8	4
		TOTAL	10	1	22	22

1st YEAR: SEMESTER - II

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
		THEORY / TUTORIAL / PRACTICAL				
1.	BMD 201	Professional Ethics & Human Value	2	0	0	2
2.	BMD 201	Introduction to Computer Programming	2	0	4	4
3.	BMD 203	Introduction to Multimedia Communications	3	0	2	4
4.	BMD 204	Introduction to Photography and videography	2	0	4	4
5.	BMD 205	Introduction to Graphic Design	2	0	4	4
6.	BMD 206	Design Studio – II (Graphic Design project)	0	0	8	4
		TOTAL	11	0	22	22

INDUSTRIAL TRAINING: PHASE – 1 (During Summer Break)

2nd YEAR: SEMESTER - III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
		THEORY / TUTORIAL / PRACTICAL				
1.	BMD 301	World of Images and Objects	3	0	0	3
2.	BMD 302	History of Art and Appreciation	3	0	0	3
3.	BMD 303	Fundamentals of Animation Design	2	0	4	4
4.	BMD 304	Concept of Storyboarding & Script Writing	2	0	4	4
5.	BMD 305	Concept of Film Making	2	0	4	4
6.	BMD 306	Design Studio – III	0	0	8	4
		TOTAL	12	0	20	22

2nd YEAR: SEMESTER - IV

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
		THEORY / TUTORIAL / PRACTICAL				
1.	BMD 401	Multimedia Design Fundamentals	2	0	2	3
2.	BMD 402	Graphic Design for Communication	2	0	4	4
3.	BMD 403	Web Design Technology	2	0	2	3
4.	BMD 404	2D Animation Technique (Traditional & Modern)	2	0	4	4
5.	BMD 405	Advance Audio Video Editing	2	0	4	4
6.	BMD 406	Design Studio – IV	0	0	8	4
		TOTAL	10	0	24	22

INDUSTRIAL TRAINING: PHASE – 2 (During Summer Break)

3rd YEAR: SEMESTER - VI

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
		THEORY / TUTORIAL / PRACTICAL				
1.	BMD 501	Creative Thinking Process and Methods	3	0	0	3
2.	BMD 502	Clay Modeling	0	0	4	2
3.	BMD 503	3D Modelling and Texturing	2	0	4	4
4.	BMD 504	CG Lighting and Rendering	2	0	4	4
5.	BMD 505	Design Studio – V	0	0	8	4
6.	BMD 50*	Elective (project based)	0	1	6	4
		TOTAL	5	1	26	21

3rd YEAR: SEMESTER - VI

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
		THEORY / TUTORIAL / PRACTICAL				
1.	BMD 601	Industrial Management and Entrepreneurship	3	0	0	3
2.	BMD 602	Introduction to Game Design	3	0	2	4
3.	BMD 603	3D Animation Technique	2	0	4	4
4.	BMD 604	Visual Effect & Digital Compositing	2	0	4	4
5.	BMD 605	Design Studio - VI	0	0	8	4
6.	BMD 60*	Elective (project based)	0	1	6	4
		TOTAL	10	1	24	23

INDUSTRIAL TRAINING: PHASE – 3 (During Summer Break)

4th YEAR: SEMESTER - VII

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
THEORY / TUTORIAL / PRACTICAL						
1.	BMD 701	Animation Production Design	2	0	6	5
2.	BMD 702	Minor Project	0	0	14	7
3.	BMD 703	Design Management and Professional Practice	0	0	4	2
4.	BMD 70*	Elective (project based)	0	1	6	4
		TOTAL	2	1	30	18

4th YEAR: SEMESTER - VIII

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
THEORY / TUTORIAL / PRACTICAL						
1.	BMD 801	Major Project (Thesis Project)	0	0	2 4	12
2.	BMD 802	Multimedia Design Research Seminar	0	0	4	2
3.	BMD 80*	Elective (project based)	0	1	6	4
		TOTAL	0	1	34	18

ELECTIVE SUBJECTS (Semester wise)

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P/S	C
Semester - V						
1.	BMD 506	Instructional Design and Multimedia	0	1	6	4
2.	BMD 507	Moving Image Design	0	1	6	4
Semester - VI						
1.	BMD 605	Effective Mass Communication	0	1	6	4
2.	BMD 606	New Media & Interaction	0	1	6	4
Semester - VII						
1.	BMD 704	Game Design and Production process	0	1	6	4
2.	BMD 705	Film - Video Design	0	1	6	4
Semester - VIII						
1.	BMD 804	Tangible User Interface Design	0	1	6	4
2.	BMD 805	Communication Design	0	1	6	4

TRANSPORTATION FACILITY

SPORTS FACILITY
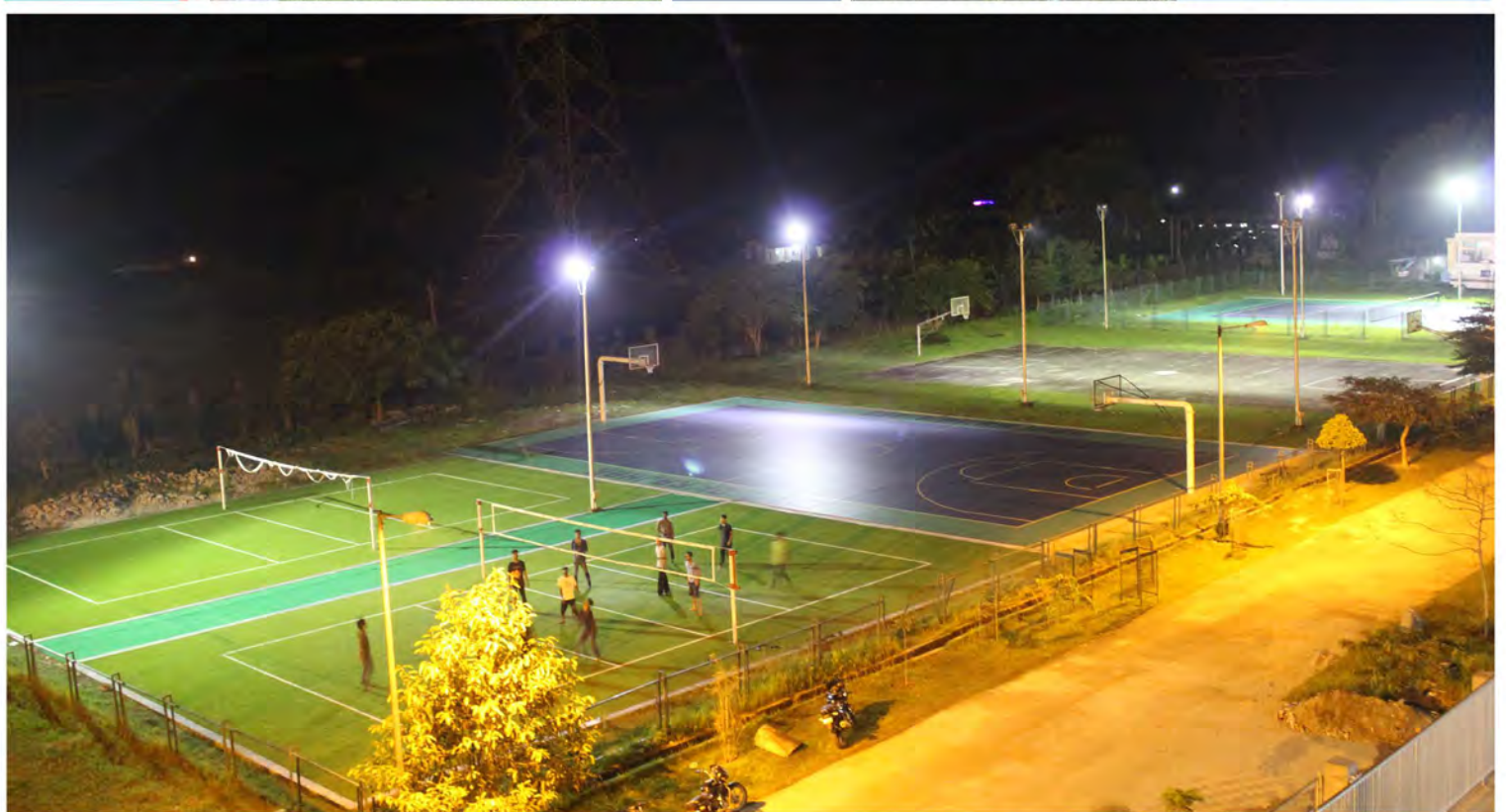
CIT ENTRANCE EXAMINATIONS -2017

30. FORMAT AND SYLLABI OF CITEE - 2017

The Central Institute of Technology Entrance Examination (CITEE)-2017 will be conducted in three hours of duration with a total of 150 marks. The question paper will consist of five (5) sections: A, B, C, D & E. Section-A consists of twenty five questions in Physics carrying one mark each, Section-B of twenty five questions in Chemistry carrying one mark each, Section-C of twenty five questions in Biology carrying one mark each, Section-D of fifty questions in Mathematics carrying one & two marks & Section-E twenty five questions in English carrying one mark each. The questions will be multiple choices with four options of answers.

SECTION-A

PHYSICS (25 marks)

Units and Measurement of Physical Quantities:

Fundamental and Derived units, System of Units, Accuracy of measurement, measuring instruments.

Force and Motion: Uniform and non-uniform motion, Scalar and vector quantities, Graphical representation, Vector addition and subtraction, Speed and velocity, Distance-time, speed-time and velocity-time graph, Uniform acceleration, Equations of motions and their applications, Force and acceleration , Newton's laws of motion, mass and inertia, Concept of momentum, relation between force and momentum.

Gravitation: The universal laws of gravitation, Newton's third law and gravitation, acceleration due to gravity, Concept of mass and weight, Laws of freely falling bodies under gravity, centre of gravity and its determination for a regular body.

Vibration and Waves: Elementary ideas of periodic and simple harmonic motion, time-period and frequency of the simple harmonic motion, Simple pendulum and restoring force, Graphical representation of waves, Wavelength, frequency and velocity of the waves, Longitudinal and transverse waves, Sound waves, Application of ultra sound waves.

Work, Power and Energy: Work done by a constant force, Kinetic and potential energy, Power and its units.

Heat and thermometry: Concept of temperature, measurement of temperature using thermometer, Fahrenheit and Celsius scales of temperature, Heat energy, specific heat, mechanical equivalent of heat, Change of state and concept of latent heat, Humidity of air.

Magnetism: magnet and its property, poles of a magnet, magnetic lines of force, different kinds of magnet, Magnetic domains.

Light: Laws of reflection and refraction, reflection and refraction of light at plane and curved surfaces, spherical mirrors, Refraction by spherical lenses, Ray diagram for locating images by lenses and mirrors, Lens and mirror formula and their uses, Linear magnification , Human eye and defects of vision.

Basic Electricity: Charges, Electric lines of force, potential due to a charge, Motion of charges and electric current, Ohm's law, Series and parallel combination of resistances, Electric current and transfer of energy, Electromagnetism and effect of current, Elementary ideas of electromagnetic induction, Electric motor, Generation and domestic uses of electricity.

Solar system and the Universe: Stars and galaxy, the sun and the solar system, planets and their motion, the origin of the universe, Artificial Satellites.

Nuclear Energy: Concept of nucleus of an atom, nuclear fission and fusion, Nuclear reactor.

