ORGANISATION
OF ISLAMIC
COOPERATION (OIC)

ISLAMIC UNIVERSITY OF TECHNOLOGY

UNIVERSITE ISLAMIQUE DE TECHNOLOGIE

ACADEMIC CATALOGUE 2020

DEPARTMENT OF BUSINESS & TECHNOLOGY MANAGEMENT

بِسْمِ اللهِ الرَّحْمٰنِ الرَّحِيْمِ

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

COURSE STRUCTURE
AND
COURSE CONTENTS

ACADEMIC CATALOGUE 2019-20

Department of

B Business and

T echnology

M anagement

January 2020

Islamic University of Technology
IUT Academic Catalogue 2019-20

First Edition

Reasonable care has been taken to make this edition of the Academic Catalogue accurate and up-to-date when published but the matters covered by the Academic Catalogue may be changed from time to time.

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Disclaimer

The information contained in this Academic Catalogue is intended to provide guidance to those who are concerned with the undergraduate and postgraduate studies at the Islamic University of Technology. No responsibility will be borne by IUT if any inconvenience or expenditure is caused to any person because of the information in this Academic Catalogue.

Chancellor of IUT

H.E. Dr. Yousef bin Ahmad Al-Othaimeen

Secretary General of the Organisation of Islamic Cooperation (OIC)

His Excellency Dr. Yousef bin Ahmad Al-Othaimeen is the Secretary General of the Organisation of Islamic Cooperation (OIC) since November 2016.

H. E. Al-Othaimeen obtained bachelor's degree in Social Studies from King Saud University in Riyadh (1977), MA in Political Sociology from Ohio University (1982), and PhD in Political Sociology from the American University in Washington DC (1986).

H. E. Al-Othaimeen was the Minister of Social Affairs, Kingdom of Saudi Arabia and held many important posts like Secretary General of King Abdullah bin Abdulaziz Foundation for Housing Development, Director General of Prince Salman Charity Society for Orphans' Care, Assistant Deputy Minister for Social Welfare at the Ministry of Labor and Social Affairs, KSA, Assistant Deputy Minister for Rehabilitation of the Handicapped at the Ministry of Labor and Social Affairs, KSA, Adviser to the Minister of Labor and Social Affairs, KSA. His Excellency also taught at King Saud University.

Acting Vice-Chancellor

Dr. Omar Jah

Islamic University of Technology (IUT)

Dr. Omar Jah was Deputy-Vice-Chancellor (Administration and Finance) of the University of The Gambia, Faraba Campus. He received his Ph.D degree from International Institute of Islamic Thought & Civilisation (ISTAC), Malaysia. He has wide experience and reputation as an administrator and academician. Dr. Omar Jah joined as Pro-Vice-Chancellor, Islamic University of Technology (IUT) on November 2016. Now he is the acting Vice-Chancellor of IUT.

PREFACE

The Department of Business and Technology Management (BTM) is the newest department of the Islamic University of Technology (IUT) with an annual intake of 50 undergraduate students. It offers students a unique hands-on experience in state-of-the-art laboratories and instruction from well qualified and dedicated faculty.

Business Technology Management (BTM) is a new field of study that emerged from a need among businesses for dedicated talent to handle business technology processes. To meet this demand, a number of forward-thinking colleges started offering undergraduate courses in BTM, further cementing it as a legitimate field of study. Students enrolled in such courses learn a variety of skills in technological and business domains. BTM has come to stand for a group of services and tools that enable businesses to plan, manage and deploy their resources better. By its very definition, this is a very broad field that covers everything from Business Processes Management (BPM) tools to long-term technology planning.

In other words, whenever a business needs to incorporate technology, it will turn to a BTM expert. While the knowledge of Science, Technology and Commerce have been progressing side by side over the last centuries, in practical application of real world, a distinctive gap has been observed in time of blending these knowledge. Ignorance of science and technology in the twenty-first century while aiming at global business seems inappropriate and vice versa. Hence, this department aims at acknowledging the future challenges in business world which is largely inclined to the digital world and state-of-the-art of science and technology.

General information about IUT with a brief history and a short description of the Department of BTM have been presented in this catalog. This catalog highlights the sequence of the course offering to the undergraduate students of the department.

Students and relevant individuals are advised to be in touch with their advisors and the department office to learn about any changes made by the department in any courses and in the rules and regulations of the university.

Dhaka
January, 2020

Prof. Dr. Md. Anyet Ullah Patwari
Head,
Department of Business
and Technology Management

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Message from the Acting Vice Chancellor

A university has two principal functions: providing instruction on matters of intellectual importance and knowledge creation on those same matters. These two functions, to the extent reasonably possible, should support one another. University teaching, therefore, is distinguished from other modes of education not only by seeking the highest levels of sophistication, but also by deriving its vitality from the atmosphere of on-going discovery fostered at the institution. The Islamic University of Technology (IUT) has been established to provide such an environment to the youths of the member states.

It is an undeniable fact that the Islamic world is lagging behind the developed world in the key fields of business innovation although many of them are blessed with considerable natural resources. Therefore human resources development remains as one of the cherished objectives of the OIC. We have to understand also that if science, technology and the business people are not linked to the economic system, we shall be facing a disastrous consequence in the development our nations.

The University uses student-centered methods of instruction to promote students' own knowledge search and discovery with assistance. State of the art laboratory equipment, library and communication facilities are being provided to create an environment that will facilitate and promote quality education, research and continuing academic development of staff as well. Dynamic course curriculum and standard examination system are also vital in determining the status of a university. At IUT we are trying to ensure the above within our limited resources.

Initiatives have been taken for strategic development plan to set up new relevant departments. Students get to network with peers from different parts of the world. The university is generous in sharing student's home cultures with their classmates that will help intellectually and culturally rewarding. The university is focusing on more industry-academia relationships for the sake of invention and building leadership. There are many ways to begin the global citizenship and there is no better time to start than now.

Dr. Omar Jah
Acting Vice Chancellor
Islamic University of Technology

Message From The Head

The Department of Business and Technology Management (BTM) has been established to face the challenges in business world which is largely inclined to the digital world and state-of-the-art of science and technology. Starting from the production and commercialization of a needle to a space craft, the importance of knowledge of science, commerce and technology is equal. Thus, this department would be an excellent choice for the potential students who believe in change and react accordingly.

The department highlights the importance of mentoring and initiating entrepreneurs for the sustainable development of the world. The department aims at producing the best professionals, teachers and most distinctively entrepreneurs for sustainable development of national and international arena. To cope with the rapidly changing scenarios in this field, updating the course curricula, revising teaching and/or research materials, organizing short course, seminar, symposium etc. are regular activities of BTM department.

All concerned are requested to visit for updated information and provide feedback for any improvement.

Prof. Dr. Md. Anayet Ullah Patwari
Head, BTM

List Of Faculty Members of BTM Department

Prof. Dr. Md. Anayet Ullah Patwari
Head

Qualification
PhD (IIUM, Malaysia)
M Sc Engg (TUT, Japan)
B Sc Engg (BUET, Bangladesh)

Area of Expertise
Smart Machining Processes, Surface Burnishing processes, Bio-Halal Technology, Computer Integrated Manufacturing (CIM), Bio-medical Engineering

Dr. Md. Abul Kalam Azad
Associate Professor
Qualification
Ph.D- University of Malaya, Malaysia, 2018
MSc- University of Bedfordshire, United Kingdom, 2010
BBA and MBA- IIUC, Bangladesh
Area of Expertise
Efficiency, Productivity, Optimization and Risk Management

Naznin Akther
Assistant Professor
Qualification
MBA (MIS), University of Dhaka, 2012
BBA (MIS), University of Dhaka, 2011
Area of Expertise
Management Information System

Shobnom Munira

Assistant Professor

Qualification

MBA (AIS), University of Dhaka, 2015
BBA (AIS), University of Dhaka ,2014

Area of Expertise

Accounting Information System

Md. Abdullah Al Mamun

Lecturer

Qualification

MBA (Marketing), University of Dhaka, 2017
BBA (Marketing), University of Dhaka, 2016

Area of Expertise

Brand Management, Marketing Research, Customer Behavior, Islamic Marketing, Integrated Marketing Communications

Farjana Nasrin

Lecturer

Qualification

MBA(IB), University of Dhaka, 2018
BBA (IB), University of Dhaka, 2017

Area of Expertise

Supply Chain Management, International Business

S.M. Rakibul Anwar

Lecturer

Qualification

MBA (Finance), University of Chittagong
BBA (Finance), University of Chittagong

Area of Expertise

Financial Inclusion, Financial criminology, Credit Rating, Asset management

List Of Staff Members

Mehidi Hasan
Assistant Secretary
Business and Technology Management (BTM) Department

Qualification

MA (Islamic History and Culture) NU
LLB (Law), NU
BA (Hon's)-Islamic History & culture, NU

Contract:

Room# 315, Old Academic Building , IUT
mehidi@iut-dhaka.edu+880 9291254 Ext. 3291
Cell# 01711-733046

Chapter 1:
General Information: Islamic University of Technology

1.1 Origin

Islamic University of Technology at Dhaka, Bangladesh commonly known as IUT is a subsidiary organ of the Organization of the Islamic Conference (OIC), representing fifty seven member countries from Asia, Africa, Europe and South America. It was initially established as the Islamic Centre for Technical and Vocational Training and Research, ICTVTR in pursuance of the Resolution No. 5/9-E of the Ninth Islamic Conference of Foreign Ministers (ICFM) held in Dakar, Senegal in 1978. The foundation stone of ICTVTR was laid on 27 March 1981 on the 30-acre land donated by the Government of the People's Republic of Bangladesh to the OIC. ICTVTR was renamed as the Islamic Institute of Technology (IIT), by the Twenty-second ICFM held in Casablanca, Kingdom of Morocco in 1994. It is mandated to help develop human resources in the Member Countries of the OIC in the fields of engineering and technology as well as technical education.

The first batch of students was admitted in the academic year 1986-87 and its first graduation ceremony was held on 21 October 1987. ICTVTR was renamed as the Islamic Institute of Technology (IIT), by the Seventh Islamic Summit and the 22nd ICFM held in Casablanca, Morocco on 10-15 December 1994. In appreciation of the activities of IIT, the 28th session of the ICFM held in Bamako, Republic of Mali on 25-27 June 2001, renamed IIT as Islamic University of Technology (IUT). The renaming of IIT as IUT is an important milestone in the annals of this unique educational institution, only of its kind under the umbrella of the OIC which has been emerging as the most visible demonstration of the Islamic Solidarity and Joint Islamic Action under the Makkah – Al – Mukarramah Declaration.

IUT is basically an educational and research institution offering a wide range of undergraduate and postgraduate academic programs conducted in the fields of engineering, computer science & information technology and teacher training. It also offers knowledge and skill updating and upgrading short and special courses as needed by the Member States. International and regional seminars and workshops are also arranged regularly by IUT to provide forums and to keep abreast of the latest technological developments. It also undertakes technological

and industrial research projects, promotes technical cooperation, exchanges technical know-how and disseminates basic information of development of human resources as co-focal point for collaboration among the Member States of the OIC. IUT ensures coordination between its objectives with other national and regional institutions of the Islamic countries as well as with international institutions. It also undertakes advisory and consultancy services for Government, International Bodies, Foundations and allied Organizations.

1.2 Location

The University is located at Board Bazar, Gazipur, about 30 km north of Dhaka (Latitude=23˚43'N, Longitude = 90˚25'E), the capital of Bangladesh. The capital is served by an international airport with widely developed airlines network with the rest of the world and by satellite telecommunication.

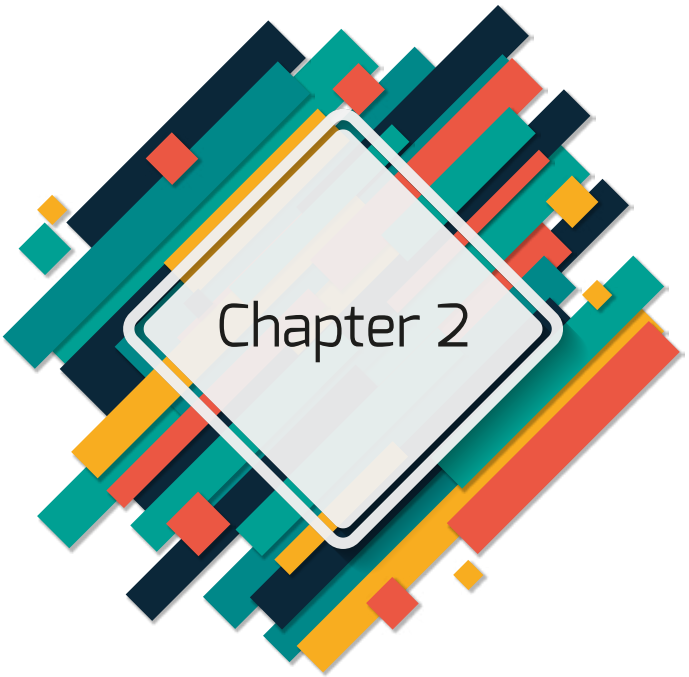
Source: Google Map

1.3.1 Vision

"To be a leading University of Engineering and Technology in the World."

1.3.2 Mission

- Providing education & training of international standard for the youths of the Ummah;
- Undertaking quality research leading to innovation;
- Launching cutting-edge disciplines matching the requirements of the member states;
- Internationalizing through increasing overseas students, staffs and external collaboration.



Academic Rules and Regulation

2.1 Academic Calendar

IUT follows the Semester System for the purpose of conduct of instructions and examinations. An academic year consists of two semesters each of sixteen weeks of instruction. They are winter semester and summer semester. There is also a short semester in between summer semester of the last academic year and winter semester of the upcoming academic year to facilitate the industrial training for IUT students of all departments and arrangement of short courses by all departments on different need basis professional topics.

2.2 Medium of Instructions

The official languages of the University are Arabic, English and French. Medium of instructions and examinations at present is English. An English Language Programme is arranged for Arabic and French speaking students when needed. All students are required to learn one of the three languages as second language.

2.3 Admission

The Islamic University of Technology (IUT) announces for each academic year it's offering of programs in Doctor of Philosophy, of Science, Masters of Engineering, Bachelor of Science, Higher Diploma and Diploma under various academic departments. Nominations of eligible candidates for admission to different programs of study are invited from the relevant Ministries of the Member States by the end of September. Nominations for the programs are to be sent to IUT in order of merit on the basis of tests prescribed by the University and conducted by the Nominating Authority and Focal Points of the Member States of the OIC.

Each nomination should be accompanied with an application of the nominee in the prescribed form duly filled in and signed, available in the office of the Nominating Authority and Focal Points, along with attested copies of Academic Certificates and Mark Sheets. Reports from an authorized Medical Board or

Medical Practitioner on eyesight, hearing and general fitness for prolonged mental and physical exertion, blood and urine, chest X-ray and contagious and communicable diseases are also required to submit. Candidates having contagious and communicable diseases e.g. tuberculosis, venereal diseases, AIDS, HIV positive, hepatitis B, etc. are not eligible for admission.

Final selection of students for admission from amongst the nominated candidates of all the Member States will be made by IUT on the basis of merit, geographical distribution and option given by the candidates. If, however, the number of eligible candidates for a particular program / specialization is not sufficient in a particular academic year, it will not be offered. The selected candidates are required to take admission by reporting to the Registrar on or before the date of beginning of the academic year as specified by the Registrar.

2.4 Admission Requirement

4-Year Bachelor of Science programmes in Mechanical & Production Engineering (MPE), Electrical and Electronic Engineering (EEE), Computer Science and Engineering (CSE), Civil and Environmental Engineering (CEE) and Business and Technology Management (BTM) require Higher / Upper Secondary School Certificate in Science from a Board / University equivalent. The candidates are required to have good grades in Mathematics, Physics, Chemistry and English.

2.5 Course Registration Procedure and Requirements

Every student in IUT has an account in Student Information System (SIS).. At the beginning of each semester, each student has to register his required courses for that semester in SIS consulting with his advisor. Details procedure of course registration process is given in “Student Guide”.

2.6 Student Advisory System

All Advisors do the job of advising of his/her assigned students as per the guidelines given below:

1. An Advisor will maintain contact with his advisee at regular intervals throughout the academic year. For this purpose, the Advisor may call meetings with the students once or twice in each month.
2. The Advisor will advise and guide the student in all matters in order to solve academic problems faced by the students during his/her stay at IUT and may discuss personal problems which may affect academic pursuit.
3. Discussion with the students may include the important points of the "Students Guide" so that the students follow the instructions given in the Guide Book meticulously.
4. Each student should also be reminded about the requirement of the minimum percentage of attendance in relation to his current percentage of attendance both in theory and lab classes. Information about submission of lab reports and home assignments in time should also be discussed.
5. They should also discuss the existing situation regarding attending the class tests and quiz examination by each and every student.
6. They may also be advised to take good preparation before regular examinations, class tests and quizzes, so that they may avoid the Referred Examination and Automation system, i.e. cancellation of admission in case of two consecutive failures.
7. The students coming from outside Bangladesh should be reminded of their own responsibility for getting their visa extended well before the expiry date in order to avoid heavy fine for each day of delay. The Protocol Officer will render all possible help in this respect.

2.7 Grading Systems

For sixteen weeks' instruction period per semester, each period of instruction per week in a theory subject or theoretical part of a subject constitutes one "unit" or 1.00 Credit Hour and carries 100 marks. Three periods per week in a sessional subject or sessional part of a subject or tutorial part of a subject constitutes 1.50 Credit Hour and carries 150 marks. Two periods per week in a sessional subject or tutorial part of a subject constitute 1.00 Credit Hour and carries 100 marks.

Examination in a theory course / theoretical part of a course consists of the following four parts:

1. Class attendance	10% of total marks
2. Class test / Quiz / Viva / Presentation	15 % of total marks
3. Mid-semester Examination	25% of total marks
4. Semester-final Examination	50% of total marks

For class attendance, the marks are distributed as follows:

Attendance	Marks
95% and above	10%
90% - <95%	8%
85% - <90%	6%
80% - <85%	4%
75% - <80%	2%
Below 75%	0%

Four quizzes are held and distributed evenly over the semester. The best three quiz results are considered. Mid Semester Examination is usually held around the middle of the semester on the portion of the syllabuses covered by then. Semester Final Examination covers the entire syllabus.

Final grade in theoretical / theoretical part of a course shall be on the basis of the total aggregate of marks secured by the student in attendance, quizzes, mid-semester examination and semester final examination. A student missing any quiz or the mid-semester or the semester final examinations shall be considered to have got zero in that quiz or the examination of the course.

The tutorial part of a course shall be assessed continuously throughout the semester in the form of quizzes, homework and library assignments. Marks so obtained shall be added with that of corresponding theoretical or sessional course.

The sessional or a sessional part of a subject shall be assessed continuously throughout the semester. In addition, a final examination may be conducted. If a student fails in a lab/sessional course, that lab/sessional course need to be completed considering the new policy adopted in 78th Academic council.

Final grades in all courses are recorded in letter grades on the basis of aggregate marks. For any course a student must secure 40% or above of the total aggregate marks to pass the course.

As per decision and approval of the 51st Academic council the grading system is as follows:

Marks obtained (in percentage)	Letter Grade	Grade Point
80 & Above	A+	4.00
75 to <80	A	3.75
70 to <75	A-	3.50
65 to <70	B+	3.25
60 to <65	B	3.00
55 to <60	B-	2.75
50 to <55	C+	2.50
45 to <50	C	2.25
40 to <45	D	2.00
Less than 40	F	0.00

Total grade points secured divided by the total Credit Hours taken shall be computed as Grade Point Average (GPA). A student is declared to have passed the semester examinations when s/he passes in all the courses of the semester having minimum GPA of 2.00 for all undergraduate programmes. The required minimum GPA for passing a semester in the postgraduate programmes is 2.50.

A student failing to clear all the courses/subjects may be allowed to sit for an examination called 'Referred Examination' on the subject or subjects to be held normally within two weeks after publishing of the examination results. The Referred Examinations are only for the courses of current semester. The Referred Examination will cover the entire syllabus of the subject(s). Those who will fail in more than two subjects, shall appear in only two subjects as registered by the student. Remaining subject(s) will be added to the student's backlogged subject(s).

A student who passes the Referred Examination shall be declared to have passed the relevant semester examination if there is no backlogged subject(s). The final grades of courses/subjects in the Referred Examination shall be recorded as per approved letter grades. The grading for a subject will be according to the grading system mentioned above with maximum of B grade. If any student fails in the Referred Examinations, the subject(s) will be added to his/her backlogged subject(s) and the student need to follow the new academic rules considering the registration and payment procedure as approved by the 78th Academic Council mentioned in Academic Rules book.

Results of final semester examinations of the successful candidates and of those eligible for referred and backlogged examinations are announced by the Registrar subject to the approval of the Academic Council after it has been considered by the Examination Committee and endorsed by the Vice Chancellor. Results of all other Semesters for promotion to the higher Semester as recommended by the Examinations Committee will be published by the Registrar with the approval of the Vice-Chancellor.

A student is eligible for award of Certificate, Diploma, Higher Diploma, Bachelor Degree, and Master Degree for which s/he was admitted when he passes the prescribed subjects of all the semesters and successfully completes approved industrial attachment, special assignments, practical training and remedial courses as the case may be. The details are given in the publication on Academic Rules as approved by the Academic Council.

The awards are classified as

- First Class with Honours
- First Class,
- Second Class.

A student securing Cumulative Grade Point Average (CGPA) of 3.75 and above is placed in the First Class with Honours. Those securing CGPA of 3.00 and above are placed in the First Class. Other successful candidates are placed in the Second Class.

Division	Cumulative Grade Point Average (CGPA)
First Class with Honours	3.75 and above
First Class	3.00 to below 3.75
Second Class	Below 3.00

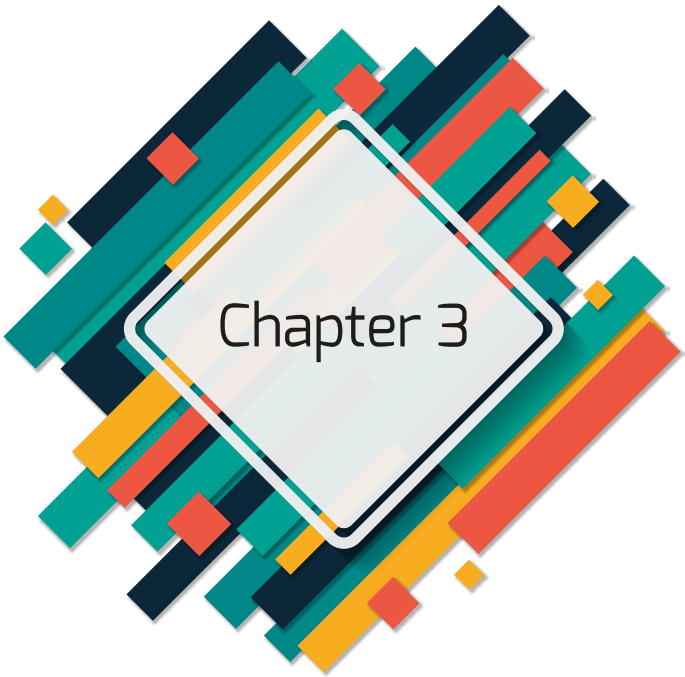
GOLD MEDAL:

IUT Gold Medal is awarded Department-wise to the students who get highest CGPA at the end of the programme but not less than 3.80 out of 4.00 among different programmes of each Department (having duration of 2 years or more) taken together.

OIC Gold Medal is awarded to a student who secures at least CGPA of 3.90 out of 4.00 at the end of the programme and tops the list of all successful students of all the programmes of all the Departments. However, only OIC Gold Medal will be awarded to the student who becomes eligible for both the medals.

2.8 Student Feedback System

At the end of each semester, student has to give his/her feedback of the courses s/he taken in that semester in Student Information System (SIS). Details procedure of student feedback is given in "Student Guide".



Department of Business and Technology Management (BTM)

Program Description

3.1 Department of Business and Technology Management (BTM)

The Department of Business and Technology Management (BTM) is the newest department of the Islamic University of Technology (IUT) with an annual intake of 50 undergraduate students. It offers students a unique hands-on experience in state-of-the-art laboratories and instruction from well qualified and dedicated faculty. The department ensures close interaction between students and faculty to extract the best out of the students. It also tries to maintain continuous interactions with different renowned multinational companies in the field of accounting, management, human resource, economics and technology which give an added impetus to the students to acquire strong theoretical foundation and outstanding practical experiences.

3.2 Vision and Mission of the BTM Department

Vision

To develop outstanding future business leaders who will anticipate, capitalize and drive business strategies and opportunities tied to technological change.