SECTION-B

CHEMISTRY (25 marks)

Atomic structure: Dalton's atomic theory, elements, compounds, cathode ray, X-ray, radio-active radiations, Rutherford model of atomic structure, Bohr's model of atomic structure and electronic configurations, Electronic configuration of the elements up to At. No. 18, Radioactivity and properties of α, β and γ rays, Radio-isotopes and their uses, Nuclear fission and fusion reactions.

Classification of Elements: Mendeleef and modern periodic table, Electronic configuration of each group,

periodic trend of metallic and non-metallic character, atomic size, nature of bonding, ionization potential and electron affinity, prediction of properties of an element and their compounds.

Chemical bonding: Octet rule and inert gas configuration as criteria of stability, ions, atoms and valency, Ionic bonds , covalent bonds (in simple cases), shape of molecules of H_2O, NH_3, CH_4, CCl_4, C_2H_4, SF_6, PCl_5.

Chemical reactions: Decomposition, displacement reactions, Isomerization reaction, combination reactions, chemical formula and equations, Atomic and molecular masses, Mole concept, gram atomic mass, Determination of formula of unknown compounds and balancing of equations.

Energetic: Bond energy, Energy involved in a reaction, Photo-chemical reactions and generation of free radicals, Electrolysis of waster and NaCl, Electrochemical cells (Galvanic cell), Dry cells, Storage cells, metallic corrosion.

Metals: Physical and chemical properties, Metal reaction with O_2 , dil acid, Cl_2, Electrochemical series and displacement of metals from the solutions, Elementary metallurgy of Fe, Al and uses of metals, Washing soda, Baking soda , lime, preparation of Bleaching Powder, Plaster of Paris.

Non-metals: Physical and chemical properties, reaction with O_2, acid, Cl_2, H_2, Manufacture of NH_3 and its reaction with O_2, HCl &CuO, Extraction of Sulpur and its reaction with O_2, conc.HNO_3 and conc.H_2HO_4, Carbon and its compounds, Allotrophes of carbon, hydrocarbon, alkanes, isomerism in alkanes, Petroleum, Preparation and properties of CH_3OH, C_2H_2OH, general methods of preparation, properties of organic acids-COOH group, esters, Nylon, Ployster, Rubber, Soap, detergents, Biomass as fuel, fossil fuel, coal, petroleum, Natural gas, classification of fuels, Calorific value of fuel, Ignition of temperature, combustion of fuel, Ideal fuel. Coal deposits on earth, constituents of lithosphere, Green house effect, Oceans, composition and its important function.

Practical: Carbon, Nitrogen and O_2 cycles on earth, Solubility and saturated solutions, solutions and suspension, distillation, hard and soft water, To show the presence of CO_2, water vapor and dust particle in atmosphere, To identify the combustion product of fuels(CO_2 and H_2O only), condition of rusting,

effect of heating on sulphur, Primary air pollutant, Solubility of ionic and covalent compounds in any given solvent, electrical conductivity of ionic and covalent compounds, Determination of m.p., b.p. of ionic and covalent compounds, Heat change during melting of solid or freezing of liquids. Physical change and chemical changes, (Fe+S mixing and heating), Heat of reaction and Heat of dissolution, Construction of Voltaic cells, Relationship between current, time and metal deposited during electrolysis of copper.

SECTION-C

BIOLOGY (25 marks)

Ways of living Habitats: Living places and programme, the habitat, Micro-habitats, Interdependence, Land, Water and Air as habitats, Adaptation, Terrestrial and Aquatic habitats, Adaptation in plants and animals.

Organization in the living world: Level of organization, species and population, General basis of organization, Discovery of Cell, Cell Theory, Prokaryotic and Eukaryotic cell, Ultra-structure of cell, Cell organelles and their function, Cell Division, Amitosis, mitosis and meiosis, linkages and crossing over and its importance, mutation, Genetic Disorders.

Life Process-I: Nutrition: autotrophic, heterotrophic, mode of nutrition, Photosynthesis, Respiration, Transpiration, Transport of materials, Essential elements and its deficiency symptoms, Blood circulation, Lymph, Excretion, Chemosynthesis, Plant growth and Movement.

Life Process-II: Reproduction: asexual and sexual, Control and Coordination, Chemical coordination in plant and animals, the nervous systems, Pollination and fertilization in flowering plants, fertilization, embryo development, Development of seeds and fruits.

Human Beings: Structure of human body, Digestion and absorption, Breathing and respiration, Body fluids and circulation, excretory products and elimination, Locomotion and movement, Control and coordination, Impact of human on environment.

Nutrition: Energy requirement of the body, Balance diet, Components of our food, Deficiency diseases,

Factors leading to deficiency in nutrition, Excessive intake of food.

Food Production: Agriculture task in food production, Food production trends in our country, Food derived from animals, Trends in food production from animals, Animal husbandry, fish as a source of animal food.

Health: Community and personal health, Factors affecting health, Food poisoning, Organic or metabolic diseases, Pollution related diseases, Diseases related to habitat forming substances, Preventive measures, Reproductive health, birth control, contraception and sexually transmitted diseases, Health education, Health and development.

Biosphere: Structure and function of ecosystem and biosphere, Food chain, Food web, Flow of energy, Cycling of material, Ecological succession, Natural Resources and their conservation, Environmental pollutions, global Environmental changes, Biotic Resources, Environmental ethics and legislation, Botanical garden and herbaria, Zoological parks and Museum.

Man and his environment: Human activity, Abiotic and biotic component of environment, Interrelationship between man and his environment, Natural resources, Overexploitation, conservation , management and replenishment, Industrialization, Recycling of waste materials.

SECTION-D

MATHEMATICS (50 marks)

Algebra: Sets, their representation and notation, equivalent and equal sets, Finite and infinite sets, Subset, Null set, universal set of a set, Venn Diagrams, set theory operations and their algebra(union, intersection and complement).

Natural numbers, Integers, Rational and Irrational numbers, Surds (Quadratic surds only).

Polynomials and their operations, factorization of polynomials, First Degree equations and in-equations and their solutions including graphical solution for two variables, Solutions of simultaneous equations, Rational expressions, Quadratic equations and their solutions, Laws of indices, logarithms, Arithmetic

progression(A.P.), Generation of an A.P., Sum of n terms of an A.P., Simple problems.

Geometry: Point, Line, Collinear Points, Intersecting and non-intersecting lines in a plane, Family of lines Triangles, Congruence Relation in the Set of all triangles; Basic proportionality theorem, Parallelogram & their properties, Pythgoras' theorem and its converse. The concept of a circle as a set of points in a plane, Interior and exterior of a circle. Diameter and circumference of a circle. Arc and sector of a circle. Chord and segment of a circle. Cyclic Quadrilateral. Secant and tangent of a circle. Family of concentric circles. Family of circles through a given point, con cyclic points, circles and common tangent. Direct and transverse common tangents.

Co-ordinate Geometry: Distance between two points, Section formula, Problems related with mid-point & Centroid of triangles.

Trigonometry: Trigonometrical ratios sin x, cos x, tan x, Cot x , cosec x , for 0° 30°, 45°, 60°, 90°. Simple trigonometrical identities, Trigonometrical ratios of complementary angles. Problems on height and distances (Problems should not involve more than two right triangles).

Mensuration: Concept of perimeter, Area of triangle, square, rectangle, rhombus, trapezium, parallelogram, quadrilateral, circle and circular ring. Volume of cure, Problems on finding volumes and surface areas of combinations of right circular cone, right cylinder, hemisphere & sphere, conversion of solids (not more than two solids).

Statistics & Statistical Data: Introduction of Statistics, Primary & Secondary data, Raw/Ungrouped and grouped data (in case of raw data, the number of observations should not exceed 30). Frequency Table: Class marks, Class intervals, frequency, frequency table, cumulative frequency, cumulative frequency table (in grouped data only equal intervals should be taken).

Measures of Central Tendency: Mean of raw and ungrouped data, Median and Mode of raw data, Properties of mean, median & mode and their significance, relation of mean median & mode.

SECTION −E

ENGLISH (25 marks)

Grammar: The Sentences: Types, Question Tags/ Tags Questions, Nouns, Use of Tenses, Non Finite Verbs, The Agreement of verbs with subjects, Adverbs- Position and its Special Use, Comparisons, Prepositions, Co-ordinations and Sub-ordination, Conditionals, Transformation of Sentences, Voice-Active and Passive, Joining of Sentences (Synthesis), Direct and Indirect Speech, The Sequence of Tenses, The Same Word used as Different parts of Speech, Punctuation and Capital Letters.

Vocabulary and Usage: Diminitives, Synonyms, Antonyms, One Word Substitutes, Making Verbs from Nouns and Adjectives, Making Adjectives from Nouns, Making Nouns from verbs, Words followed by Appropriate Prepositions, Proverbs, Verbal Phrases, Miscellaneous Idiomatic expressions, Legal terms, terms used in technology, Words Often Confused/Misused, Common Errors.

Comprehension.

31.   FORMAT AND SYLLABI OF CITDEE - 2017

The Central Institute of Technology Degree Entrance Examination (CITDEE)-2017 will be conducted in a duration of three hours with a total of 125 marks. The question paper will consist of four (4) sections: A, B, C & D. Section A consists of twenty five questions in Physics carrying one mark each, Section B consists of twenty five questions in Chemistry carrying one mark each, Section C consists of twenty five questions in English carrying one mark each and Section D consists of fifty questions in Mathematics carrying one or two marks each. The questions will be of multiple choices with four options of answers.

SECTION-A

PHYSICS (25 MARKS)

Unit 1: Physics and Measurement

Physics, technology and society, SI units, Fundamental and derived units. Least count, accuracy and pre- cision of measuring instruments, Errors in measurement, Significant figures. Dimensions of Physical quantities, dimensional analysis and its applications.

Unit 2: Kinematics

Frame of reference. Motion in a straight line: Position-time graph, speed and velocity. Uniform and non-uniform motion, average speed and instantaneous velocity Uniformly accelerated motion, velocity-time, position- time graphs, relations for uniformly accelerated motion. Scalars and Vectors, Vector addition and Subtraction, Zero Vector, Scalar and Vector products, Unit Vector, Resolution of a Vector. Relative Velocity, Motion in a plane, Projectile Motion, Uniform Circular Motion.

Unit 3: Laws of Motion

Force and Inertia, Newton's First Law of motion; Momentum, Newton's Second Law of motion; Impulse; Newton's Third Law of motion. Law of conservation of linear momentum and its applications, Equilibrium of concurrent forces.

Static and Kinetic friction, laws of friction, rolling friction. Dynamics of uniform circular motion: Centripetal force and its applications.

Unit 4: Work, Energy and Power

Work done by a constant force and a variable force; kinetic and potential energies, work energy theorem, power. Potential energy of a spring, conservation of mechanical energy, conservative and non conservative forces; Elastic and inelastic collisions in one and two dimensions

Unit 5: Rotational Motion

Centre of mass of a two-particle system, Centre of mass of a rigid body; Basic concepts of rotational motion; moment of a force, torque, angular momentum, conservation of angular momentum and its applications; moment of inertia, radius of gyration. Values of moments of inertia for simple geometrical objects, parallel and perpendicular axes theorems and their applications. Rigid body rotation, equations of rotational motion.