Mission

The mission of the BTM Department are:

- To impart quality education in the undergraduate and post-graduate levels.
- To provide balanced curriculum that focuses on theory and application of business and engineering to the dynamic technological world.
- To gain sound understandings of business disciplines and drive technology-based innovation.
- To excel in research and innovation integrating the faculty knowledge and student skills.
- To prepare students with necessary skills/knowledge pertaining to successful careers in leadership positions

3.3 BBA in Technology Management (4 years)

The Bachelor of Business Administration in Technology Management comprises of four years of study consisting of eight consecutive semesters of sixteen weeks duration for each. The course curricula contain business and technology management of high level as well as components for hands-on-experience to produce BBA graduates of international standard with technological know-how having relevance to the development needs of the Member States. Specifically, the curriculum focuses on an array of topics including accounting, marketing, human resource, management and technology. As these topics require a strong background in mathematics and commerce, a number of courses on Mathematics and Commerce have been included in the syllabus. Moreover, to make the syllabus a balanced and complete one, courses on Social science, Islamic history, Programming, and Communication skills development have been incorporated. After the completion of six semesters, the students will undergo an internship program which will enhance their knowledge in industry level. The course curricula are under constant scrutiny and review and continuously updated to meet the current needs and requirements. The levels and contents are always kept at international standard.

The Full Scope of Business Technology Management

BTM is a vast field that combines both business and technology. Its scope and functional areas, as defined by think tanks such as Institute of Business Technologies and BTM Institute are:

Organization Governance: This is a broad field that covers a host of processes such as strategic governance, tactical governance, compliance and risk management, organization design and change management. It also includes charting out a communication strategy and managing communication resources within an organization.

Strategic Investment Management: This sector covers activities related to resource allocation and investments. The business technology manager will be expected to provide technological solutions for managing projects and portfolios allocate and prioritize technological resources and manage demand for said resources.

Strategy and Planning: This includes long-term planning and strategising to improve organizational performance. From charting out a long-term business technology strategy to creating resource budgets, all of it comes

under 'strategy and planning'. It also includes areas such as strategic sourcing, standardization, consolidation, etc.

Enterprise Architecture: This combines the fields of technology and business architecture. Essentially, BTM is expected to align an organization's technology architecture with its business goals. It also covers adopting standardized technological processes and allocating assets rationally.

Understand that these areas do not exist in isolation, i.e. BTM works with each of these areas in an integrated fashion. Thus, a business technology manager would actively work to improve technology standardization in an organization while also charting out a communication strategy that makes use of standardized technology.

Objective for Technology Management Department at IUT

The primary benefit of studying business management is that it can equip entrepreneurs with essential business skills and knowledge. An entrepreneur with no formal business training might be ill-prepared to handle tasks on the business side of the venture, such as creating a business plan, accounting and negotiating. Creating the perfect chocolate bar, building iconic buildings or developing jaw-dropping movie special effects: creative skills are important to all areas of engineering. It's important to remember that skills developed through art, computing and design and technology all have a place within engineering. It's a surprisingly creative subject; often people forget that it's the engineers who regularly come up with new and exciting ideas up that help solve the world's problems, both big and small. Technology has important effects on business operations. No matter the size of your enterprise, technology has both tangible and intangible benefits that will help you make money and produce the results your customers demand. Technological infrastructure affects the culture, efficiency and relationships of a business.

People often graduate from a technical specialization like Bachelor Science in Electrical and Electronic Engineering or Mechanical Engineering or Computer Science and Engineering or Civil Engineering or any other specialization and then enroll into a MBA program just to

meet the demand. Many organizations require a technical person with an MBA because if a technical person knows the management, he is the ultimate choice. The similar but a different strategy we are focusing on to launch the BBA in Technology Management program under Business and Technology Management department. We want that the BBA graduates will learn all the required BBA courses along with different technology courses to cope up the management positions in different technology organizations. Unlike other universities, IUT manages 6 courses instead of 5 courses in one semester. This extra one course per semester allows us to introduce some extra courses for different technologies.

3.4 Program Educational Objectives (PEOs)

Graduates of BBA in Technology Management programme are expected to attain the following objectives within a few years of graduation.

1. Demonstrate the ability to apply business and technological approaches to analyze, design and develop business solution.
2. Demonstrate professionalism, understand and carry the ethical values for the welfare of society, Muslim Ummah and beyond.
3. Demonstrate strong awareness for life-long learning through self-motivation, professional trainings and higher education.
4. Demonstrate the skill for effective communication, ability to interact with people of diverse educational and cultural background and work individually or in a team.

3.5 Student Outcomes (SOs)

1. An ability to analyze a problem, defines the requirements, and solves it by applying principles of business and technology.
2. An ability to design, implements, and evaluate a business solution to meet a given set of requirements in the context of business and technology.
3. An ability to communicate effectively with a range of audiences about business information.
4. An ability to develop and conduct research, and use strategic judgment to draw conclusions.

5. An ability to function effectively in teams to establish goals, plan tasks, meet deadlines, manages risk, and produce deliverables.
6. An ability to recognize ethical and professional responsibilities in business practices which must consider the impact of business solutions in global, economic, environmental, and societal contexts.
7. An ability to apply business theories to design and implement technology-based solutions.
8. An ability to explain technology-based solutions at multiple levels of abstraction.
9. An ability to recognize the ongoing need to acquire new knowledge, to choose appropriate learning strategies, and to apply this knowledge in business and technological areas.

Relation between PEOs and SOs:

	PE01	PE02	PE03	PE04
SO1	√			
SO2	√			
SO3				√
SO4	√			
SO5		√		√
SO6		√	√	√
SO7	√		√	
SO8		√		√
SO9		√	√	

3.6 Assessment and Grading Systems

Distribution of Marks

The performance of a student in a course is evaluated based on a scheme of continuous assessment, mid-term and semester final examinations. For theory courses, this continuous assessment is made through a set of quizzes, class participation, and assignment. The assessment in laboratory/sessional courses is made through observation of the students and viva-voce during laboratory hours, and quizzes. The distribution of marks in the continuous assessment, mid-term and semester-final examinations are followed as per approved rules mentioned in chapter 2.

Letter Grades

Letter grades and corresponding grade points are awarded in accordance with the approved provisions.

Assignment of Credits

Each theory or lab course is assigned a weekly contact hours. The credit hours a course is directly related to the weekly contact hours of the course. The credit hours of a theory course is equal to the weekly contact hour of the course, the credit hours of a lab course is half of the weekly contact hours of the course. One contact hour refers to a 50 minute class in each week of a semester.

Grade Point Average

The overall academic progress of a student in a semester is assessed by calculating grade point average (GPA). The grade points obtained by a student in a course is the product of the credit hours of the course and the equivalent grade point corresponding to the letter grade obtained by the student in that course. Grade Point Average (GPA) is the weighted average of the grade points obtained in all the courses passed/completed by a student.

$$GPA = \frac{1}{\sum C_i} \sum_{i=1}^{n} (C_i \times GP_i)$$

Where,

n = Number of courses offered in a semester

Ci = Credit hours of the ith course

GPi = Grade Point obtained in the ith course

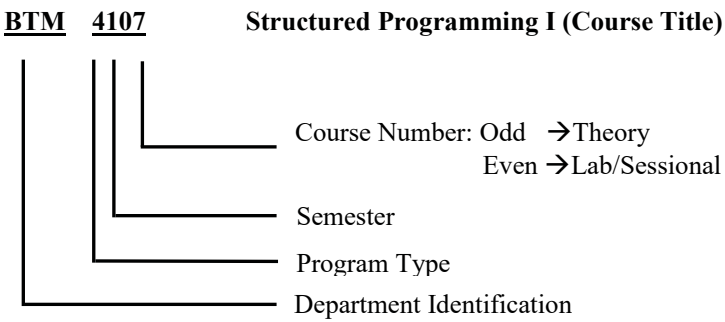
Attendance Requirement

A student is required to attend at least 85% of the classes held in each course of a semester. The students failing to attend the requisite percentage of classes in any course will not be allowed to appear at the Semester Final Examinations in the semester. In special circumstances, the Vice-Chancellor on the recommendation of the Head of the Department may condone 10% of the required attendance on grounds of serious illness of the student on production of certificate by a Registered Physician, or reasons acceptable to the Vice-Chancellor.

3.7 Course Code Details

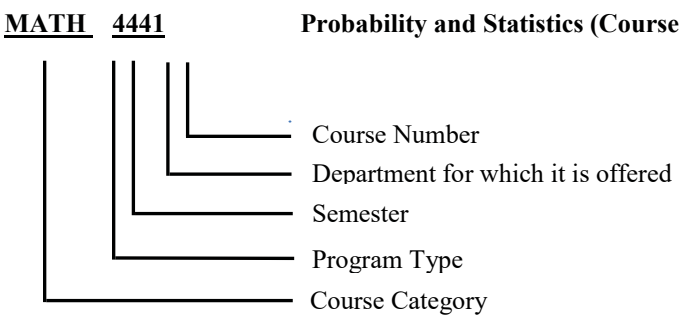
Each course is designated by a three-letter code identifying the department/program of the course followed by a four-digit number. The four-digit number represents the followings, if the course is offered by an academic department.

- The first digit corresponds to Program type. For example 4 indicates B.Sc. four year program.
- The second digit corresponds to the semester in which the course is normally taken by the students.
- The final two digits refer to the number of the course, where an odd number indicates a theory course and an even number indicates a sessional/lab course.



For Humanities, Mathematics, Physics and Chemistry courses a three/four-letter code identifies the type of the course which is followed by a four-digit number. The four-digit number represents the followings:

- The first digit corresponds to Program type. For example 4 indicate B.Sc. four year programs.
- The second digit corresponds to the semester in which the course is normally taken by the students.
- The third digit represents the department for which the course is offered.
- The final digit refers to the number of the course, where an odd number represents a theory course and an even number indicates a sessional/Lab course.



3.8 Syllabus Summary

Islamic University of Technology (IUT)
Department of Business and Technology Management
Syllabus for BBA in Technology Management

Semester	Business Core Courses				General Education Courses		Allied Courses		Technology Courses			Elective Courses	
	1	2	3	4	1	2	1	2	1	2	3	1	2
1st	BTM 4103 Financial Accounting I	BTM 4101 Principles of Management			Hum 4163 Business English	Hum 4161 Sociology	Math 4103 Mathematics I		EEE 4161 Electrical and Electronic Technology I				
2nd	BTM 4201 Financial Accounting II	BTM 4203 Business Communication	BTM 4205 Principles of Marketing	BTM 4207 Organizational Behavior			BTM 4209 Micro Economics		EEE 4261 Electrical and Electronic Technology II				
3rd	BTM 4301 Management Accounting	BTM 4303 Human Resources Management					Math 4301 Mathematics II		MCE 4361 Mechanical Technology I	CSE 4361 Computer Science and Technology I	CEE 4363 Civil and Environmental Technology I		
4th	BTM 4401 Legal Environment of Business						BTM 4403 Macro Economics	Math 4401 Business Statistics	MCE 4461 Mechanical Technology II	CSE 4461 Computer Science and Technology II	CEE 4461 Civil and Environmental Technology II		
5th	BTM 4503 Financial Management I	BTM 4501 Research Methods	BTM 4505 Marketing Management		Hum 4561 Psychology				CSE 4561 Computer Science and Technology III			ElectiveI from Technology Management Electives	
6th	BTM 4601 Financial Management II	BTM 4609 Management Information Systems	BTM 4605 International Business Environment	BTM 4603 Operations Management					BTM 4661 Textile Technology				Elective II from Technology Management Electives
7th	BTM 4705 Entrepreneurship	BTM 4701 Operations Research	BTM 4703 Quality Management						BTM 4700 Internship (Start after 6th Semester (October-March)				
8th	BTM 4801 Project Management	BTM 4803 Technology Management			Hum 4863 Science, Technology and Islam	Hum 4861 Business Ethics and Leadership						Elective I from Pool A/B/C/D/E	Elective II from Pool A/B/C/D/E

Islamic University of Technology (IUT) Department of Business and Technology Management Syllabus for BBA in Technology Management										
Semester	Technology Courses	Technology Courses Labs			Technology Management Elective	Elective from Pool		Internship	Credit Hour (Theory + Lab)	Remarks
	3	1	2	3		1	2			
1st		EEE 4162 Electrical and Electronic Technology I Lab							15+0.75 = 15.75	
2nd		EEE 4261 Electrical and Electronic Technology II Lab							18+0.75 = 18.75	
3rd	CEE 4363 Civil and Environmental Technology I	MCE 4361 Mechanical Technology I Lab	CSE 4362 Computer Science and Technology I Lab	CEE 4364 Civil and Environmental Technology I Lab					18+2.25 = 20.25	
4th	CEE 4461 Civil and Environmental Technology II	MCE 4462 Mechanical Technology II Lab	CSE 4462 Computer Science and Technology II Lab	CEE 4462 Civil and Environmental Technology II Lab					18+2.25 = 20.25	
5th		CSE 4562 Computer Science and Technology III Lab			Technology Management Elective				18+0.75 = 18.75	
6th					Technology Management Elective				18+0.00 = 18.00	
7th								Internship (9 credit)	9 + 9 (internship) = 18	
8th						Elective from Pool A/B/C/D/E	Elective from Pool A/B/C/D/E		18+0.00 = 18.00	

3.9 Courses Distribution

Course Structure

Course Category	No. of Courses	Credit per Course	Total Credits
General Education Courses	05	3	15
Allied Courses	05	3	15
Business Core Courses	21	3	63
Technology Courses	10	3	30
Technology Courses Labs	09	0.75	6.75
Technology Management Elective	02	3	06
Elective from Pool	02	3	06
Internship	01	9	09
Total			150.75

3.9.1 General Education Courses (5)

Compulsory (3):

Course no.	Course title
Hum 4163	Business English
Hum 4161	Sociology
Hum 4863	Science, Technology and Islam

Electives (2):

Course no.	Course title
Hum 4165/4175/4185/4195	Foreign Language (French, German, Mandarin, Spanish)
Hum 4865	Economics of Geography and Environment
Hum 4167	Physical Sciences
Hum 4169	Biological Sciences
Hum 4461	Philosophy
Hum 4171	History
Hum 4561	Psychology
Hum 4861	Business Ethics and Leadership

Hum 4163: Business English

Common mistakes in English; writing techniques; writing practice in the form of paragraph; letter, report and summary writing; basic principles of effective listening; guidelines for effective speaking: basic rules of pronunciation, conversational fillers, social expressions, debate; review of basic grammar; rules of effective speaking.

Hum 4161: Sociology

This course develops the perspective, concepts and methodologies needed for objective, analytical thinking about human interaction. Relationships are explored in terms of the development of the self through interaction, basic types of social organization, collective behavior, types of institutions, and aspects of the total social system such as social change and population phenomena.

Hum 4863: Science, Technology and Islam

Definition: Science and Technology; Relation between science and technology; Development of science and technology till date; Islam, concept, origin and examples of main religions & their tenets; Comparative study of Islam, Christianity, Judaism, Hinduism and Buddhism; Relation between science and technology and Islam; Science and technology in different religions; Creation of the universe, Scientific approach the Big Bang Theory of primordial Ball; Approach through different religions, Islamic-Kun-Faya-Kun Concept; Scientific indications in the Holy Quran; Impact of science, technology and religion on society and social development; Contributions of Islamic civilization; Contributions of Western Civilization; Islam and the West.

Hum 4165/4175/4185/4195: Foreign Language (French. German, Mandarin, Spanish)

The course description is not provided, since the faculty concerned is likely to follow individual techniques as content. It is expected that after taking this course the student will be able to understand and communicate at the basic level of the language. The course can be taken at specialized centers such as the Institute of Modern languages or the cultural centers of the respective foreign missions.

Hum 4865: Economics of Geography and Environment

This course is designed to develop an understanding of the philosophy of geography. The students will be made to understand how geography is unique in bridging the social sciences with the earth sciences. This is possible through its understanding of the dynamic rule of cultures, societies, and economies (human geography) and its understanding of physical landscapes and environmental processes (physical geography).

Hum 4167: Physical Science

This course is designed to give a basic understanding of Physics and chemistry. Topics in physics: Fundamentals of mechanics, vector and forces; Kinematics, conservation laws and gravitation; Sound, light, diffraction, and interference; Electric fields, potentials, magnetic fields; Atomic and nuclear physics. Topics in chemistry: Nature of atoms and molecules; Valence and periodic tables; Chemical bonds, acids, and base; Elementary stereo-chemistry, optical isomerism; Functional groups, structure determination; Reactions of alkenes and alkynes.

Hum 4169: Biological Sciences

The course is designed to give an understanding of the basic concepts and principles of biological sciences. Topics include: Origin of life, prokaryotic and eukaryotic cell structure and functions; Energy capture and use. Nutrition and metabolism; Basic human anatomy and physiology; Plants and their classification; Vascular plants; Heredity and evolution; Ecosystem and ecological interaction.

Hum 4461: Philosophy

In this course, attention is given to the purposes and benefits of studying philosophy. Students will be introduced to various types of philosophical questions and problems and to some of the areas of philosophy that deal with these questions — for example, epistemology (theory of knowledge), ethics (foundations of morality), metaphysics (theories of the nature of existence), logic (principles of reasoning). Students will also become acquainted with some of the main methods of philosophical inquiry, such as Socratic dialogue of method, inquiry through the use of myth or anecdote, and texual analysis.

Hum 4171: History

This course covers six major dimensions of history of civilization and will cover primitive civilization, classical thought, late medieval and renaissance, pre cold war era, post-cold war period, and history of Bengal.

Hum 4561: Psychology

This introductory course provides an overview of the origins, growth, content and applications of psychology, including the application of the scientific method to the following topics : research methodology; basic statistics; theories of physical, cognitive, moral and emotional development; sensation; perception; learning; motivation; intelligence; memory; personality; coping processes; abnormality; adjustment; and the individual in small groups and pluralistic society.

Hum 4861: Business Ethics and Leadership

This course explores the influence of communication on ethical leadership in organization life. It discusses the applications of pertinent research and theories of communication, leadership, and ethics in complex and challenging organizing contexts. The course cuts across multiple levels of communications, different communication channels, and the use of diverse communication media and technology.

3.9.2 Allied Courses (5)

BTM 4209	Micro Economics
BTM 4403	Macro Economics
Math 4401	Business Statistics
Math 4103	Mathematics I
Math 4301	Mathematics II

BTM 4209: Micro Economics

The purpose of microeconomics is to develop the students' skill in the systematic analysis of the economic aspects of business decisions and to acquaint them with some relevant analytical methods and concepts. The course covers introduction to Micro Economics; The basics of supply and demand; Utility approach to consumer behavior; Theory of production and cost; Profit maximization and competitiveness; Market structure and theory of the firm; Factor inputs; Externalities and public goods.

BTM 4403: Macro Economics

This course introduces students to fundamental economic concepts such as scarcity and opportunity costs. The course includes national income; Computation of National Income and product; Theory of income determination; Aggregate supply and demand models; Savings, consumption and investment; Employment; Theory of money and inflation; Monetary and fiscal policy, an overview of economic fluctuations and to highlight the dynamics of unemployment, inflation, and economic growth.

Math 4461: Business Statistics

The course is designed to equip the students with statistical tools and concepts to be used in the business decision processes. Methods of descriptive and inferential statistics are covered that include measure of central tendency and dispersion, probability distributions, hypothesis testing and their applications in the management decision process, correlation and regression analysis, and basics of non-parametric statistics. Survey methods and sample designs are also discussed.

Math 4161: Mathematics I

The course is designed to equip the students with mathematical tools and concepts to be used in the business decision processes. It includes elements of algebra, introduction and application of Number Fields, Linear and Non-linear inequalities, Functions, Set theory, Logarithm limit. Two-dimensional co-ordinate geometry: Change of axes, Transformation of co-ordinates, Simplifications of equation of curves, Matrix: Inverse of a matrix, Rank of matrix, Elementary transformations. Solution of simultaneous equations by using matrix. Eigen value and Eigenvectors. Introduction to linear programming. Introduction to Probability: Counting and Combinatorics, Axiomatic Probability, Conditional Probability and Independence, Random Variables.

Math 4361: Mathematics II

The course is designed to equip the students with mathematical tools and concepts to be used in the business decision processes. It includes differential calculus: Limit, continuity and differentiability of functions. Successive differentiation. Leibnitz theorem. Taylor and Maclaurin theorem, expansion of functions in series. Indeterminate forms. Partial differentiation. Determination of maximum and minimum of functions with applications. Integral Calculus: Integration by the method of substitution. Integration by parts. Integration by successive reduction. Standard integrals. Definite integrals, its properties and use in summing series. Determination of area under a curve. Numerical Analysis: Solution of polynomial equation and equation involving transcendental functions. Newton's forward and backward interpolation formulas. Runge-Kutta method.

3.9.3 Business Core courses (21)

BTM 4103	Financial Accounting I
BTM 4201	Financial Accounting II
BTM 4301	Management Accounting
BTM 4203	Business Communication
BTM 4503	Financial Management I
BTM 4601	Financial Management II
BTM 4303	Human Resources Management
BTM 4501	Research Methods
BTM 4609	Management Information Systems
BTM 4401	Legal Environment of Business
BTM 4605	International Business Environment
BTM 4205	Principles of Marketing
BTM 4505	Marketing Management
BTM 4603	Operations Management
BTM 4101	Principles of Management
BTM 4207	Organizational Behavior
BTM 4705	Entrepreneurship
BTM 4701	Operations Research
BTM 4703	Quality Management
BTM 4801	Project Management
BTM 4803	Technology Management

BTM 4103: Financial Accounting I

This is a basic course and deals with functional of bookkeeping and accounting. The course covers the basic accounting concepts, double-entry system of bookkeeping, recording of transaction, preparation of trial balance, treatment of adjustment entries, preparation of financial statements, internal control and checking, accounting principles, methods inventory valuation, methods of depreciation charge, acquisition, disposal, and exchange of long term assets.

BTM 4201: Financial Accounting II

This course begins with a rigorous review of the concepts, principles, measurements and accounting processes, acquired at the introductory level. This foundation is subsequently built upon on topic specific bases; accounting for current assets, current liabilities, long term assets, intangible assets, long term liabilities, and owner's equity. This course also covers income and expense recognition applications in diverse and complex business situations, implication in tax expense through different accounting practices. These topics are continuously incorporated into an increasingly complex accounting module with the culmination (preparation, presentation and disclosures) of the financial statements (Income, Balance Sheet, Retained Earnings, and Statement of Cash Flows). The strengths, limitations and utility of the GAAP accounting module are discussed with each topic and its application.

BTM 4301: Management Accounting

The course is a sequence to Financial Accounting and deals with tools and techniques of internal use of accounting for management decision viz., concept of cost element, pricing of cost and cost centers, cost classification, cost behavior, variable and absorption of costing, basics of job order and process costing, cost volume profit analysis, budgeting and budgetary control, variance analysis, flexible budget, relevance cost items in decision making, segment reporting and transfer pricing.

BTM 4203: Business Communication

The course provides a thorough understanding of the communication process and dynamics in business setting and emphasizes written as well as verbal communication. The course is designed to help the students in learning the techniques and acquiring the skills needed to communicate effectively in management. The course deals with Basic English in the practices of communication. The course introduces various techniques of effective communication through business letters, reports and other media from an integral part of the course.

BTM 4503: Financial Management I

This course covers basic concepts and analytical tools used in business finance. Topics include: Basic principles of finance, Analysis of risk-return, cost of capital, analysis of time value of money, elementary capital budgeting, working capital management, etc.

BTM 4601: Financial Management II

This course covers the nature and scope of financial management, the objectives of financial management and need for management of working as well as fixed capital, tools for quantitative analysis of prior financial position, techniques of forecasting, the need for funds, techniques of capital budgeting and related concepts, capital structure and rationing, dividend policies, etc.

BTM 4303: Human Resources Management

This course deals with management of human resources in organization, viz. the basic functions of human resource management, sources of personnel, methods of selection, recruitment, developing and motivating the work force, procedures of primary record keeping, compensation, salary and wedge administration, promotion, training appraisal, health safety, moral discipline, employee benefits, etc.

BTM 4501: Research Methods

This course aims to expose participants to qualitative and quantitative data gathering, processing, analysis and presentation methods and skills. Students are exposed to such skills through a hands-on experience with qualitative and quantitative methods through writing research proposals and through the writing of analytical research report on collected data.

BTM 4609: Management Information Systems

This course includes information system concepts and terminology, current issues and trends in IT, including e-Business, e-Commerce, the impact of technology on organizations, managers and users, ethical, social and global issues, and examples of IT applications including ERP, decision support systems, and information systems in business functional areas of marketing, finance, production and human resources.

BTM 4401: Legal Environment of Business

The course includes the study of the nature of the legal system in which society functions, including basic business agreements, business entities and government regulation. Law of contract: Agreement; Consideration; Misrepresentation; Void and voidable contracts; Sale of goods: Discharge; Remedies; Law of agencies; Bailment and pledge; Law of carriage of goods; Negotiable Instruments Act; Insurance law; Company law. It also includes Labor law and acts concerning payment of wages, employment and non-employment in factories, shops and establishments; Workers' compensation. Industrial disputes, trade unions and CBA, labor courts.