Unit 6: Gravitation

The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Ke-

pler's laws of planetary motion. Gravitational potential energy; gravitational potential. Escape velocity. Orbital velocity of a satellite. Geo-stationary satellites.

Unit 7: Properties of Solids and Liquids

Elastic behaviour, Stress-strain relationship, Hooke's Law, Young's modulus, bulk modulus, modulus of rigidity. Pressure due to a fluid column; Pascal's law and its applications. Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, Reynolds number. Bernoulli's principle and its applications. Surface energy and surface tension, angle of contact, application of surface tension - drops, bubbles and capillary rise. Heat, temperature, thermal expansion; specific heat capacity, calorimetry; change of state, latent heat. Heat transfer- conduction, convection and radiation, Newton's law of cooling.

Unit 8: Thermodynamics

Thermal equilibrium, zeroth law of thermodynamics, concept of temperature. Heat, work and internal energy. First law of thermodynamics. Second law of thermodynamics: reversible and irreversible processes. Carnot engine and its efficiency.

Unit 9: Kinetic Theory of Gases

Equation of state of a perfect gas, work done on compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic energy and temperature: rms speed of gas molecules; Degrees of freedom, Law of equipartition of energy, applications to specific heat capacities of gases; Mean free path, Avogadro's number.

Unit 10: Oscillation and Waves

Periodic motion - period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (S.H.M.) and its equation; phase; oscillations of a spring -restoring force and force constant; energy in S.H.M. - kinetic and potential energies; Simple pendulum - derivation of expression for its time period; Free, forced and damped oscillations, resonance.

Wave motion. Longitudinal and transverse waves, speed of a wave. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, Standing waves in strings and or-

gan pipes, fundamental mode and harmonics, Beats, Doppler effect in sound

Unit 11: Electrostatics

Electric charges: Conservation of charge, Coulomb's law-forces between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electric field: Electric field due to a point charge, Electric field lines, Electric dipole, Electric field due to a dipole, Torque on a dipole in a uniform electric field

Electric flux, Gauss's law and its applications to find field due to infinitely long uniformly charged straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell. Electric potential and its calculation for a point charge, electric dipole and system of charges; Equipotential surfaces, Electrical potential energy of a system of two point charges in an electrostatic field.

Conductors and insulators, Dielectrics and electric polarization, capacitor, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, Energy stored in a capacitor.

Unit 12: Current Electricity

Electric current, Drift velocity, Ohm's law, Electrical resistance, Resistances of different materials, V-I characteristics of Ohmic and nonohmic conductors, Electrical energy and power, Electrical resistivity, Colour code for resistors; Series and parallel combinations of resistors; Temperature dependence of resistance.

Electric Cell and its Internal resistance, potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff's laws and their applications. Wheatstone bridge, Metre bridge. Potentiometer - principle and its applications.

Unit 13: Magnetic Effects of Current and Magnetism

Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long current carrying straight wire and solenoid. Force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors-definition of ampere. Torque experienced by a current loop in uniform magnetic field; Moving coil galvanometer, its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment. Bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements. Para-, dia- and ferro- magnetic substances.

Magnetic susceptibility and permeability, Hysteresis, Electromagnets and permanent magnets

Unit 14: Electromagnetic Induction and Alternating Currents

Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law, Eddy currents. Self and mutual inductance. Alternating currents, peak and rms value of alternating current/ voltage; reactance and impedance; LCR series circuit, resonance; Quality factor, power in AC circuits, wattless current. AC generator and transformer.

Unit 15: Electromagnetic Waves

Electromagnetic waves and their characteristics. Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays). Applications of e.m. waves

Unit 16: Optics

Reflection and refraction of light at plane and spherical surfaces, mirror formula, Total internal reflection and its applications, Deviation and Dispersion of light by a prism, Lens Formula, Magnification, Power of a Lens, Combination of thin lenses in contact, Microscope and Astronomical Telescope (reflecting and refracting) and their magnifying powers.

Wave optics: wavefront and Huygens' principle, Laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes,

Polarisation, plane polarized light; Brewster's law, uses of plane polarized light and Polaroids

Unit 17: Dual Nature of Matter and Radiation

Dual nature of radiation. Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation; particle nature of light. Matter waves-wave nature of particle, de Broglie relation. Davisson-Germer experiment.

Unit 18: Atoms and Nuclei

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum. Composition and size of nucleus, atomic masses, isotopes, isobars; isotones. Radioactivity-alpha, beta and gamma particles/rays and their properties; radioactive decay law. Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number, nuclear fission and fusion.

Unit 19: Electronic Devices

Semiconductors; semiconductor diode: I-V characteristics in forward and reverse bias; diode as a rectifier; I-V characteristics of LED, photodiode, solar cell and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch.

Unit 20: Communication Systems

Propagation of electromagnetic waves in the atmosphere; Sky and space wave propagation, Need for modulation, Amplitude and Frequency Modulation, Bandwidth of signals, Bandwidth of Transmission medium, Basic Elements of a Communication System (Block Diagram only).

Unit 21: Experimental Skills

Familiarity with the basic approach and observations of the experiments and activities:

1. Vernier callipers-its use to measure internal and external diameter and depth of a vessel.

2. Screw gauge-its use to determine thickness/diameter of thin sheet/wire.

3. Simple Pendulum-dissipation of energy by plot-

ting a graph between square of amplitude and time.

4. Metre Scale - mass of a given object by principle of moments.

5. Young's modulus of elasticity of the material of a metallic wire.

6. Surface tension of water by capillary rise and effect of detergents.

7. Co-efficient of Viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body

8. Plotting a cooling curve for the relationship between the temperature of a hot body and time.

9. Speed of sound in air at room temperature using a resonance tube.

10. Specific heat capacity of a given

  (i) solid and

  (ii) liquid by method of mixtures.

11. Resistivity of the material of a given wire using metre bridge.

12. Resistance of a given wire using Ohm's law.

13. Potentiometer –

  (i) Comparison of emf of two primary cells.

  (ii) Determination of internal resistance of a cell.

14. Resistance and figure of merit of a galvanometer by half deflection method.

15. Focal length of:

  (i) Convex mirror

  (ii) Concave mirror, and

  (iii) Convex lens.

16. Using parallax method plot angle of deviation vs angle of incidence for a triangular prism.

17. Refractive index of a glass slab using a travelling microscope.

18. Characteristic curves of a p-n junction diode in forward and reverse bias.

19. Characteristic curves of a Zener diode and finding reverse break down voltage.

20. Characteristic curves of a transistor and finding current gain and voltage gain.

21. Identification of Diode, LED, Transistor, IC, Re-

sistor, Capacitor from mixed collection of such items.

22. Using multimeter to:

  (i) Identify base of a transistor

  (ii) Distinguish between npn and pnp type transistor

  (iii) See the unidirectional flow of current in case of a diode and an LED.

  (iv) Check the correctness or otherwise of a given electronic component (diode, transistor or IC).

SECTION-B

CHEMISTRY (25 MARKS)

Unit 1: Some Basic Concepts in Chemistry

Matter and its nature, Dalton's atomic theory; Concept of atom, molecule, element and compound; Physical quantities and their measurements in Chemistry, precision and accuracy, significant figures, S.I. Units, dimensional analysis; Laws of chemical combination; Atomic and molecular masses, mole concept, molar mass, percentage composition, empirical and molecular formulae; Chemical equations and stoichiometry.

Unit 2: States of Matter

Classification of matter into solid, liquid and gaseous states.

Gaseous State:

Measurable properties of gases; Gas laws - Boyle's law, Charle's law, Graham's law of diffusion, Avogadro's law, Dalton's law of partial pressure; Concept of Absolute scale of temperature; Ideal gas equation, Kinetic theory of gases (only postulates); Concept of average, root mean square and most probable velocities; Real gases, deviation from Ideal behaviour, compressibility factor, van der Waals equation, liquefaction of gases, critical constants.

Liquid State:

Properties of liquids - vapour pressure, viscosity and surface tension and effect of temperature on them (qualitative treatment only).

Solid State:

Classification of solids: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea); Bragg's Law and its applications; Unit cell and lattices, packing in solids (fcc, bcc and hcp lattices), voids, calculations involving unit cell parameters, imperfection in solids; Electrical, magnetic and dielectric properties.

Unit 3: Atomic Structure

Discovery of sub-atomic particles (electron, proton and neutron); Thomson and Rutherford atomic models and their limitations; Natzure of electromagnetic radiation, photoelectric effect; Spectrum of hydrogen atom, Bohr model of hydrogen atom - its postulates, derivation of the relations for energy of the electron and radii of the different orbits, limitations of Bohr's model; Dual nature of matter, de-Broglie's relationship, Heisenberg uncertainty principle. Elementary ideas of quantum mechanics, quantum mechanical model of atom, its important features, * and *2, concept of atomic orbitals as one electron wave functions; Variation of * and * 2 with r for 1s and 2s orbitals; various quantum numbers (principal, angular momentum and magnetic quantum numbers) and their significance; shapes of s, p and d - orbitals, electron spin and spin quantum number; Rules for filling electrons in orbitals – Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of elements, extra stability of half-filled and completely filled orbitals.

Unit 4: Chemical Bonding and Molecular Structure

Kossel - Lewis approach to chemical bond formation, concept of ionic and covalent bonds.

Ionic Bonding: Formation of ionic bonds, factors affecting the formation of ionic bonds; calculation of lattice enthalpy.

Covalent Bonding: Concept of electronegativity, Fajan's rule, dipole moment; Valence Shell Electron Pair Repulsion (VSEPR) theory and shapes of simple molecules.

Quantum mechanical approach to covalent bonding: Valence bond theory - Its important features, concept of hybridization involving s, p and d orbitals; Resonance.

Molecular Orbital Theory - Its important features, LCAOs, types of molecular orbitals (bonding, antibonding), sigma and pi-bonds, molecular orbital electronic configurations of homonuclear diatomic molecules, concept of bond order, bond length and bond energy. Elementary idea of metallic bonding. Hydrogen bonding and its applications.

Unit 5: Chemical Thermodynamics

Fundamentals of thermodynamics: System and surroundings, extensive and intensive properties, state functions, types of processes.

First law of thermodynamics: Concept of work, heat internal energy and enthalpy, heat capacity, molar heat capacity; Hess's law of constant heat summation; Enthalpies of bond dissociation, combustion, formation, atomization, sublimation, phase transition, hydration, ionization and solution.

Second law of thermodynamics: Spontaneity of processes; DS of the universe and DG of the system as criteria for spontaneity, DGo (Standard Gibbs energy change) and equilibrium constant.

Unit 6: Solutions

Different methods for expressing concentration of solution - molality, molarity, mole fraction, percentage (by volume and mass both), vapour pressure of solutions and Raoult's Law - Ideal and non-ideal solutions, vapour pressure - composition, plots for ideal and non-ideal solutions; Colligative properties of dilute solutions - relative lowering of vapour pressure, depression of freezing point, elevation of boiling point and osmotic pressure; Determination of molecular mass using colligative properties; Abnormal value of molar mass, van't Hoff factor and its significance.

Unit 7: Equilibrium

Meaning of equilibrium, concept of dynamic equilibrium.

Equilibria involving physical processes: Solid -liquid, liquid - gas and solid - gas equilibria, Henry's law, general characterics of equilibrium involving physical processes.