BTM 4605: Internal Business Environment

Introduction to the field of international business: national economic and cultural differences; international trade policies and institutions; foreign direct investment; regional economic integration; international monetary system; global competition; current international business trends and developments. It further includes trade theory and policy sources of international competitiveness in trade; tools of trade protection; the GATT, the Uruguay Round and the WTO; Foreign direct investment motives and foreign direct investment; motives for international alliances; policies for restricting/promoting foreign direct investment; national business systems; influence and national cultural values on business organization; business government relations, and policy choices.

BTM 4205: Principles of Marketing

This course focuses mainly on the topics like Introduction to Marketing; the marketing Philosophy; The Marketing Concepts; Marketing Environments; Elements of Marketing Mix; Market Segmentation and Positioning; Product Decisions; Pricing Decisions; Marketing Ethics; etc.

BTM 4505: Marketing Management

This course is designed to introduce the students to the basic elements of marketing management process. It helps the students to identify and solve many business problems by using a marketing perspective. This course will not turn the students into marketing wizards, but it will give them a very broad understanding of what marketing is all about and the vital role that it plays in organizations.

BTM 4603: Operations Management

Topics covered include Introduction to production function; manufacturing policy decisions; production system; plant location and factory layout;

production planning and control; product design and development; time and motion study; material handling and transportation; quality control inspection; statistical quality control; purchasing and inventory control; maintenance management; production control; systems approach in production management.

BTM 4101: Principles of Management

This course includes the topics of meaning and importance of management; evolution of management thought; managerial decision making; environmental impact on management; corporate social responsibility; planning; setting objectives; implementing plans; organizing; organization design; managing change; human resource management; directing; motivation; leadership; managing work groups; controlling; control principles; processes and problems; managing a changing environment. The major objective of the course is to provide students with an opportunity to enhance their understanding of large and small organizational systems.

BTM 4207: Organizational Behavior

The course deals with individual and group behavior models in the context of different organizations and social systems. It deals with the basic concepts of motivation, perception, learning and analysis of human behavior, individual differences and job satisfaction attitude changes, group process, team work, role theory, power and authority along with the analysis of small group behavior, group dynamics, leadership, decision, development of organizations and the influence of groups.

BTM 4705: Entrepreneurship

The course includes Entrepreneurship theory; Entrepreneurial successes and impact of environmental variables; new venture creation process - opportunity identification and assessment, entrepreneurial start-up strategies, the business plan and business launch.

BTM 4701: Operations Research

Introduction to Operation research; Review of Probability concepts; Conditional and expected value; Value of Information; Utility as the basis for Decision Making; Decision Theory; Game Theory; Linear Programming: The Simplex method, the Dual Problem and the Transportation problem; Waiting line and simulation; Practical application.

BTM 4803: Technology Management

Technology management is an introduction to the management of firms in high-technology industries such as software development and biotechnology research. The course uses cases, readings, and exercises to understand the issues involved in motivating and managing knowledge workers, organizing for innovation, and decision making in fast-paced business environments.

3.9.4 Technology Courses (Theory: 10 + Lab: 09)

Course No.	Course Title
EEE 4161	Electrical and Electronic Technology I
EEE 4162	Electrical and Electronic Technology I Lab
EEE 4261	Electrical and Electronic Technology II
EEE 4261	Electrical and Electronic Technology II Lab
MCE 4361	Mechanical Technology I
MCE 4361	Mechanical Technology I Lab
MCE 4461	Mechanical Technology II
MCE 4462	Mechanical Technology II Lab
CSE 4361	Computer Science and Technology I
CSE 4362	Computer Science and Technology I Lab
CSE 4461	Computer Science and Technology II
CSE 4462	Computer Science and Technology II Lab
CSE 4561	Computer Science and Technology III
CSE 4562	Computer Science and Technology III Lab
CEE 4363	Civil and Environmental Technology I
CEE 4364	Civil and Environmental Technology I Lab
CEE 4461	Civil and Environmental Technology II
CEE 4462	Civil and Environmental Technology II Lab
BTM 4661	Textile Technology

EEE 4161 : Electrical and Electronic Technology I

Electrical networks and circuit solution techniques, Delta-wye Transformation, Circuit Theorems. Basic principle of generation of Alternating and Direct Current. Introduction to Phasor Algebra as applied to AC circuit analysis. Solution of AC circuits: RLC circuits- series and parallel Resonances, AC power analysis. Ampere's circuital law, B–H curve, hysteresis and eddy current losses, Introduction to magnetic circuits.

Three phase AC Circuits: Three phase EMF generation, delta and Y – connections, line and phase quantities, solution of three phase circuits, balanced supply voltage and balanced load, phasor diagram, measurement of power in three phase circuits.

DC Machines: Construction, EMF and Torque equations, Characteristics of DC generators and motors,

Induction Motor: The revolving magnetic field, principle of orientation, ratings, equivalent circuit, Torque-speed characteristics, speed control.

Synchronous Machines: Principle of operation, types, performances and characteristics.

Different types of machines.

Transformers: Construction, EMF equation, ratings, phasor diagram on no load and full load, equivalent circuit, regulation and efficiency calculations, open and short circuit tests, auto-transformers.

EEE 4161 : Electrical and Electronic Technology I

Electrical networks and circuit solution techniques, Delta-wye Transformation, Circuit Theorems. Basic principle of generation of Alternating and Direct Current. Introduction to Phasor Algebra as applied to AC circuit analysis. Solution of AC circuits: RLC circuits- series and parallel Resonances, AC power analysis. Ampere's circuital law, B–H curve, hysteresis and eddy current losses, Introduction to magnetic circuits.

Three phase AC Circuits: Three phase EMF generation, delta and Y – connections, line and phase quantities, solution of three phase circuits, balanced supply voltage and balanced load, phasor diagram, measurement of power in three phase circuits.

DC Machines: Construction, EMF and Torque equations, Characteristics of DC generators and motors,

Induction Motor: The revolving magnetic field, principle of orientation, ratings, equivalent circuit, Torque-speed characteristics, speed control.

Synchronous Machines: Principle of operation, types, performances and characteristics.

Different types of machines.
Transformers: Construction, EMF equation, ratings, phasor diagram on no load and full load, equivalent circuit, regulation and efficiency calculations, open and short circuit tests, auto-transformers.

EEE 4162: Electrical and Electronic Technology I Lab.
Experiments based one 4161.

EEE 4261 :Electrical and Electronic Technology II
Semiconductors, Junction Diode and characteristics, Bipolar transistor characteristics, Small signal low frequency h parameter model, Amplifiers, introduction to oscillators, differential amplifiers, operational amplifiers,
Introduction to JFET, MOSFET, PMOS, NMOS and CMOS: biasing and application in switching circuits. SCR, TRIAC, DIAC, PJT, CRT: characteristics and applications. Introduction to rectifiers, active filters, regulated power supply, stabilizer.
Logic gates, Logic Families: TTL, ECL, IIL and CMOS logic with operation details, Electronic circuits for flip-flops, Counters and register, Memory systems, PLAs, A/D and D/A converters with applications.

EEE 4261 : Electrical Engineering II Lab
Experiments based on **EEE 4261.**

MCE 4361: Mechanical Technology I
Study of fuels; Thermodynamic system, state, process and cycle. First and Second Laws of thermodynamics; Steam generating units with accessories and mountings; Study of steam generators and steam turbines.
Introduction to internal combustion engines and their cycles; Study of SI engines, CI engines and gas turbines with their accessories.
Refrigeration and air conditioning: their applications; Study of different refrigeration methods; Refrigerants; Refrigeration equipment: compressors, condensers, evaporators, expansion devices, other control and safety devices; Psychrometrics; Study of air conditioning systems with their accessories.
Types of fluid machinery; Study of impulse and reaction turbines: Pelton wheel and Kaplan turbine; Study of centrifugal and axial flow machines: pumps, fans, blowers and compressors; Study of reciprocating pumps.

MCE 4362 : Mechanical Technology I Lab
Experiments based on **MCE 4361**

MCE 4461: Mechanical Technology II

Basic principles of measurements; Characterization and behavior of typical measuring systems; Different types of sensing elements; Proximity sensors; Measuring, transmission and recording methods; Instruments for measuring of displacement, pressure, temperature, heat flux, flow, motion and vibrations, force, torque and strain; Data acquisition and processing.

Control & Automation, Classification of control systems, Hydraulic Systems: Fluid Power Actuators; Hydrostatic Transmission. Control Components in Hydraulic System; Hydraulic Circuit Design and Analysis; Hydraulic Components, Hydraulic Cylinder Sequencing Circuit, Automatic Cylinder Reciprocating Circuit, Cylinder Synchronizing Circuit, Fail Safe Circuit, Speed Control of a Hydraulic Motor, Hydraulic Motor Braking System, Accumulators and Accumulators Circuits. Pneumatic Systems, Sizing Pneumatic Systems, Hydraulic and Pneumatic Logic Control, Moving Part Logic Systems. Electro pneumatics - Electrical signals, Signal flow in control system, Comparison between pneumatic and electro-pneumatic control systems, components of electrical signal control, Sensors for displacement and pressure, proximity sensors capacitive, inductive, and optical, pressure sensor, Relays & contactors.

Differential Equations from Physical Systems, Laplace and Inverse Laplace transformation, Transfer Function, Block Diagram, and Reduction of Block diagrams.

MCE 4462: Mechanical Technology II Lab

Experiments based on **MCE 4461**

CSE 4361: Computer Science and Technology I

Introducing Computer Systems, Number Systems, Processing Data, Storing Data, Operating Systems, Networks, Internet Technologies.

Programming Basics: Programming Languages and the Programming Process, Programming Concepts, algorithm and logic.

Introduction to C: Evolution of C, lexical design and basic syntax, token, operator, identifier, simple data types; variables, constants, declarations; block structure, expressions and statements, compound statements, built-in function, I/O functions, control statements, branching, looping, pointers, file processing.

CSE 4362: Computer Science and Technology I Lab
Experiments based on **CSE 4361**

CSE 4461: Computer Science and Technology II
Overview of Database Management Systems / File Processing Systems, Database System Concepts and Architecture, Data Modeling using Entity-Relationship, Relational Database Model, Normalization, Relational Algebra, Structured Query Language, Transaction & Concurrency, Database Security, Introduction to Data Mining / Data Warehousing, Emerging Applications

CSE 4462: Computer Science and Technology II Lab
Experiments based on **CSE 4461**

CSE 4561 :Computer Science and Technology III
Information Systems and society. Business Process and Decision Making, Productivity, Innovation, and Strategy, Database and Content Management, Decision Making and Business Intelligence, Competitive Advantage and Business Processes, Hardware, Software and Network, E-commerce, Social Networking, Structure, Governance, and Ethics. Legal aspects of Information Technology.

CSE 4562 :Computer Science and Technology III Lab
Experiments based on CSE 4561

CEE 4363: Civil and Environmental Technology I
Mechanical properties of materials, yielding, fracture, elasticity, plasticity, creep, relaxation; Atomic structure and bonding; Crystal and amorphous structures; Brick; Cement; Coarse aggregate and fine aggregate; Mortar; Concrete, mineral admixtures, chemical admixtures, mix design of concrete, fresh and hardened properties of concrete, different types of concrete, shrinkage of concrete, durability of concrete, chloride and carbonation induced corrosion of steel in concrete, condition assessment of concrete structures, non-destructive testing, sustainability, durability, recycling; Paints; Rubber; Plastics; Timber.

CEE 4364: Civil and Environmental Technology I Lab
Experiments based on CEE 4363

CEE 4461: Civil and Environmental Technology II

Definition, aims and objectives of Environmental Impact Assessment (EIA); Environmental issues in development projects; Initial Environmental Examination (IEE); EIA Methodologies; Impact identification, prediction, analysis and evaluation; Environmental Management Plan (EMP); EIA Guidelines; Organization of EIA; Definition of social impact assessment, aims and objectives, social impact in development project; Impact identification assessment; Key informant interview; Focus group discussion, Case studies.

CEE 4462: Civil and Environmental Technology II Lab

Experiments based on **CEE 4461**

BTM 4661: Textile Technology

Introduction: Textile pipeline, classification of Textile fibres, Cotton, Silk, Wool, Regenerated fibres (viscose, lyocell), Synthesis of polymers, Manufacturing of man-made fibres, Polyester, Nylon. Yarn Manufacturing (spinning): Introduction to spinning, Process flow chart, Detailed study of different stages of spinning, Visit the Yarn Manufacturing lab to study the different m/c, Yarn count and calculating yarn count by various methods. Fabric Manufacturing: Introduction to fabric manufacturing, Flow chart of Weaving, Detailed study of different weaving stages, Visit the Fabric Manufacturing lab to study the different m/c Knitting process. Wet Processing: Introduction to wet processing and the sequence of operation, Detailed study of pre-treatment stages, dyeing, printing, finishing. Garments Manufacturing: Introduction to apparel manufacturing, Sequence of operation, Study of different stages of garments making.

3.9.5 Technology Management Electives (2)

Course No.	Course Title
BTM 4621	Production Planning and Inventory Control
BTM 4523	Logistics and Supply Chain Management
BTM 4625	Productivity Management
BTM 4627	Enterprise Resource Planning
BTM 4629	Appropriate Technology
BTM 4531	Product and Services Development
BTM 4633	Strategic Operations Management
BTM 4635	Occupational Health and Safety

BTM 4621: Production Planning and Inventory Control

The course is designed to cover production planning, production scheduling, and inventory control decisions in manufacturing and service organizations; Special topics include: Manufacturing resource planning; use of inventory control in buffering manufacturing activities.

BTM 4523: Logistics and Supply Chain Management

Introduction to supply chain management from both analytical and practical perspectives. Stressing a unified approach, the course allows the student to develop a framework for making intelligent decisions within the supply chain. Key logistics functions are covered to include demand planning, procurement, inventory theory and control, transportation planning and execution reverse logistics, and flexible contracting. Concepts explored include postponement, portfolio management, dual sourcing and others. Emphasis is placed on being able to recognize and manage risk, analyze various tradeoffs, and model logistics systems.

BTM 4625: Productivity Management

Concept of productivity; measurement of productivity; long vs. short term productivity; factors in productivity; reasons for low productivity; measure to improve productivity; developing a productivity orientation in the organization; reward-punishment system for productivity enhancement.

BTM 4627: Enterprise Resource Planning

Examines the principles and techniques for planning and managing resource used in a manufacturing facility. Topics include demand management, inventory management, master scheduling, material and capacity planning, and lean/just-in-time manufacturing.

BTM 4629: Appropriate Technology

This course is designed to give students a broad overview of the main topics encompassed by management of technology. It includes the full chain of innovative activities beginning with research and development and extending through production and marketing.

BTM 4531: Product and Service Development

NPD processes, from setting a strategic framework for the development effort through to monitoring post-launch success; methods of marketing research and

the use of analytical approaches such as perceptual mapping, benefit segmentation, trends unbundling and morphological analysis; screening and ranking processes to set priorities for development; converting concepts into prototypes; developing strategies and plans for the commercial launch. Some exercises may require flexibility with timing of classes.

BTM 4633: Strategic Operations Management

The course provides unifying framework for analyzing strategic issues in manufacturing and service operations. Analyzes relationships between manufacturing and service companies and their suppliers, customers, and competitors. Also covers decisions in technology, facilities, vertical integration, human resource and other strategic areas. Explore means of completion such as cost, quality and innovativeness. Provides an approach to make operations decisions in the era of outsourcing and globalization.

BTM 4635: Occupational Health and Safety

Personal Health and Safety: personal health and safety at home and in the workplace, blood borne virus, hepatitis B, HIV, dermatitis, skin care .Personal Safety: emergency first aid treatment, reaction to accidents, reporting of accidents, pro-active procedures when accidents occur, cleaning the accident site, personal safety wear and protective equipment. Accidents & Their Effect on Industry, costs of accidents, work accident costs and rates, time lost, work injuries, parts of the body injured on the job, chemical burn injuries, Carpal Tunnel Syndrome Injuries, Drugs and Alcohol in the Workplace. Theories of Accidents: (Essay-Select 1 of the following theories), Domino Theory of Accident Causation, Human Factors Theory of Accident Causation, Accident/Incident Theory of Accident Causation, Epidemiological Theory of Accident Causation, Systems Theory of Causation, Combination Theory of Accident Causation. WHMIS Workplace Hazardous Material Information System: routes of entry into the body of toxic materials, general safety precautions, cleaning chemical spills, MSDS sheets. Falling, Impact, Acceleration and Lifting Hazards: correct lifting techniques, selecting correct lifting procedures in the workplace, safety equipment, safe storage of materials at home and in the workplace, dealing with manual handling. Workers Compensation: injuries and workers compensation, workers' compensation legislation, resolution of workers' compensation Disputes, Roles of Health and Safety Personnel: the modern health and safety team, health and safety manager,

engineers and safety, Stress and Safety: workplace stress defined, sources of workplace stress, human reaction to workplace stress, measurement of workplace stress, shift work, stress and safety, improving safety by reducing stress, stress in safety managers, stress and workers compensation, Mechanical Hazards and Safeguarding: common mechanical injuries, safeguarding defined, lockout/tag out systems, taking corrective action, Heat and Temperature Hazards: the body's response to heat, heat stress and its prevention, overview of cold hazards, preventing cold stress, Fire Hazards: sources of fire hazards, fire dangers to humans, detection of fire hazards, reducing fire hazards, development of Fire Safety Standards, fire safety myths, and fire hazards defined, Noise and Vibration Hazards: hazards levels and risks, identifying and assessing hazardous noise conditions, noise control strategies, and vibration hazards, Preparing for Emergencies: first aid in emergencies, reporting accident, Promoting Safety: safety committees, Health and Safety Training: rationale for health and safety training, Industrial Hygiene: hazards in the workplace, entry points for toxic agents, airborne contaminants, asbestos hazards, hazard recognition, evaluation and control.

3.9.6 Elective from Pool A/B/C/D/E (2)

3.9.6.1 Pool A: Accounting

Course No.	Course Title
BTM 4805	Cost Accounting
BTM 4807	Advanced Financial Accounting
BTM 4809	Accounting Theory
BTM 4811	Auditing
BTM 4813	Accounting Information System
BTM 4815	Taxation
BTM 4817	Strategic Management Accounting
BTM 4819	Financial Information Analysis

BTM 4805: Cost Accounting

This is an advanced course dealing with the techniques of costing and the use of cost information for managerial planning and control. It covers: Introduction to Cost Accounting; objectives and importance of cost accounting; cost concepts and cost classification; material costing; store keeping and inventory control; valuation of inventory; labor cost accounting; chargeable expenses; manufacturing and non-manufacturing overheads; job order and batch costing; process costing; activity based costing; standard costs; variance analysis; statement of cost of production.

BTM 4807: Advanced Financial Accounting

This is an advanced course dealing with the topics like data consignment and joint venture accounts, branch and departmental accounts, hire purchase and installment accounting, lease accounting, accounting for liquidation of companies (insolvency act), financial statement of group of companies, accounting related to insolvency; accounting related to mergers and amalgamation partnership firms accounting and valuation of goodwill.

BTM 4809: Accounting Theory

This course focuses elaborately on accounting conceptual framework, accounting concepts, standard setting measurement and recognition issues, and characteristics of accounting information. Topics and objectives include: objectives of financial reporting, financial statements, and elements of financial statements. Another major part of this course includes detailed of International Accounting Standards (IAS)

BTM 4811: Auditing

The course deals with principles of auditing, auditor's duties and responsibilities, basic auditing techniques, verification and valuation of assets and liabilities, internal checks, internal control and auditor's reports. Auditing standards are also covered in this course. Major parts of this course are: financial audit, cost audit and management audit.

BTM 4813: Accounting Information System

This course is designed to present an understanding of accounting information systems and their role in an accounting environment. Particular attention is paid to transaction cycles and internal control structure. Topics covered include

accounting software application, control concepts and procedures, auditing of information systems, internets, intranets, electronic commerce, Accounting Information Systems Security and Auditing, Management Reports and Decision-Making Tools, Data Management Concepts and Electronic Data Interchange (EDI) and the role of information systems.

BTM 4815: Taxation

The course is primarily designed to provide the students with a fundamental understanding of economic effects of taxation on business entities and individuals prevailing in Bangladesh. Different types of tax e.g. income tax, gift tax, wealth tax, direct and indirect tax etc. are elaborately covered in this course. At the end of the course, the students are expected to be to: understand the role of taxation in overall economic development of an economy, understand the place of taxation in overall fiscal policy of a government, understand relevant provisions of taxation rules in Bangladesh and independently assess the tax liabilities of corporate and personal entities.

BTM 4817: Strategic Management Accounting

Through the course the students are expected to learn how to measure and report financial and non-financial information that helps manager to make strategic information and fulfill the goals of an organization. The course includes the topics: pricing, make or buy decisions, re-structuring decision, re-engineering decision, merger decision, transfer pricing corporate performance evaluation, strategic profitability analysis, product like extension marketing mix decisions, accounting information for strategic positioning, strategic cost driver analysis, etc.

BTM 4819: Financial Information Analysis

This course is designed to: develop basic skills in financial statement analysis; teach students to identify the relevant financial data used in variety of decision contexts, such as equity valuation, forecasting firm-level economic variables, distress prediction and credit analysis; helps students appreciate the factors that influence the outcome of financial reporting process, such as the incentives of reporting parties, regulatory rules, and a firm's competitive environment. At the end of the course the students are expected to acquaint with various tools and techniques of financial analysis and to provide them with opportunities to apply these tools and techniques in analyzing financial statements necessary for practical business decisions.

3.9.6.2 Pool B: Finance

Course No.	Course Title
BTM 4821	Corporate Finance
BTM 4823	Portfolio Management
BTM 4825	Financial Markets and Institutions
BTM 4827	Bank Management
BTM 4829	International Finance
BTM 4831	Financial Derivatives
BTM 4833	Insurance and Risk Management
BTM 4835	Taxation
BTM 4837	Financial Information Analysis

BTM 4821: Corporate Finance

The purpose of this course is to introduce techniques of financial analysis, with emphasis on financial and capital budgeting decision. The main topics covered include: the time value of money and the net present value rule, valuation of bonds and stocks, capital budgeting decisions, uncertainty and the trade-off between risk and return, and corporate financing and divided policy decisions.

BTM 4823: Portfolio Management

The course cover concepts and techniques of portfolio management; topics include: risk diversification evaluating portfolio; portfolio selection; analyzing portfolio performance; examining the pattern of changes in valuation of portfolio performance; capital asset pricing model.

BTM 4825: Financial Markets and Institutions

This course provides students with an understanding of the mechanisms of various financial markets, and institutions such as banks, stock exchanges and brokers. You will develop a critical awareness of the theoretical and practical problems associated with regulating financial markets. It investigates how the market structures potentially cause and mitigate financial risk to market participants and end users. It reviews how financial scandals and crises arise, and how they may be resolved.

BTM 4827: Bank Management

The subject matter of this course is organization and accounting in banks. This is related to the problems of how many banks control their portfolios and how they

make it profitable. In the era of globalization, many investment and commercial banks have developed themselves as multinational financial institutions. Also, they invest their assets and hedge their risk globally. This course aims to enhance student's ability to manage banking institutions that have both national and international exposures.

BTM 4829: International Finance

The course focuses on international financial management and international trade. Topics in financial management, viewed primarily from the perspective of managers doing business overseas, include export/import financing, the management of foreign exchange exposure, foreign direct investment decisions and multinational capital budgeting. Other topics include trends in international banking, the balance of payments, the determination of exchange rates and the LDC debt crisis. It examines the challenges and problems faced by firms planning on doing business in western Europe, Eastern Europe, the Far East, Mexico, Canada, South America and Africa doing the next decade.

BTM 4831: Financial Derivatives

The purpose of the course is to analyze the derivatives securities that are commonly encountered in practice. It examines the theoretical framework within which derivative securities can be valued. The course also highlights the alternative hedging strategies for financial institutions and portfolio managers. Options, futures, forward contracts, swaps etc. are the main topics of this course.

BTM 4833: Insurance and Risk management

This course introduces the principles of risk management and insurance. The students acquire a fundamental knowledge of risk exposures, the management of pure risk, and the insurance mechanism. Another objective is to make the students a more informed consumer of insurance products when they conduct both business and personal matters.

BTM 4835: Taxation

The course is primarily designed to provide the students with a fundamental understanding of economic effects of taxation on business entities and individuals prevailing in Bangladesh. Different types of tax e.g. income tax, gift tax, wealth tax, direct and indirect tax etc. are elaborately covered in this course. At the end of the course, the students are expected to be able to: understand the role of taxation in overall fiscal policy of a government, understand the place of taxation

overall fiscal policy of a government, understand relevant provision of taxation rules in Bangladesh and independently assess the tax liabilities of corporate and personal entities.