Equilibria involving chemical processes: Law of chemical equilibrium, equilibrium constants (Kp and Kc) and their significance, significance of DG and

DGo in chemical equilibria, factors affecting equilibrium concentration, pressure, temperature, effect of catalyst; Le Chatelier's principle.

Ionic equilibrium: Weak and strong electrolytes, ionization of electrolytes, various concepts of acids and bases (Arrhenius, Brensted - Lowry and Lewis) and their ionization, acid - base equilibria (including multistage ionization) and ionization constants, ionization of water, pH scale, common ion effect, hydrolysis of salts and pH of their solutions, solubility of sparingly soluble salts and solubility products, buffer solutions.

Unit 8: Redox Reactions and Electrochemistry

Electronic concepts of oxidation and reduction, redox reactions, oxidation number, rules for assigning oxidation number, balancing of redox reactions.

Eectrolytic and metallic conduction, conductance in electrolytic solutions, specific and molar conductivities and their variation with concentration: Kohlrausch's law and its applications.

Electrochemical cells - Electrolytic and Galvanic cells, different types of electrodes, electrode potentials including standard electrode potential, half - cell and cell reactions, emf of a Galvanic cell and its measurement; Nernst equation and its applications; Relationship between cell potential and Gibbs' energy change; Dry cell and lead accumulator; Fuel cells; Corrosion and its prevention.

Unit 9: Chemical Kinetics

Rate of a chemical reaction, factors affecting the rate of reactions: concentration, temperature, pressure and catalyst; elementary and complex reactions, order and molecularity of reactions, rate law, rate constant and its units, differential and integral forms of zero and first order reactions, their characteristics and half - lives, effect of temperature on rate of reactions - Arrhenius theory, activation energy and its calculation, collision theory of bimolecular gaseous reactions (no derivation).

Unit 10: Surface Chemistry

Adsorption: Physisorption and chemisorption and their characteristics, factors affecting adsorption of gases on solids - Freundlich and Langmuir adsorption isotherms, adsorption from solutions.

Catalysis: Homogeneous and heterogeneous, activity and selectivity of solid catalysts, enzyme catalysis and its mechanism.

Colloidal state: distinction among true solutions, colloids and suspensions, classification of colloids - lyophilic, lyophobic; multi molecular, macromolecular and associated colloids (micelles), preparation and properties of colloids - Tyndall effect, Brownian movement, electrophoresis, dialysis, coagulation and flocculation; Emulsions and their characteristics

Unit 11: Classification of Elements and Periodicity in Properties

Modem periodic law and present form of the periodic table, s, p, d and f block elements, periodic trends in properties of elements atomic and ionic radii, ionization enthalpy, electron gain enthalpy, valence, oxidation states and chemical reactivity.

Unit 12: General Principles and Processes of Isolation of Metals

Modes of occurrence of elements in nature, minerals, ores; steps involved in the extraction of metals - concentration, reduction (chemical. and electrolytic methods) and refining with special reference to the extraction of Al, Cu, Zn and Fe; Thermodynamic and electrochemical principles involved in the extraction of metals.

Unit 13: Hydrogen

Position of hydrogen in periodic table, isotopes, preparation, properties and uses of hydrogen; Physical and chemical properties of water and heavy water; Structure, preparation, reactions and uses of hydrogen peroxide; Classification of hydrides - ionic, covalent and interstitial; Hydrogen as a fuel

Unit 14: S-Block elements(Alkali and Alkaline Earth materials)

Group - 1 and 2 Elements

General introduction, electronic configuration and general trends in physical and chemical properties of elements, anomalous properties of the first element of each group, diagonal relationships.

Preparation and properties of some important compounds - sodium carbonate, sodium chloride, sodium hydroxide and sodium hydrogen carbonate; Industri-

al uses of lime, limestone, Plaster of Paris and cement; Biological significance of Na, K, Mg and Ca.

Unit 15: P-Block Elements

Group - 13 to Group 18 Elements

General Introduction: Electronic configuration and general trends in physical and chemical properties of elements across the periods and down the groups; unique behaviour of the first element in each group.

Groupwise study of the p – block elements

Group - 13

Preparation, properties and uses of boron and aluminium; Structure, properties and uses of borax, boric acid, diborane, boron trifluoride, aluminium chloride and alums.

Group - 14

Tendency for catenation; Structure, properties and uses of allotropes and oxides of carbon, silicon tetrachloride, silicates, zeolites and silicones.

Group - 15

Properties and uses of nitrogen and phosphorus; Allotrophic forms of phosphorus; Preparation, properties, structure and uses of ammonia, nitric acid, phosphine and phosphorus halides, (PCl_3, PCl_5); Structures of oxides and oxoacids of nitrogen and phosphorus.

Group - 16

Preparation, properties, structures and uses of dioxygen and ozone; Allotropic forms of sulphur; Preparation, properties, structures and uses of sulphur dioxide, sulphuric acid (including its industrial preparation); Structures of oxoacids of sulphur.

Group - 17

Preparation, properties and uses of chlorine and hydrochloric acid; Trends in the acidic nature of hydrogen halides; Structures of Interhalogen compounds and oxides and oxoacids of halogens.

Group -18

Occurrence and uses of noble gases; Structures of fluorides and oxides of xenon.

Unit 16: d and f block elements

Transition Elements - General introduction, electronic configuration, occurrence and characteristics, general trends in properties of the first row transition elements - physical properties, ionization enthalpy, oxidation states, atomic radii, colour, catalytic behaviour, magnetic properties, complex formation, interstitial compounds, alloy formation; Preparation, properties and uses of $K_2Cr_2O_7$ and $KMnO_4$.

Inner Transition ElementsLanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction.

Actinoids - Electronic configuration and oxidation states.

Unit 17: Co-ordination Compounds

Introduction to co-ordination compounds, Werner's theory; ligands, co-ordination number, denticity, chelation; IUPAC nomenclature of mononuclear co-ordination compounds, isomerism; Bonding-Valence bond approach and basic ideas of Crystal field theory, colour and magnetic properties; Importance of co-ordination compounds (in qualitative analysis, extraction of metals and in biological systems).

Unit 18: Environmental Chemistry

Environmental pollution - Atmospheric, water and soil.

Atmospheric pollution - Tropospheric and stratospheric

Tropospheric pollutants - Gaseous pollutants: Oxides of carbon, nitrogen and sulphur, hydrocarbons; their sources, harmful effects and prevention; Green house effect and Global warming; Acid rain;

Particulate pollutants: Smoke, dust, smog, fumes, mist; their sources, harmful effects and prevention.

Stratospheric pollution- Formation and breakdown of ozone, depletion of ozone layer - its mechanism and effects.

Water Pollution - Major pollutants such as, pathogens, organic wastes and chemical pollutants; their harmful effects and prevention.

Soil pollution - Major pollutants such as: Pesticides (insecticides,. herbicides and fungicides), their harmful effects and prevention.

Strategies to control environmental pollution.

Unit 19: Purification and Characterisation of Organic Compounds

Purification: Crystallization, sublimation, distillation, differential extraction and chromatography - principles and their applications.

Qualitative analysis: Detection of nitrogen, sulphur, phosphorus and halogens.

Quantitative analysis (basic principles only): Estimation of carbon, hydrogen, nitrogen, halogens, sulphur, phosphorus.

Calculations of empirical formulae and molecular formulae; Numerical problems in organic quantitative analysis.

Unit 20: Some Basic Principles of Organic Chemistry

Tetravalency of carbon; Shapes of simple molecules - hybridization (s and p); Classification of organic compounds based on functional groups: - C = C - , - C ? C - and those containing halogens, oxygen, nitrogen and sulphur; Homologous series; Isomerism - structural and stereoisomerism.

Nomenclature (Trivial and IUPAC)

Covalent bond fission - Homolytic and heterolytic: free radicals, carbocations and carbanions; stability of carbocations and free radicals, electrophiles and nucleophiles.

Electronic displacement in a covalent bond - Inductive effect, electromeric effect, resonance and hyperconjugation.

Common types of organic reactions - Substitution, addition, elimination and rearrangement.

Unit 21: Hydrocarbons

Classification, isomerism, IUPAC nomenclature, general methods of preparation, properties and reactions.

Alkanes - Conformations: Sawhorse and Newman projections (of ethane); Mechanism of halogenation of alkanes.

Alkenes - Geometrical isomerism; Mechanism of electrophilic addition: addition of hydrogen, halogens, water, hydrogen halides (Markownikoff's and peroxide effect); Ozonolysis, oxidation, and polymerization.

Alkynes - Acidic character; Addition of hydrogen, halogens, water and hydrogen halides; Polymerization.

Aromatic hydrocarbons - Nomenclature, benzene - structure and aromaticity; Mechanism of electrophilic substitution: halogenation, nitration, Friedel – Craft's alkylation and acylation, directive influence of functional group in mono-substituted benzene

Unit 22: Organic Compounds containing Halogens

General methods of preparation, properties and reactions; Nature of C-X bond; Mechanisms of substitution reactions.

Uses; Environmental effects of chloroform, iodoform, freons and DDT.

Unit 23: Organic compounds containing Oxygen

General methods of preparation, properties, reactions and uses.

ALCOHOLS, PHENOLS AND ETHERS

Alcohols: Identification of primary, secondary and tertiary alcohols; mechanism of dehydration.

Phenols: Acidic nature, electrophilic substitution reactions: halogenation, nitration and sulphonation, Reimer - Tiemann reaction.

Ethers: Structure.

Aldehyde and Ketones: Nature of carbonyl group;

Nucleophilic addition to >C=O group, relative reactivities of aldehydes and ketones; Important reactions such as - Nucleophilic addition reactions (addition of HCN, NH3 and its derivatives), Grignard reagent; oxidation; reduction (Wolff Kishner and Clemmensen); acidity of ? - hydrogen, aldol condensation, Cannizzaro reaction, Haloform reaction; Chemical tests to distinguish between aldehydes and Ketones.

CARBOXYLIC ACIDS

Acidic strength and factors affecting it.

Unit 24: Organic compounds containing Nitrogen

General methods of preparation, properties, reactions and uses.

Amines: Nomenclature, classification, structure, basic character and identification of primary, secondary and tertiary amines and their basic character.

Diazonium Salts: Importance in synthetic organic chemistry.

Unit 25: Polymers

General introduction and classification of polymers, general methods of polymerization - addition and condensation, copolymerization; Natural and synthetic rubber and vulcanization; some important polymers with emphasis on their monomers and uses - polythene, nylon, polyester and Bakelite

Unit 26: Biomolecules

General introduction and importance of biomolecules.

CARBOHYDRATES - Classification: aldoses and ketoses; monosaccharides (glucose and fructose), constituent monosaccharides of oligosacchorides (sucrose, lactose, maltose) and polysaccharides (starch, cellulose, glycogen).

PROTEINS - Elementary Idea of - amino acids, peptide bond, polypeptides; Proteins: primary, secondary, tertiary and quaternary structure (qualitative idea only), denaturation of proteins, enzymes.

VITAMINS - Classification and functions.

NUCLEIC ACIDS - Chemical constitution of DNA and RNA.

Biological functions of nucleic acids.

Unit 27: Chemistry in Everyday Life

Chemicals in medicines: Analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamins - their meaning and common examples.

Chemicals in food: Preservatives, artificial sweetening agents - common examples.