BTM 4837: Financial Information Analysis

This course is designed to: develop basic skills in financial statement analysis; teach students to identify the relevant financial data used in a variety of decision contexts, such as equity valuation, forecasting firm-level economic variables, distress prediction and credit analysis; help students appreciate for the factors that influence the outcome of the financial reporting process, such as the incentives of reporting parties, regulatory rules, and a firm's competitive environment. At the end of the course, the students are expected to acquaint with various tools and techniques of financial analysis and to provide them with opportunities to apply these tools and techniques in analyzing financial statements necessary for practical business decisions.

3.9.6.3 Pool C: Human Resources Management (HRM)

Course No.	Course Title
BTM 4841	Human Resource Planning
BTM 4843	Training and Development
BTM 4845	Labor- Management Relations
BTM 4847	Compensation Theory and Administration
BTM 4849	Negotiation and Conflict Management
BTM 4851	Performance Management
BTM 4853	Wages and Labor Market
BTM 4855	Human Resource Information Systems
BTM 4857	Strategic Human Resources Management

BTM 4841: Human Resource Planning

Importance of Man power planning: issues in Human Resource Planning; Planning model; Determination of Future Human Resource Requirements; Determination of Future Human Resource Availability; Assessing Gaps and objectives; Action Planning to match the gaps; Human Resource Information system; Manpower planning as the basis of recruitment selection; Training and phasing out; A system approach to Annual Manpower Planning Exercise.

BTM 4843: Training and Development

Training and Development function; Strategy and training; Organizations of the training department; Training needs assessment; Learning and behavior; Designing of training programs; Evaluation of Training programs in organization developments; Theory and practice of career development; Developing career structures; Identifying organizational needs; Institutionalizing the career development system; Evaluating the systems.

BTM 4845: Labor-Management Relations

This is a specialized course which starts with Labor-management relations at the firm level; Evolution of Labor-management relations; Characteristics and contemporary issues; Emphasis on analysis of the labor-management relationship through reference to theory and research on collective action; bargaining behavior and conflict resolution.

BTM 4847: Compensation Theory and Administration

Compensation Theory; Job analysis; Preparation of job description; Fundamentals of job evaluation; Methods of compensation including incentives; Fringe benefits; Determination of wage levels; wage structures and individual wages; analysis of the impact of wages on individual attitudes and decisions to participate and perform in an organization.

BTM 4849: Negotiation and Conflict Management

Overview and definition; Conflict management styles; Problem solving approaches; Negotiation strategizing, training and planning; Nature of negotiation; Strategy and tactics of distributive bargaining; Strategy and tactics of integrative negotiation; perception, cognition and communication; Identifying and using negotiation leverage; Global negotiations in social context; Managing negotiation; Ethics in negotiation

BTM 4851: Performance Management

Performance Management Cycle; Planning, Coaching, Reviewing, Rewarding, Improving; Performance Planning: Using job analysis, Developing performance standard, Communicating performance expectation; Coaching Performance: Establishing trustful relationships, Identifying causes of poor performance; Reviewing Performance: Different approaches to performance appraisal; Rewarding Performance: Compensation management, Performance pay, Knowledge-based pay; Improving Performance: Mentoring, Career development.

BTM 4853: Wages and Labor Market

Demand for labor; Quasi-fixed labor costs; Supply of labor; Labor unions and collective bargaining; Household production models; Investment in human capital; Education and training; Earnings differentials; Compensation differentials; Discrimination; Compensation structure; Unemployment and inflation and labor market issues in Bangladesh.

BTM 4855: Human Resource Information Systems

Human Resource Information System (HRIS) Basics, Human resource policies and practices enabled by HRIS, Internet recruiting and applicant tracking, e-learning and other forms of technology-based training, Telecommuting and the Virtual Workplace, Global work groups, Human Resources for Knowledge Workers.

BTM 4857: Strategic Human Resources Management

Definition and overview of strategy; The role of human resource management in the strategic process; Preparation and implementation of human resource strategies; relationship between strategic human resource management and human resource planning; human resource management impact on the process of organizational change; role of HR practitioners in mergers and acquisitions; Behavioral change; Recruitment and retention strategies; re-sourcing strategies.

3.9.6.4 Pool D: Information Systems

Course No.	Course Title
BTM 4861	Computer Programming
BTM 4863	Systems Analysis
BTM 4865	Database Management
BTM 4867	E-Commerce
BTM 4869	Decision Support Systems
BTM 4871	Information Technology Management
BTM 4873	Information Systems Strategy

BTM 4861: Computer Programming

This course is designed to provide students the opportunity to examine visual basic programming, learn how to create windows applications using the Microsoft Visual Basic, modify existing windows applications with VB for applications, and understand the practical application of VB features. Additionally, the course is concerned with programming logic, documentation, design choices, and the Systems Development Life Cycle.

BTM 4863: Systems Analysis

This course is designed to provide students with a basic understanding of how to develop and implement computer-based management information systems. Students will be introduced to a variety of system development concepts and techniques. These can include traditional approaches such as top-down or structured analysis, problem definition, feasibility analysis, enterprise analysis, and data flow diagrams, as well as interactive and iterative development approaches such as prototyping and object-oriented concepts and techniques. The course also explores topics, related to successful implementation of systems such as testing strategies, project management and user oriented design and software maintenance.

BTM 4865: Database Management

The course covers theories and models in system-centered approaches to information retrieval and database management. Information retrieval and database management systems include text and multimedia databases, web search engines and digital libraries. Issues in system design, development and evaluation, and tools for searching, retrieval, user interfaces, and usability.

BTM 4867: E-Commerce

This course provides a comprehensive presentation of the concepts, technologies, and tools necessary for designing and implementing information systems that support electronic commerce (e-commerce) initiatives. The primary objective is to familiarize students with the current literature related to e-commerce including networking basics, infrastructure architectures, security, and front T end/back-end integration, development tools, emerging business models, marketing tactics, online investing, and designing interactive Web sites to enhance usability.

BTM 4869: Decision Support Systems

This course covers fundamental concepts of information as well as decision support systems. The course focuses on information systems terminologies, decision-making process, data management, access, and visualizations, constructing a Decision Support Systems. The course also briefly discusses Executive Information Systems and networks role in a Decision Support System.

BTM 4871: Information Technology Management

This course is designed to provide students with a basic understanding of how to develop and implement computer-based management information systems. Students are introduced to a variety of system development concepts and techniques. These can include traditional approaches such as top-down or structured analysis, problem definition, feasibility analysis, enterprise analysis, and data flow diagrams, as well as interactive and iterative development approaches such as prototyping and object-oriented concepts and techniques. The course also explores topics related to successful implementation of systems such as testing strategies, project management, and user oriented design and software maintenance. Students will work in teams to analyze, design, and build a small information system.

BTM 4873: Information Systems Strategy

This course prepares students to develop an understanding and appreciation for the impact of IT on the economy and business performance, emerging public technology infrastructure and its role in the modern organization, electronic business applications and organizational/market transformation, and technology driven business models and strategies.

3.9.6.5 Pool E: Marketing

Course No.	Course Title
BTM 4881	Basic Marketing Research
BTM 4883	Consumer Behavior
BTM 4885	Integrated Marketing Communication
BTM 4887	Selling and Salesmanship
BTM 4889	International Marketing
BTM 4891	Brand Management
BTM 4893	Channel Management
BTM 4895	Retail Management
BTM 4897	Business to Business Marketing
BTM 4899	Strategic Marketing

BTM 4881: Basic Marketing Research

This course is designed to train the students in using the tools and techniques for developing an analytical framework of marketing, developing solutions to marketing problems, formulations of marketing strategy, introductions to research techniques in marketing, review of sources of marketing information, collection, tabulation, analysis and interpretation of marketing information.

BTM 4889: Consumer Behavior

This course provides a framework for analyzing consumer behavior. Topics covered are: Marketing concept and consumer behavior; Utility and need satisfaction; Communicating with consumer; Consumer adoption and diffusion process, Repurchase, purchase and post purchase behavior; Product involvement and type of purchase decision; Understanding consumer; Demographic, Social and Psychographic factors; influences of external factors; Model of human behavior, Classification of situation influencing consumer behavior; Consumer decision process; Consumer movement and consumerism; institutional buying behavior; Consumer and price; Consumer and institutional decision; Household, sales person and advertising.

BTM 4885: Integrated Marketing Communication

A management concept that is designed to make all aspects of marketing communication such as advertising, sales promotion, public relations, and direct marketing work together as a unified force, rather than permitting each to work in isolation. This course deals with marketing products that have information and/or entertainment content. The products are of the sort offered by media companies and may be delivered via print, television, radio, film, Internet, direct mail, or live-event channels.

BTM 4887: Selling and Salesmanship

Topics include: Importance of selling; Sales as a profession; Selling tasks; order processing and creative selling; Creative selling process; Prospecting and qualifying; Pre-.approach and approach presentation, demonstration, objection handling; Closing the sales; Follow-up; Managing sales; sales planning and advertising; Managing sales effort; recruitment, selection, training, organizing, supervision, motivation, compensation and evaluation; Territory planning and quota administration. Training and motivating sales people in Bangladesh.

BTM 4889: International Marketing

This course examines the challenge of entering and operating effectively in foreign markets. Decisions must be made regarding international marketing objectives, strategies and policies, foreign market selection, adaptation of products, distribution channels of communications to fit each foreign market, and systems of international marketing organization, information gathering, planning and control. These topics, along with an exploration of cultural issues, are examined through reading, case discussion, class presentations and a term project. Marketing reports for major countries will be prepared to offer valuable insights, as well as tips and techniques for marketing products and services in a specific country.

BTM 4891: Brand Management

Concept of brand management; its advantages and implications; scope of brand management; responsibility of a brand manager; product portfolio analysis; managing a brand over its life cycle; developing new brands; management of breadth and width of a product line; designing a pricing and a promotional strategy for the brands; and developing distribution system for the brands. Elements of Brand Equity, Brand Values, Message and Personality, Brand Icons, Brand Relevance and Brand Roadmap, Brand Valuation, Analyzing the Competitive Situation relevant to a Brand, Defining a Brand's Competitive Advantage, Setting Brand Objectives, Defining Strategic Variables relevant to a Brand, Creating Strategic Brand Alternatives, Tactical Implementation for a Brand Strategy, Brand Hierarchies and Portfolios, The Future of Branding (trends worldwide and in Bangladesh).

BTM 4893: Channel Management

This course emphasizes the means by which effective and efficient distribution network (comprising manufacturers, wholesalers, retailers, transportation firms and other actors in the distribution process) can be constructed. Particular attention is given to examining the behavioral dimensions of channel relations, the roles of channel members their use of power, the conflicts that arise among them and their communication procedures. Government and other constraints on channel activities are also examined. Cases are used for illustrative and analytical purposes.

BTM 4895: Retail Management

This course is designed to familiarize students with retail management and career opportunities in the retail field. Topics include: Importance of Retailing as a marketing institution; services of retailing; large scale retailing; integrated vs. independent retailing; controlling and coordination of independent retailers' activities; wheel of retailing and retail morality. Retailing in Bangladesh: store vs. non-store retailing and its socio-economic importance; standardization of retailing services; future trend. Major retail institutions (e.g. department stores, specialty stores, discount stores), the components of the retail mix and the functional areas of retailing are examined.

BTM 4897: Business to Business Marketing

Business markets are different from consumer markets in several ways. Typically, the orders and the customers are bigger, and the buying process/ buying unit is more complex. Usually, there is a need for a great deal of internal coordination and sometimes a high level of customization and complex order fulfillment. All of these demand continuous and intensive interaction with customers. This course provides a progressive approach to business marketing and business market management, which is the process of understanding, creating and delivering value to targeted business markets and customers. Business markets are composed of firms, institutions or governments. The course provides an understanding of nine business market processes: market sensing and value assessment, gaining customers, sustaining reseller partnerships; and sustaining customer relationships.

BTM 4899: Strategic Marketing

Specific topics include marketing strategy, market research and analysis, and the development of products and services, pricing, distribution and promotion. The course integrates marketing decision making within the context of manufacturing and financial dimensions of a business organization. Course participants should expect to use large doses of common business sense and managerial acumen and to rely heavily on sound business and marketing principles in the learning process.

BTM 4700: Internship

After completion of six semester, students will do internship during October to March.

3.9.7 Semester-wise Course Distribution

First Semester

Course Number	Course Title	Contact Hours	Credit Hours
BTM 4101	Principles of Management	3-0	3.00
Hum 4161	Sociology	3-0	3.00
Math 4161	Mathematics I	3-0	3.00
BTM 4103	Financial Accounting I	3-0	3.00
Hum 4163	Business English	3-0	3.00
EEE 4161	Electrical and Electronic Technology I	3-0	3.00
EEE 4162	Electrical and Electronic Technology I Lab	0-3/2	0.75

Second Semester

Course Number	Course Title	Contact Hours	Credit Hours
BTM 4201	Financial Accounting II	3-0	3.00
BTM 4203	Business Communication	3-0	3.00
BTM 4205	Principles of Marketing	3-0	3.00
BTM 4207	Organizational Behavior	3-0	3.00
BTM 4209	Micro Economics	3-0	3.00
EEE 4261	Electrical and Electronic Technology II	3-0	3.00
EEE 4262	Electrical and Electronic Technology II Lab	0-3/2	0.75

Third Semester

Course Number	Course Title	Contact Hours	Credit Hours
CSE 4361	Computer Science and Technology I	3-0	3.00
CSE 4362	Computer Science and Technology I Lab	0-3/2	0.75
CEE 4363	Civil and Environmental Technology I	3-0	3.00
CEE 4364	Civil and Environmental Technology I Lab	0-3/2	0.75
BTM 4301	Management Accounting	3-0	3.00
Math 4361	Mathematics II	3-0	3.00
BTM 4303	Human Resource Management	3-0	3.00
MCE 4361	Mechanical Technology I	3-0	3.00
MCE 4362	Mechanical Technology I Lab	0-3/2	0.75

Fourth Semester

Course Number	Course Title	Contact Hours	Credit Hours
MCE 4461	Mechanical Technology II	3-0	3.00
MCE 4462	Mechanical Technology II Lab	0-3/2	0.75
Math 4461	Business Statistics	3-0	3.00
BTM 4401	Legal Environment of Business	3-0	3.00
BTM 4403	Macro Economics	3-0	3.00
CSE 4461	Computer Science and Technology II	3-0	3.00
CSE 4462	Computer Science and Technology II Lab	0-3/2	0.75
CEE 4461	Civil and Environmental Technology II	3-0	3.00
CEE 4462	Civil and Environmental Technology II Lab	0-3/2	0.75

Fifth Semester

Course Number	Course Title	Contact Hours	Credit Hours
BTM 4501	Research Methods	3-0	3.00
BTM 4503	Financial Management 1	3-0	3.00
BTM 4505	Marketing Management	3-0	3.00
Hum 4561	Psychology	3-0	3.00
CSE 4561	Computer Science and Technology III	3-0	3.00
CSE 4562	Computer Science and Technology III Lab	0-3/2	0.75
	Elective I from Technology Management Electives	3-0	3.00

Sixth Semester

Course Number	Course Title	Contact Hours	Credit Hours
BTM 4601	Financial Management 2	3-0	3.00
BTM 4603	Operations Management	3-0	3.00
BTM 4605	International Business Environment	3-0	3.00
BTM 4661	Textile Technology	3-0	3.00
BTM 4609	Management Information System	3-0	3.00
	Elective II from Technology Management Electives	3-0	3.00

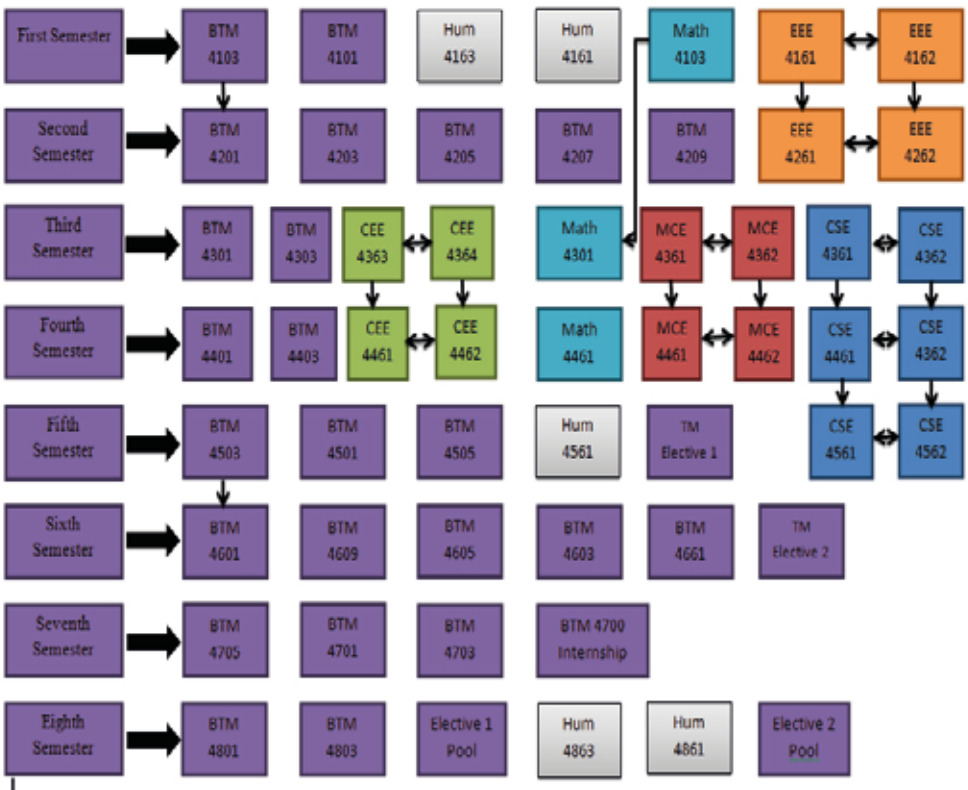
Seventh Semester

Course Number	Course Title	Contact Hours	Credit Hours
BTM 4701	Operations Research	3-0	3.00
BTM 4703	Quality Management	3-0	3.00
BTM 4705	Entrepreneurship	3-0	3.00
BTM 4700	Internship (Start after 6th Semester (October-March)	9-0	9.00

Eighth Semester

Course Number	Course Title	Contact Hours	Credit Hours
BTM 4801	Project Management	3-0	3.00
BTM 4803	Technology Management	3-0	3.00
Hum 4861	Business Ethics and Leadership	3-0	3.00
Hum 4863	Science, Technology and Islam	3-0	3.00
	Elective I from Pool A/B/C/D/E	3-0	3.00
	Elective II from Pool A/B/C/D/E	3-0	3.00

Prerequisite Flow Diagram:



Activities of BTM Department at IUT in 2019

Workshop

A workshop was jointly organized by the BTM Department, IUT and Bangladesh Supply Chain Council on 22 March, 2019 on "Supply Chain Management and Its Dynamics". The Chief Guest of the workshop was Prof. Dr. Md. Fazli Ilahi, Former Vice Chancellor, IUT. The Special Guest of the workshop was Dr. Omar Jah, Acting Vice Chancellor, IUT. The workshop was coordinated by Prof. Dr. Mohammad Rakibul Islam (Head, BTM Department, IUT) and inaugurated by M. Nayeem Hossain (President, Bangladesh Supply Chain Council). The Guest Speakers of the workshop were Sadat Shahid (IT Director, Unilever Bangladesh), Wares Habib (Chief Operating Officer, PRAN RFL Group), Parvez Sajjad (Head of Supply Chain, Nestle Bangladesh Limited), A.K.M. Al-Amin (Chief Procurement Officer, Grameenphone Limited), Mohammad Rashedul Alam (Head of Supply Chain, bKash Limited).

A delegation from Emporia State University (ESU), Emporia, Kansas, USA visited IUT on June 24, 2019 to discuss possibilities to form a partnership and student exchange program between BTM Department, IUT and School of Business, Emporia State University (ESU). The delegation comprises Dr. Ed Bashaw, Dean, School of Business, ESU; Dr. Mark Daly, Dean of International Education, ESU; Mohammed Sajedur Rahman, Ph.D, Director of Placement Services for IS, CS, & Accounting, Assistant Professor of Information Systems, School of Business, ESU.

Dr. Omar Jah, Acting Vice-Chancellor of Islamic University of Technology (IUT), Bangladesh and Dr. Allison Garrell, President of Emporia State University (ESU), Kansas, USA, signed a Memorandum of Understanding (MoU) on behalf of their respective University on 09 December 2019 at the ESU campus. Under the MoU framework, the undergraduate students of the Department of Business and Technology Management (BTM) of IUT will be able to do their final year study, while the IUT graduates can pursue post graduate studies at ESU.

A seminar was arranged by the BTM Department on June 21, 2019 on "Application and Importance of IAS and IFRS in Formulating Corporate Financial Statements". The speaker of the seminar was Mr. Abdul Khalek, FCA, Director and CFO, BERGER Paints Bangladesh Limited. The seminar was focused on the practical scenario of applying IAS and IFRS in formulating corporate financial statements.

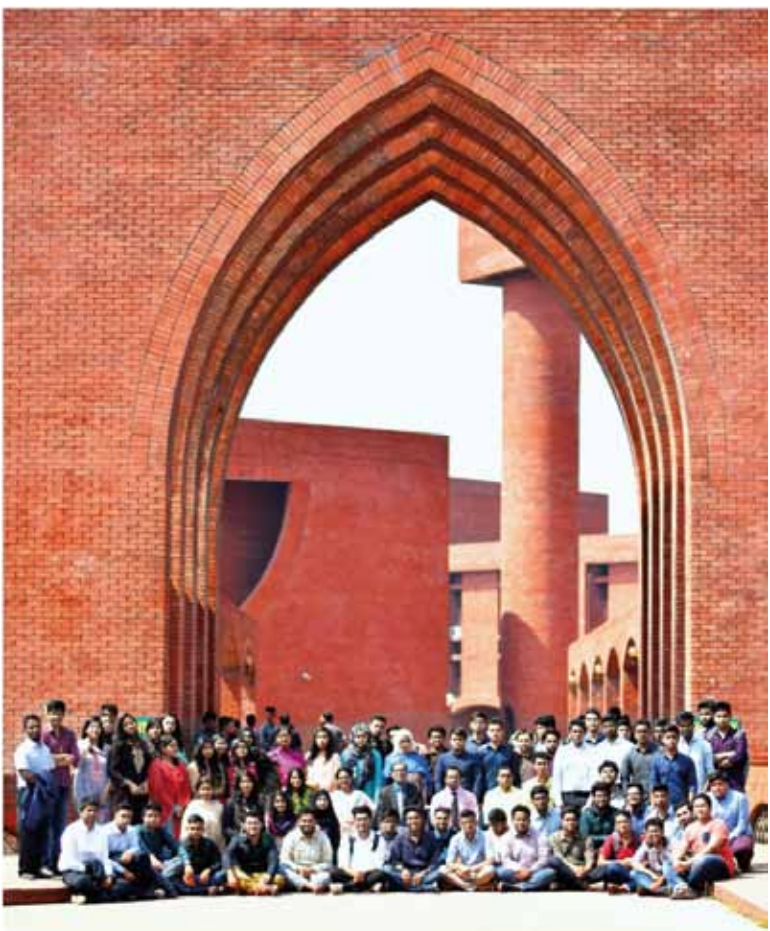
Mr. Faisal MD. Abdur Rahman, IT Service Delivery Manager, Unilever Bangladesh, conducted an important seminar on Emerging Future of Business with INTERNET of THINGS(IoT) at IUT. An IoT system consists of sensors/devices which "talk" to the cloud through some kind of connectivity. Once the data gets to the cloud, software processes it and then might decide to perform an action, such as sending an alert or automatically adjusting the sensors/devices without the need for the user. Business and Technology Management (BTM) is expecting to rule the future IT Business by extreem utilization of Internet of Things.

Short Course

Short Course on "Business analysis with R" organized by BTM Department

Department of Business and Technology Management (BTM) have successfully organized a short course on "Business Analysis with R" from 11 November to 14 November, 2019 in IUT Campus. Dr. Md. Siddiqur Rahman, Professor and Head of Department of Statistics at Jagannath University and Dr. Abul Kalam Azad, Assistant Professor of BTM department conducted different interactive applied oriented lecture session on R with the participants from different organizations. 24 participants from 05 (five) member states [Bangladesh, Uganda, Nigeria, Cameroon and Yemen] attended the short course.

Dr. Omar Jah, Honorable Acting Vice-Chancellor of Islamic University of Technology (IUT) was present as the Chief Guest during the closing ceremony and distributed certificates among the participants. Prof. Dr. Md. Ashraful Hoque, Dean, Faculty of Engineering & Technology; Prof. Dr. Md. Rakibul Islam, Dean, Faculty of Science and Technical Education were also present in the closing ceremony. Prof. Dr. Md. Anayet Ullah Patwari, Head, BTM department preside over the ceremony. Ms. Shobnom Munira, Lecturer, BTM department was the course coordinator of the short course.



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