Cleansing agents: Soaps and detergents, cleansing action.

Unit 28: Principles related to Practical Chemistry

- Detection of extra elements (N,S, halogens) in organic compounds; Detection of the following functional groups: hydroxyl (alcoholic and phenolic), carbonyl (aldehyde and ketone), carboxyl and amino groups in organic compounds.

- Chemistry involved in the preparation of the following:

1. Inorganic compounds: Mohr's salt, potash alum.

2. Organic compounds: Acetanilide, p-nitroacetanilide, aniline yellow, iodoform.

- Chemistry involved in the titrimetric excercises - Acids bases and the use of indicators, oxalic-acid vs $KMnO_4$, Mohr's salt vs $KMnO_4$.

- Chemical principles involved in the qualitative salt analysis: Cations - Pb^{2+}, Cu^{2+}, Al^{3+}, Fe^{3+}, Zn^{2+}, Ni^{2+}, Ca^{2+}, Ba^{2+}, Mg^{2+}, NH^{4+}. Anions- CO_3^{2-}, S^{2-}, SO_4^{2-}, NO^{2-}, NO^{3-}, CI^-, Br, I. (Insoluble salts excluded).

- Chemical principles involved in the following experiments:

1. Enthalpy of solution of $CuSO^4$

2. Enthalpy of neutralization of strong acid and strong base.

3. Preparation of lyophilic and lyophobic sols.

4. Kinetic study of reaction of iodide ion with hydrogen peroxide at room temperature.

SECTION-C

MATHEMATICS (50 MARKS)

Unit 1: Sets, Relations and Functions

Sets and their representation; Union, intersection and complement of sets and their algebraic properties; Power set; Relation, Types of relations, equivalence relations, functions;. one-one, into and onto functions, composition of functions.

Unit 2: Complex Numbers and Quadratic Equations

Complex numbers as ordered pairs of reals, Representation of complex numbers in the form a+ib and their representation in a plane, Argand diagram, algebra of complex numbers, modulus and argument (or amplitude) of a complex number, square root of a complex number, triangle inequality, Quadratic equations in real and complex number system and their solutions. Relation between roots and co-efficients, nature of roots, formation of quadratic equations with given roots.

Unit 3: Matrices and Determinants

Matrices, algebra of matrices, types of matrices, determinants and matrices of order two and three. Properties of determinants, evaluation of determinants, area of triangles using determinants. Adjoint and evaluation of inverse of a square matrix using determinants and elementary transformations, Test of consistency and solution of simultaneous linear equations in two or three variables using determinants and matrices.

Unit 4: Permutations and Combinations

Fundamental principle of counting, permutation as an arrangement and combination as selection, Meaning of P (n,r) and C (n,r), simple applications

Unit 5: Mathematical Induction

Principle of Mathematical Induction and its simple applications.

Unit 6: Binomial Theorem and Its Applications

Binomial theorem for a positive integral index, general term and middle term, properties of Binomial co-efficients and simple applications.

Unit 7: Sequence and Series

Arithmetic and Geometric progressions, insertion of arithmetic, geometric means between two given numbers. Relation between A.M. and G.M. Sum upto n terms of special series: S_n, S_{n2}, S_{n3}. Arithmetico - Geometric progression

Unit 8: Limit, Continuity and Differentiability

Real - valued functions, algebra of functions, polynomials, rational, trigonometric, logarithmic and exponential functions, inverse functions. Graphs of simple functions. Limits, continuity and differentiability. Differentiation of the sum, difference, product and quotient of two functions. Differentiation of trigonometric, inverse trigonometric, logarithmic, exponential, composite and implicit functions; derivatives of order upto two. Rolle's and Lagrange's Mean Value Theorems. Applications of derivatives: Rate of change of quantities, monotonic - increasing and decreasing functions, Maxima and minima of functions of one variable, tangents and normals.

Unit 9: Integral Calculus

Integral as an anti - derivative. Fundamental integrals involving algebraic, trigonometric, exponential and logarithmic functions. Integration by substitution, by parts and by partial fractions. Integration using trigonometric identities.

Evaluation of simple integrals of the type

$$\int \frac{dx}{x^2 \pm a^2}, \quad \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \quad \int \frac{dx}{a^2 - x^2}, \quad \int \frac{dx}{\sqrt{a^2 - x^2}}, \quad \int \frac{dx}{ax^2 + bx + c}$$

$$\int \frac{dx}{\sqrt{ax^2 + bx + c}}, \quad \int \frac{(px+q)dx}{ax^2 + bx + c}, \quad \int \frac{(px+q)dx}{\sqrt{ax^2 + bx + c}}$$

$$\int \sqrt{a^2 \pm x^2} \, dx \qquad \int \sqrt{x^2 - a^2} \, dx$$

Integral as limit of a sum. Fundamental Theorem of Calculus. Properties of definite integrals. Evaluation of definite integrals, determining areas of the regions bounded by simple curves in standard form.

Unit 10: Differential Equations

Ordinary differential equations, their order and degree. Formation of differential equations. Solution of differential equations by the method of separation of variables, solution of homogeneous and linear differential equations of the type: $dy/dx + p(x)y = q(x)$

Unit 11: Coordinate Geometry

Cartesian system of rectangular co-ordinates in a plane, distance formula, section formula, locus and its equation, translation of axes, slope of a line, parallel and perpendicular lines, intercepts of a line on the coordinate axes.

Straight lines

Various forms of equations of a line, intersection of lines, angles between two lines, conditions for concurrence of three lines, distance of a point from a line, equations of internal and external bisectors of angles between two lines, coordinates of centroid, orthocentre and circumcentre of a triangle, equation of family of lines passing through the point of intersection of two lines.

Circles, conic sections

Standard form of equation of a circle, general form of the equation of a circle, its radius and centre, equation of a circle when the end points of a diameter are given, points of intersection of a line and a circle with the centre at the origin and condition for a line to be tangent to a circle, equation of the tangent. Sections of cones, equations of conic sections (parabola, el-

lipse and hyperbola) in standard forms, condition for y = mx + c to be a tangent and point (s) of tangency.

Unit 12: Three Dimension Geometry

Coordinates of a point in space, distance between two points, section formula, direction ratios and direction cosines, angle between two intersecting lines. Skew lines, the shortest distance between them and its equation. Equations of a line and a plane in different forms, intersection of a line and a plane, coplanar lines.

Unit 13: Vector Algebra

Vectors and scalars, addition of vectors, components of a vector in two dimensions and three dimensional space, scalar and vector products, scalar and vector triple product.

Unit 14: Statistics and Probability

Measures of Dispersion: Calculation of mean, median, mode of grouped and ungrouped data. Calculation of standard deviation, variance and mean deviation for grouped and ungrouped data.

Probability: Probability of an event, addition and multiplication theorems of probability, Baye's theorem, probability distribution of a random variate, Bernoulli trials and Binomial distribution.

Unit 15: Trigonometry

Trigonometrical identities and equations. Trigonometrical functions. Inverse trigonometrical functions and their properties. Heights and Distances

Unit 16: Mathematical Reasoning

Statements, logical operations and, or, implies, implied by, if and only if. Understanding of tautology, contradiction, converse and contrapositive.

SECTION-E

ENGLISH (25 MARKS)

Word Formation, Vocabulary extension.

Elements of Grammar: Sentence elements, parts of speech, stative and dynamic, Pro-forms, question and negation, tag question.

Verbs and the verb phrases, appropriate preposition.

Articles and determiners, Revision of Present, Past

and future tenses, Punctuations, Types of sentences, Structure of sentences, word order.

32. FORMAT AND SYLLABI OF CITBDAT - 2017

The Central Institute of Technology Bachelor of Design Admission Test -2017 **(CITBDAT-2017)** will be conducted in a duration of Three (03) hours with a total of 300 marks. The question paper will consist of two (2) sections: **Section - A** & **Section - B**.

Section - A comprises of four (4) parts with total of 100 questions. All questions are objective type and of multiple choices with four (4) options of answers. Below are the details of all the Parts.

Part-1: General Knowledge (20 questions). Questions will come from - basic general knowledge, current affairs, basic history knowledge, sports, music, art etc.

Part-2: English Communication (20 questions). Questions will come from - Word Formation, Vocabulary extension. Elements of Grammar: Sentence elements, parts of speech, static and dynamic, Pro-forms, question and negation, tag question. Verbs and the verb phrases, appropriate preposition. Articles and determiners, Revision of Present, Past and future tenses, Punctuations, Types of sentences, Structure of sentences, word order.

Part-3: Computer Fundamentals (30 questions). Questions will come from - basic computer knowledge, computer parts, functions, input-output devices, basic MS office, typing, printing etc.

Part-4: Creative Ability (30 questions). Questions will come from – simple puzzles, image/symbol identification, basic general knowledge of art, design and creative field etc.

All questions carry equal marks of one (1) and total is Hundred (100).

NOTE: There is no negative marking.

Section-B comprises of two (2) parts with total of 200 marks.

Part-1: Skill based drawing (100 marks).

This part will contain two (2) questions of equal marks (50+50) where 2 different types of drawings/

sketches will be given. Candidates need to see and draw them neatly on the drawing sheet provided.

Evaluation criteria: Evaluation will be based on the accuracy, neatness, skill and approach towards the drawing.

Part-2: Creative drawing (100 marks).

This part will contain two (2) questions of equal marks (50+50). Questions will be asked to create/ visualize concept based drawing on a particular subject. For example –

1. Create a poster on "Swach Bharat Mission" addressing to school children and give a Tagline to the poster.

2. Draw a scenario of your favorite hangout place such as coffee shop, classroom, playground, park etc. You need to visualize the scenario with different characters (e.g., friends, other people, dogs etc.) and objects (e.g., chairs, tables, eatery items, sports items etc.)

Evaluation criteria: Evaluation will be based on overall concept, approach to the question, meaningfulness, drawing skill, detailing and appeal. Candidates also need to explain/express the idea behind the concept drawings they made in clear language.

Candidates have to attempt both the parts in **Section-B.** Both the parts carry equal marks of Hundred (100) each. Total is Two Hundred (200).

NOTE: For **Section-B**, drawing sheets will be provided separately. Candidates need to draw all the **Section-B** questions in the drawing sheets provided only. Drawing sheets will be provided only after the submission of **Section-A** answer sheet done within one (1) hour from the commencement of test.

Time duration for Section-A: One (1) hour and **Section-B: Two (2) hour.**

Details of the syllabus:

Section-A: (objective type question) Total Marks: 100, Time: One (1) hour

- General knowledge (20 questions)
- Computer fundamentals (30 questions)
- English communication (20 questions)
- Creative ability (30 questions)

Section-B (creative drawing / skill based drawing) Total marks: 200, Time: Two (2) hour

- Skill based drawing (100 marks: 2 questions of 50 marks each)
- Creative / concept based drawing (100 marks: 2 questions of 50 marks each)

33. FORMAT AND SYLLABI OF CITLET - 2017

First Paper: Common Paper (Marks: 60, Time: 1 hour 30 mins). Common Paper will be compulsory and consists of the subjects:

(a) Physics: 10 marks

(b) Chemistry: 10 marks

(c) Mathematics: 20 marks

(d) Graphics: 10 marks

(e) Computer and General Awareness: 5 marks

(f) English: 5 marks.

The standard of the paper will be that of 1st year of the B.Tech. course.

Physics: Work, Power, Energy, Friction, Viscosity, Electricity, Hydrostatics, Basics of optics, Laws of motion, Heat.

Chemistry: Gas Laws, Thermodynamics, Electro Chemistry, Chemical Kinetics, Benzene and derivatives, Aldehydes and Ketens, Hydro carbons, Acids & Alcohols.

Mathematics: Matrices, Determinants, Differential & Integral Calculus, Inverse Trigonometric Functions, Binomial Theorem, Probability, Statics, Plane Coordinate Geometry, ordinary Differential Equations.

English: Grammar & Composition.

Graphics: Scale, Orthographic projection including sectional view, Isometric view, free hand sketch.

Second Paper: Branch Papers (Marks – 40, Time – 1 hour): The Branch papers will be separate for the six branches of Engineering of the Institute. This paper will be of the standard of Diploma Course of the concerned branch. The syllabi for branch papers for the six branches are given below.

33.1 ELECTRONICS AND COMMUNICATION ENGINEERING

1. **Materials and Components:** Structure and properties of Electrical Engineering materials: Conductors, Semiconductors and Insulators, Magnetic, Ferroelectric, Piezoelectric, Ceramic, Optical and Super conducting materials. Passive components and characteristics Resistors, Capacitors and Inductors; Ferrites, Quartz crystal Ceramic resonators, Electromagnetic and Electromechanical components.

2. **Physical Electronics Electron Devices and ICs:** Electrons and holes in semiconductors, Carrier Statistics, Mechanism of current flow in a semiconductor, working principle and basic structure of BJTs and FETs.

3. **Network Theory:** Network analysis, Loop Analysis, Mesh Analysis; Network Theorems, Superposition Theorem, Thevenin's Theorem, Notron's Theorem, Reciprocity Theorem, Millman's Theorem, Star-Delta Connections, Two port networks.

4. **Electronic Measurements and Instrumentation:** Basic concepts, standards and error analysis; Measurements of basic electrical quantities and parameters; Electronic measuring instruments and their principles of working; analog and digital, comparison, characteristics, application Transducers; Electronic measurements of non electrical quantities like temperature, pressure, humidity, etc.

5. **Analog Electronic Circuits:** Transistorsbiasing and stabilization, small signal analysis, power amplifiers, frequency response, wide banding techniques, feedback amplifiers, Tuned amplifiers, Oscillators, Rectifiers and power supplies, Op Amp.

6. **Digital Electronic Circuits:** Binary number system, Octal, Hexadecimal and BCD numbers system, Boolean algebra, simplification of Boolean functions, Karnaugh map and applications, IC logic, Combination logic circuits, Half adder, Full adder, Digital comparator, Multiplexer, Demultiplexer, Flip Flops, R-S, J-K, D and T flip-flops, different types of counters and registers, A/D and D/A converters, semiconductor memories.

7. **Control Systems:** Types of Control system, Open Loop and Closed Loop Control system, Effect of feedback on stability and sensitivity; Block Diagram Reduction Technique, Signal Flow Graph, Stability Analysis, Routh's Stability Criterion.

8. **Communication System:** Basic Mathematical Tools like Fourier Series, Modulation and detection in analogue and digital system; Sampling and data reconstructions; Propagation of signals at HF, VHF, UHF and microwave frequency.

9. **Computer Engineering:** Number system, Data representation; Programming; Elements of a high level programming language PASCAL/C; Use of basic data structures, Fundamentals of computer architecture, processor design, control unit design, memory organization, I/O system organization, microprocessors, architecture and instruction set of microprocessors 8085, Assembly language programming.

33.2 COMPUTER SCIENCE AND ENGINEERING

1. **Programming Languages C, C++ :** Data types, variables, operators, expressions, input-output operators, control structure, functions, storage classes, array, pointers, structures, Unions, file handling, concepts of OOP, Data types, Operators, Functions, Classes, Objects, Constructor, Destructor Operator overloading, Function overloading, Inheritance, Polymorphism.

2. **Digital Structure and Operating Systems:** Time and space complexity, Array, String, Stack, Queue, Linked List, Tree, Graph, Different sorting and searching techniques, Concepts regarding Batch systems, Multiprogrammed system, Time sharing systems, distributed systems, Real time system, Process, CPU scheduling, Synchronisation Dead Lock, Memory management, Virtual memory.

3. **Digital Electronics & Microprocessor:** Numbering system, different coding methods, Boolean algebra, logic gates, minimization techniques, combinational logic design, Flip flops, sequential logic design i.e. counter & shift registers, Pin Diagram and Block Diagram of 8085 microproces-

sors, Timing diagram, Instruction set Addressing modes, Assembly language programming, Interfacing peripheral devices.

4. **Computer Organisation & Architecture:** Basic organization of computer, classification of computer, Introduction to compiler, Interpreter, Loader, Linker, Design of functional units like ALU & CU, Memory organization – Types of memory, RAM, ROM, Cache memory, Mapping functions, secondary memory, Virtual memory. Input-output organization. Methods of interfacing. Address-space partitioning, Data transfer technique, Interrupts.

5. **Computer Network and DBMS:** OSI Reference Model, TCP/IP Model, Network Topologies, Transmission media, Switching, Multiplexing, Error Detection & Correction, IEEE LAN standards, Routing methods. Introduction to database, Advantages of database, Different models – Relational, Hierarchical, Network, E-R models, Relational algebra, Calculus, Normal forms, SQL query.

33.3   INSTRUMENTATION ENGINEERING

1. **Network Theory:** Network analysis techniques, Nodal Analysis, Loop Analysis, Mesh Analysis; Network Theorems; Superposition Theorem, Thevenin's Theorem, Norton's Theorem, Reciprocity Theorem, Mollman's Theorem, Star-Delta Connections, Two port networks.

2. **Electronic Measurements and Instrumentation:** Basic concepts, standards and error analysis; Measurements of basic electrical quantities and parameters; Electronic measuring instruments and their principles of working; analog and digital, comparison, characteristics, application Transducers; Electronic measurements of non electrical quantities like temperature, pressure, humidity, etc.

3. **Analog Electronic Circuits:** Transistorsbiasing and stabilization, small signal analysis, power amplifiers, frequency response, wide banding techniques, feedback amplifiers, Tuned amplifiers, Oscillators, Rectifiers and power supplies, Op Amp.

4. **Digital Electronic Circuits:** Binary number system, Octal, Hexadecimal and BCD numbers system, Boolean algebra, simplification of Boolean functions, Karnaugh map and applications, IC logic, Combination logic circuits, Half adder, Full adder, Digital comparator, Multiplexer, Demultiplexer, Flip Flops, R-S, J-K, D and T flip-flops, different types of counters and registers, A/D and D/A converters, semiconductor memories.

5. **Control Systems:** Types of Control system, Open Loop and Closed Loop Control system, Effect of feedback on stability and sensitivity; Block Diagram Reduction Technique, Signal Flow Graph, Stability Analysis, Routh's Stability Criterion.

6. **Microprocessors:** Number systems, Data representation; microprocessors; Architecture and Instruction set of Microprocessors 8085, Assembly language programming.

33.4   FOOD ENGINEERING AND TECHNOLOGY

1. **Engineering Thermodynamics:** Zeroth law, first law, second law. Concepts of enthalpy, internal energy, entropy and absolute temperature. Properties of pure substances and mixtures, reversibility and irreversibility. Thermodynamics cycles. Refrigeration and air conditioning: Refrigeration cycles, heat pump. Application of refrigeration in food processing and preservation. Food freezing systems. Steam: steam generation, steam properties and application. Psychrometrics: properties of air water vapour mixer; psychrometric properties, charts and relations and psychro metric calculations.

2. **Heat and Mass Transfer:** Principles of heat and mass transfer to heat, different methods of heat transfer, Fourier's Law, Steady state heat transfer through plain and composite slabs, cylindrical and spherical surfaces. Natural and forced convection, concept of overall heat transfer coefficient, LMTD, heat exchangers in food processing, effectiveness of heat exchanger. Fick's Law of diffusion and basic concepts of convective mass transfer.

3. **Basic Fluid Mechanics :** Physical properties

of fluids, classification of fluid flow, continuity equations, Bernoulli's equation and its application, steady state flow equation, concept of viscosity, Newtonian and non-Newtonian fluids. Poiseuille's equation. Navier Stoke's equation, flow through parallel plates and circular pipes. Concept of Reynold's number and its application. Pipe and pipe flow, fittings. Pumps, types of pumps and their application and selection.

4. **Food Engineering Operations:** Materials and introduction energy balance for food engineering processes. Size eduction, mechanical expression, mechanical separation, mixing and agitation, emulsification and homogenization. Filtration, membrane separation, sedimentation, centrifugation, crystallization, extraction, distillation, absorption, humidification and dehumidification. Thermal processing of foods, Food concentration: Evaporation, equipments, their selection and calculation. Freeze concentration. Drying and dehydration methods, different kinds of dryers, their selection and design.

5. **Food Microbiology:** Microbiology and reproduction of bacteria. Pure culture technique: serial dilution, pour plate, streak plate, spread plate, slant, broth and enrichment culture, lyophilization. Microbial Growth: Definition, Growth curve, account of different phases, synchronous growth, doubling/ generation time. Relationship between number of generations and total number of microbes. Disinfecting agents and its dynamics. Enzymes, specificity of enzymes, coenzymes, cofactors, Enzymes inhibitors and activators. Applications of enzymes in food industry, immobilized enzymes. Definition, scope and present status of Biotechnology and its applications, Microbial propagation and production of SCP, Fermentation: Fermented and non Fermented food, cereal fermentation.

6. **Food Chemistry:** Importance of different food constituent, Carbohydrate and its classification and functions. Proteins, classification and properties of amino acids. Lipids structure, physical and chemical properties. Vitamins and minerals in food. Food spoilage: Types and factors, Food enzymes,

7. **Food preservation techniques:** Addition of salt,

sugar, oil, spices, preservative, drying, evaporation, heat treatment, irradiation, refrigeration, freezing, plant physiology: Transpiration, Ripening, Senescence, Post-Harvest technology and its importance, Climacteric and non-climacteric fruits.

8. **Food Product Technology:** Parboiling, Milling of rice, wheat, malting, storage atmospheres: Quality control and quality assurance, different quality attributes: qualitative, hidden and sensory, HACCP and its application, Food adulteration: types, Estimation of moisture, crude, fat, proteins, crude fibre, ash, sampling and its types, BIS, AGMARK, FPA, PFA, FAO

33.5 CIVIL ENGINEERING (CONSTRUCTION TECHNOLOGY)

Unit I: Construction Materials

Bricks: Manufacturing processes, classification and tests. Flooring and roofing tiles. Production, properties and uses of lime; cement and sand-mortar. Concrete: Plain and reinforced, Timber: types and methods of preservation, plywood, Iron and structural steel, Types and uses of paints, varnishes and distemper. Sound and heat insulting materials; Glasses; plastics and asphaltic materials.

Unit II: Surveying

Introduction to surveying, chain surveying, Compass surveying, Leveling, Contouring, Theodolite, Traversing, Total Station Survey, Tacheometry, Curves, Plane Table Surveying, Trigonometrical leveling.

Unit III: Strength of Materials

Concept of Stress & Strain, normal & shearing stress and strains, stress-strain relationship, torsion of circular shafts. Column's-Euler formula, Rankine and Secant formulae, Relationships between load, shearing force and bending moment, shear force and bending moment diagrams, Theory of simple bending stresses in beams, Bending and shear stress distribution over cross-sections of determinate beams. Principal stress and strain, principal planes, mohr's circle of stresses and strain and related problems.

Unit IV: Structural Analysis

Three Hinged Arch, Cables and Suspension Bridges,

Influence Line Diagram for Reaction, Shear, Bending Moment and their maximum & minimum values for determinate beams, arches and trusses, Deflections by moment- area, conjugate beam and energy methods. Degree of indeterminacy and stability, Principles of superposition, Betti's law, Castigliano's theorems, Analysis of indeterminate beams by strain- energy and virtual work methods.

Unit IV: Concrete Technology

Concrete: Importance, Production of concrete, operations involved, grades, Ingredients, yield of concrete, Aggregates, Cement, Water. Properties of green and hardened concrete, Rheology and mix proportioning. Admixtures, Quality Control.

Unit V: Geotechnical and Transportation Engineering

Introduction, definitions and relationships; Index properties of soils, Soil classification, Soil compaction, Permeability and Seepage, Effective stress, Stress distribution in soil mass, One dimensional consolidation, Shear strength of soils and shear tests.

Roads; Introduction, Classification of road pattern; Geometric design, Traffic control devices; Railways – Rails, sleepers, ballast; Geometrics for broad gauge, cent deficiency; points and crossing, station yard, Construction of WBM, Black top and concrete pavements including grade and base courses. Equipments used for road construction

Unit VI: Design of RCC Structures

Introduction of Design Concepts, Working Stress Method of Design, Design of Rectangular and Flanged Beams for Flexure, Design of rectangular and flanges beams for bond, shear and torsion. One-way, Two Way and Continuous slabs. Axially and Eccentrically Loaded Short Columns, axially and eccentrically loaded long columns, Isolated Footings, Limit State Method of Design for flexure, shear, torsion and compression.

Unit VII: Design of Steel Structures

Properties of steel and rolled steel sections, Design of riveted connections, Design of welded and bolted connections, Design of tension and simple compression members, Design compression members with splicing, lacing, and battening. Design of Beam-Column connections, Design of laterally supported beams, Column bases and foundations and Roof trusses.

Unit VIII: Fluid Mechanics

Properties of fluid, Fundamentals of fluid flow, two dimensional and three dimensional flows, Streamline, stream tube, equation of continuity. Energy equation and its applications, Fluid flow in pipes - Reynolds number, critical velocity, laminar flow, turbulent flow, shearing stresses at pipe wall, velocity distribution, loss of head for laminar flow, steady incompressible flow through simple pipe systems, Darcy - Weisbach equation, Moody diagram, simple pipe flow problems, losses of head for sudden expansion and sudden contraction, various fittings. Fluid measurements - velocity measurement, Pitot tube, coefficient of discharge, coefficient of velocity, coefficient of contraction, orifices, orifice meter, Venturimeter, time to empty tanks, weirs and notches.

33.6   INFORMATION TECHNOLOGY

Unit 1: Fundamentals of Computer

History, generation, classification, von neumann architecture, Functions of the different unitsof computer,hardware and software, peripherals, ASCII, Unicode standards etc.

Unit 2: Digital Electronics

Binary, Octal and hexadecimal number system, Binary addition, subtraction, multiplication and division, Boolean algebra, Logic Gates, DE Morgan's Theorems, K-Map, BCD, Arithmetic circuits, Decoders,Multiplexers and De-Multiplexers, flip flops, Counters, Types of RAM/ROM.

Unit 3: Programming Language C

Constants, variables and data types, Operators and Expressions, Control Structures, Functions,Arrays, Pointers, Strings, Structure and Unions, File Handling.

Unit 4: Introduction to Databases

Architecture and structure of Database Management System, data independence, ER Diagrams, Introduction to network, hierarchical and relational model, Domain, Attributes, Tuples and Relations, Entity and referential integrity, keys, Normalization, First,

Second and Third normal forms, Boyce/Codd normal form, Structured Query Language: DDL and DML statements.

Unit 5: Data Structure

Basics, Arrays, Operations on arrays with Algorithms (searching, traversing, inserting, deleting), Traversing a linked list, Searching linked list, Insertion and deletion into linked list, Application of linked lists, Doubly linked lists, Stacks, Queues, Binary Trees, Search algorithm (Linear and Binary), Sorting algorithms (Bubble Sort, Insertion Sort, Quick Sort, Selection Sort, Merge Sort, Heap Sort) and their comparisons.

Unit 6: Computer Architecture and Organization

Instruction Code, Instruction Cycle, Instruction types, Design of basic computer, Register Organization, Addressing modes, Introduction to RISC, CISC architecture, Control Unit – Hard wired and Micro programmed, Pipeline processing, Memory Hierarchy, associative memory, cache memory, virtual memory, I/O organization.

Unit 7: Data Communication and Computer Networks

LAN, MAN and WAN, OSI Model, Topologies, Basic access protocols: CSMA/CD, Token Passing, Ethernet, Error Detection, Network connectivity Devices, NICs, Hubs, Repeaters, Multiplexers, Modems, Routers and Protocols, Firewall, ATM, Different classes of IP addressing, Protocol Suites.

Unit 8: Operating System (OS)

System Software: Compiler, Assembler, Loader, linker, debugger. Definition, types and importance of Operating Systems, Memory organization, Process Management Functions, Process Scheduler, scheduling algorithms, Process synchronization, Memory Management Function, Segmentation, deadlock, Swapping, Simple Paging System, Virtual Memory, I/O Management Functions.

Unit 9: Multimedia

Multimedia hardware, sound cards, CD ROMS, full motion Digital Video.

Unit 10: Internet

Introduction to FTP, TELNET, E-mail, web browser and web servers.

34   IMPORTANT INFORMATION

1. Candidates should not send any photocopy of the certificates except the certificate claiming the reservation category (Caste Certificate) incase he/she belongs to any.

2. The appearing /appeared candidates are also allowed to appear in the Entrance Examination provisionally. However, he/she must produce the original certificates at the time of counseling. In case a candidate fails to submit the same, the candidature will be rejected.

3. **Details of Bank Draft:** Candidates who apply through the online Application Form from the CIT website: www.cit.ac.in must submit the system generated filled form along with a demand draft of Rs.1000/-(one thousand only) for GEN/OBC and Rs.500/-(five hundred only) for SC/ST/PC candidates drawn in favour of '**Entrance Examination CIT, Kokrajhar** 'payable at SBI, Balagaon, Kokrajhar (Code No. 7379). Please ensure that Demand Draft is not defective in any way. The fee is not refundable.

4. **Admit Card and Envelope:** Fill the Admit Card carefully and paste an identical passport photograph. Leave the spaces on Admit Card for Examination Centre Code, Roll No and Place of Examination. Affix a postage stamp of Rs 40/-on the envelope for admit card. You must not mutilate the Admit Card or change any entry made on it, after it has been authenticated. If a candidate does not receive the Admit card, he/she may download a copy of the same from the CIT website: **www.cit.ac.in**

35   GUIDELINES FOR FILLING OF APPLICATION FORM

Please read carefully the instructions given in this section before filling in the Application Form. To avoid mistakes and overwriting you may complete the entries item first on a plain paper, and after proper scrutiny, transfer the same onto the Application Form. The Application Form must be filled in English only. Use Capital letters except the signature. Note that only one application form is admissible.

Any violation of the instruction may make your application invalid. Incomplete application form will be rejected. While filling up information in the boxes, always leave a blank between two words.

35.1 Important Terms

Permanent Residence Certificate (PRC): All the candidates have to produce a Permanent Residence Certificate (PRC) issued by a competent authority. It is on the basis of this that admission would be granted and placed in the appropriate region which consists of BTAD, NE(Outside BTAD) or All India. If discrepancies are found in the region quoted by the candidate in the application form and that furnished in the certificate then the admission will stand cancelled. This certificate is a must and without it admission will not be done.

Caste Certificate: The candidates belonging to Scheduled Tribe (ST), Scheduled Caste (SC) and Other Backward Classes (OBC) must produce a Caste Certificate issued from such a competent authority as District Magistrate, SDO (Civil), etc. This certificate is a must during the counselling and without it admission will not be done.

Medical Certificate: The medical certificate is to be obtained from a govt. medical doctor after a general checkup which should state that the candidate is fit to undergo a rigorous technical education and training and that there is no serious illness which would impede the normal attendance and study. A separate medical certificate from an eye specialist is to be obtained who would certify the fitness of the candidate with regards to eye sight.

Gap Certificate: If there is a gap period between the year of passing of qualifying examination and the year of admission then the candidate has to show a Gap Certificate issued by a competent authority in which the candidate was engaged during this period of stay. Such an authority may be the head of an institution if the candidate was doing a course, head of an organization if employed or a court affidavit mentioning the reasons for the gap period.

35.2 Important Codes and Code numbers

35.2.1 Entrance Test/Entry Scheme:

ENTRANCE	CODE	CODE NO.
Diploma	CITEE	01
Diploma (PAT)	PAT	02
B. Tech. (Direct)	CITDEE	03
JEE Main	JEE	04
B. Tech. (Vertical)	CITVAD	05
B. Tech. (Lateral)	CITLET	06
B. Tech. (Direct)	CITDEE & JEE	07
B. Tech. (Lateral/ Vertical)	CITLET & CITVAD	08
B. Des. (Direct)	CITBDAT	09
B. Des. (Vertical)	CITBDVAD	10
B. Des. (Direct)	UCEED	11

35.2.2 Examination Centre

EXAMINATION CENTRE	CODE	CODE NO.
KOKRAJHAR	KOK	1
GUWAHATI	GUW	2
UDALGURI	UDL	3
BARAMA	BAR	4
KAJALGAON	KAJ	5
JORHAT	JOR	6

If there are less than 75 applicants for a particular Examination Centre, then candidates will be shifted to their next choice of Examination Centre.

35.2.3 Reservation Category

RESERVATION CATEGORY	CODE	CODE NO.
Open	OPN	1
Other Backward Classes	OBC	2
Scheduled Castes	SC	3
Scheduled Tribes	ST	4
Physically Challanged	PC	5

35.2.4 Region of Permanent Residence

REGION	CODE	CODE NO.
All India (excluding NE & BTAD)	AI	1
North Eastern (excluding BTAD)	NE	2
Bodoland Territorial Autonomous Districts	BTAD	3

35.2.5 Caste

CASTE NAME	CODE	CODE NO.
General	GEN	1
Other Backward Classes	OBC	2
Scheduled Castes	SC	3
Scheduled Tribes	ST	4
Others	OTH	5

35.2.6 Nationality

NATIONALITY	CODE	CODE NO.
Indian	IND	1
Non Indian	NIN	2

35.3   Instructions for the Candidates:

Read the following instructions carefully before filling the Application Form-

- Application Form must be used in original. Duplicate/Xerox Application form will be rejected.

- Do not mutilate or write anywhere else except as instructed.

- Do not use whitening fluid.

- Do not overwrite in the entries.

- The box for Roll No. is not to be filled by the candidate. (It will be filled by office).

Para 1: Write Application form Number in the space provided, which is given on the inside cover page of the Information Brochure.

Para 2: Tick the correct option for programme applied into which the admission will be sought for.

Para 3: Write your name in the space provided in BLOCK CAPITAL LETTERS. Do not write Sri/Shri/Mr/Miss/Dr, etc.

Para 4: Write your father's name in the space provided. Do not write Sri/Shri/Mr/Miss/Dr, etc.

Para 5: Write your mothers' name in the space provided. Do not write Sri/Shri/Mr/Miss/Dr, etc.

Para 6: Write your date of birth in the format dd-mm-yy in the space provided.

Para 7: Write your valid e-mail address and valid Mobile Number in the space provided. Write only valid e-mail and Mobile Phone Number since later communication may be through e-mail and SMS Alert only.

Para 8: Write the correct code and code number related to your entry scheme.

Para 9: Write the correct code and code number related to your first, second and third choice of entrance examination centre. Note that Entrance Examination centre may be cancelled/changed to next choice in case the number of applicants happens to be less than 200.

Para 10: Write the correct code and code number related to your region of permanent residence. This entry must be supported by a PERMANENT RESIDENCE CERTIFICATE issued by a competent authority to be produced during the day of counseling & admission.

Para 11: Write the correct code and code number related to your category. This entry must be supported by a CASTE CERTIFICATE issued by a authority to be produced during the day of counseling & admission.

Para 12: Write the correct code and code number related to your nationality.

Para 13: Tick in the box provided whether appeared or passed the eligibility examination.

Para 14: Tick in the box provided whether you are male or female.

Para 15: Fill your correspondence address clearly in capital letters in full.

Para 16: Fill your permanent address clearly in capital letters in full.

Para 17: Fill and put your signature. Your parent/ guardian should do the same. Unsigned applications are automatically rejected.

Para 18: Do not forget to paste a recent colour photo duly attested by a Class-I gazetted Officer. Enclose three more unattested identical photographs.

36   CHECK LIST

After filling in the Application Form, check carefully that

• You have filled up all Para 1 to 17 of the Application Form.

• You have enclosed the certificate for claiming your Reservation category.

• You have enclosed an unattested identical photograph with your name written below.

• You have written your Mailing Address (including PIN CODE) on the envelope for sending the Admit card.

• You have pasted a postage stamp of Rs. 40/- on the self addressed envelope for admit card.

• You have enclosed a Demand Draft of Rs 1000/-if you are GEN/OBC or Rs 500/- if you are SC/ST/PC in case the Application Form was filled online.

Annexure I

AFFIDAVIT
(BY STUDENT)

I, Mr./Ms……………………………………………………......… S/o D/o …………………………………………………………..………….…
Roll No. …………………..……………………….… Class ……………………………… Deptt: ………………………………………………,
having been admitted to Central Institute of Technology, Kokrajhar, have carefully read and fully understood the Regulations on Curbing the Menace of Ragging in AICTE Approved Technical Institutions, which has been notified by AICTE vide F.No.37.3/Legal/AICTE/2009, dt. July 1, 2009 *(available at http://www.seti.edu.in/AICTE anti-ragging-notification)* (hereinafter called the "Regulations") and the directives of the Hon'ble Supreme Court of India.

1. I have, in particular, perused clause 4 of the Regulations and am aware as to what constitutes ragging and know that the ragging in any form is a punishable offence and the same is banned by the Court of Law.

2. That I have not been found or charged for my involvement in any kind of ragging in the past. However, I undertake to face disciplinary action/legal proceedings including expulsion from the Institute if the above statement is found to be untrue or the facts are concealed, at any stage in future.

3. That I shall not resort to ragging in any form at any place and shall abide by the rules/laws prescribed by the Courts, Govt. of India and the Institute authorities for the purpose from time to time.

4. I have also, in particular, perused clause 8, sub-clause 4 (a) of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging at any stage and any place inside and outside of the institute.

Declared this _____ day of _____ month of _____ year.

_____
Signature of deponent   Name:

Address: Telephone/ Mobile No:

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or misstated therein.
Verified at ……………................... (place) on this the …………….......... (day) of …………............ (month) ……….............. (year)
_____
Signature of deponent

Solemnly affirmed and signed in my presence on this the (day) of (month) (year) after reading the contents of this affidavit

OATH COMMISSIONER

Annexure II

AFFIDAVIT

(BY PARENT/GUARDIAN)

I, Mr./Mrs./Ms……………………………………..……………..…….(full name of parent/guardian) father/mother/ guardian of …………………………….……..……… Roll No. …………..………………(full name of student with roll number), having been admitted to Central Institute of Technology, Kokrajhar; have carefully read and fully understood the Regulations on Curbing the Menace of Ragging in AICTE Approved Technical Institutions, which has been notified by AICTE vide F.No.37.3/Legal/AICTE/2009, dt. July 1, 2009 *(available at http://www.seti.edu.in/AICTE anti-ragging-notification)* (hereinafter called the "Regulations") and the directives of the Hon'ble Supreme Court of India.

1. I have, in particular, perused clause 4 of the Regulations and am aware as to what constitutes ragging.
2. I have also, in particular, perused clause 8, sub-clause 4 (a) of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against my ward in case he/she is found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
3. I hereby solemnly aver and undertake that
   • My ward will not indulge in any behavior or act that may be constituted as ragging under clause 4 of the Regulations.
   • My ward will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 4 of the Regulations.
4. I hereby affirm that, if found guilty of ragging, my ward is liable for punishment according to clause 8, sub-clause 4(a) of the Regulations, without prejudice to any other criminal action that may be taken against my ward under any penal law or any law for the time being in force.
5. I hereby declare that my ward has not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, the admission of my ward is liable to be cancelled.

Declared this _____ day of _____ month of _____ year.

_____
Signature of deponent   Name:

Address: Telephone/ Mobile No:

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or misstated therein.

Verified at ……………..…………………… (place) on this the ……..……………(day) of ……….…...(month) …………... (year)

_____
Signature of deponent

Solemnly affirmed and signed in my presence on this the ……………. (day) of …………... (month) ……………(year) after reading the contents of this affidavit.

OATH COMMISSIONER

Annexure III

AFFIDAVIT FOR HOSTEL
(BY STUDENT)

I, Mr./Ms. ………………………………………………...…………........… S/o D/o …………………………………………………………........…………
Roll No. ……………....…............. Class ……………….................. Deptt: …………………………................, having been admitted to Central Institute of Technology, Kokrajhar and taken admission in the hostel , have carefully read and fully understood the Regulations on Curbing the Menace of Ragging in AICTE Approved Technical Institutions, which has been notified by AICTE vide F.No.37.3/Legal/AICTE/2009, dt. July 1, 2009 (available at http://www. seti.edu.in/AICTE anti-ragging-notification) (hereinafter called the "Regulations") and the directives of the Hon'ble Supreme Court of India.

1. I have, in particular, perused clause 4 of the Regulations and am aware as to what constitutes ragging and know that the ragging in any form is a punishable offence and the same is banned by the Court of Law and shall be liable for any kind of action taken by the Institute authority if found involved in any such activities.

2. That I have not been found or charged for my involvement in any kind of ragging in the past. However, I undertake to face disciplinary action/legal proceedings including expulsion from the Institute if the above statement is found to be untrue or the facts are concealed, at any stage in future.

3. That I shall not resort to ragging in any form at hostel premises and shall abide by the rules/laws pre-scribed by the Courts, Govt. of India and all the rules and regulations framed for the hostel by the Institute authorities for the purpose from time to time.

4. I have also, in particular, perused clause 8, sub-clause 4 (a) of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abet-ting ragging, actively or passively, or being part of a conspiracy to promote ragging at any stage and any place inside and outside of the hostel.

Declared this _____day of _____ month of _____ year.

_____
Signature of deponent   Name:

Address: Telephone/ Mobile No:

VERIFICATION
Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or misstated therein.
Verified at ……….......……............... (place) on this the ………….............. (day) of ……….......... (month) ………........... (year)

_____
Signature of deponent

Solemnly affirmed and signed in my presence on this the (day) of (month) (year) after reading the contents of this affidavit

OATH COMMISSIONER

ROLL NO. (To be filled by the office)								**CENTRAL INSTITUTE OF TECHNOLOGY**
								KOKRAJHAR

APPLICATION FORM 2017

1	Application Form Number							AFFIX A RECENT COLOUR PASSPORT SIZE PHOTOGRAPH
2	PROGRAMME APPLIED FOR (TICK ON THE RIGHT BOX)	DIPLOMA		*Tick here*				
		B. TECH. (DIRECT ENTRY)		*Tick here*				
		B. TECH. (LATERAL)		*Tick here*				
		B. DES. (DIRECT ENTRY)		*Tick here*				
3	NAME OF CANDIDATE (IN BLOCK LETTERS)							
4	FATHER'S NAME							
5	MOTHER'S NAME							
6	DATE OF BIRTH							
7	EMAIL			MOBILE NO.				

8	ENTRANCE TEST/ENTRY SCHEME		CODE LETTERS	CODE NUMBER

9	EXAMINATION CENTRE	CHOICE 01	CODE LETTERS	CODE NUMBER
		CHOICE 02	CODE LETTERS	CODE NUMBER
		CHOICE 03	CODE LETTERS	CODE NUMBER

10	REGION OF PERMANENT RESIDENCE (WETHER BTAD/NORTH-EAST/ALL INDIA)	CODE LETTERS	CODE NUMBER
11	RESERVATION CATEGORY (WHETHER ST/SC/OBC/OPEN/PC)	CODE LETTERS	CODE NUMBER
12	NATIONALITY (WETHER INDIAN/NON-INDIAN)	CODE LETTERS	CODE NUMBER

13	ELIGIBILTY (TICK)	APPEARED	*Tick here*	PASSED	*Tick here*
14	GENDER	MALE	*Tick here*	FEMALE	*Tick here*

15	ADDRESS FOR COMMUNICATION (IN BLOCK LETTERS)	MR/MS	
		C/O	
		VILLAGE/TOWN/CITY	
		POST OFFICE	
		DISTRICT	
		STATE	PIN CODE
		PHONE/ MOBILE NO	

16	PERMANENT ADREESS (IN BLOCK LETTERS)	MR/MS	
		C/O	
		VILLAGE/TOWN/CITY	
		POST OFFICE	
		DISTRICT	
		STATE	PIN CODE
		PHONE/ MOBILE NO	

17	DECLARATION
	I, _____ hereby declare that the information furnished in this application is true and correct to the best of my knowledge and belief. I understand that, in case of any discrepancy detected at any stage, my candidature/admission shall be liable to be cancelled.

Parent's Signature		Candidate's Signature	
Date		Date	

IMPORTANT DATES	Diploma	Degree		
	CITEE 2017	CITDEE 2017	CITLET 2017	CITBDAT 2017
Issue of Information Brochure	13-02-2017			
Last Date of Application submission (online/offline)	17-04-2017 (Online)		24-04-2017 (Offline)	
Date of Exam	07-05-2017			
Declaration of results	26-05-2017			
1st Counseling & admission	28-06-2017	28-06-2017	18-07-2017	28-06-2017 (for Direct Entry) 18-07-2017 (for Vertical Entry)
2nd Counseling & admission	05-07-2017	05-07-2017	18-07-2017	
3rd Counseling & admission	18-07-2017			

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