Curriculum

Bachelor of Information and Communication Technology (Honours) Degree – BICT (Honours)

2024-2029

FACULTY OF TECHNOLOGY
EASTERN UNIVERSITY, SRILANKA
VANTHARUMOOLAI
CHENKALADY

1. Curriculum

The BICT degree programme provides two specialization tracks such as “Multimedia Designing Techniques (MDT)” and “Software Development Techniques (SDT)”. The specialization tracks are introducing from Year III of the programme. Year III and Year IV of the programme contains the core courses as well the specialized courses. The students who select all the specialized courses in the Multimedia Designing Techniques are eligible to get the degree in Bachelor of Information and Communication Technology Honours in Multimedia Designing Techniques (BICT Hons (MDT)). The students who select all the specialized courses in the Software Development Techniques are eligible to get the degree in Bachelor of Information and Communication Technology Honours in Software Development Techniques (BICT Hons (SDT)). The students may select the elective courses but not exceeding the total credits of each semester and earns 120 credits from Grade Point Value (GPV) courses and 30 credits from non-Grade Point Value (GPV) courses to get the degree in Bachelor of Information and Communication Technology Honours (BICT Hons).

1.1. Course Details

1.1.1. Foundation Courses

Course units in this area designed to provide the basic knowledge on the topics Discrete Mathematics, Computational Mathematics, Digital Electronic System, Statistical Techniques for Computing and Operational Research.

1.1.2. Core Courses

Course units in this area designed to provide the core knowledge on following topics that an undergraduates possess in the present ICT era Vz Computer Systems, Fundamental of ICT, Programming Techniques, Social Computing, System Analysis and Design, Business System Analysis, Data Structures and Algorithms, Object Oriented Programming, Operating System, Visual Programming, Computer Networks, Database Management Systems, Web System Development, Human Computer Interaction, Information Security, Network Programming, Software Engineering, System Administration, Bio Informatics, e-Commerce, Software Project Management, Mobile Application Development, Professional Ethics, Research Methodology, Green Computing, Information Security Governance, Business Intelligence, Independent Research Project and Industrial Training.

1.1.3. Specialized Courses

The BICT degree programme provides two specialization tracks such as “Multimedia Designing Techniques” and “Software Development Techniques”. These specialized courses can be offered as elective courses for BICT (Hons).

1.1.3.1. Multimedia Designing Techniques (MDT)

Course in this track designed to provide the knowledge in the specialized area with the topics Computer Graphics, Emerging Technologies in Multimedia Development, Multimedia Design, Audio and Video Production Techniques, Digital Design and Animation Techniques, Virtual Reality, Digital Marketing & Analytics, Fundamental of 3D Software and Multimedia Data Processing.

1.1.3.2. Software Development Techniques (SDT)

Course in this track designed to provide the knowledge in the specialized area with the topics Emerging Technologies in Software Development, Object-Oriented Analysis & Design, Software Architecture & Design, Cloud Computing, Enterprise Resource Planning Systems, Internet of

Things, Secure Software Development, Software Configuration Management and Software Quality Assurance.

1.1.4. Non–Grade Point Value (GPV) Courses

Course in this subject area are designed to provide the skill and basic knowledge on following topics that an undergraduates possess in the present era Vz: Secondary Languages: Sinhala/Tamil, Social Harmony, English for Technology I – VII (Grammar/Language Structure, Reading and Listening Skills, Writing and Speaking Skill, Scientific writing and Presentation Skills), Principles of Management, Career Guidance, Computer Based Accounting, Financial Management and Entrepreneurship & Small Business Management. These courses are called non–Grade Point Value (GPV) Courses and treated as credit value course but not taken for the GPA calculation.

1.2. Credit Units and Independent Learning

Courses offered in the degree programme are designed in credit units. One credit unit is equivalent to either **15 hours** of lectures or **30 hours** of practical. Each course is taught and assessed within the same semester and end semester examinations which will be conducted at the end of each semester. A student should complete **150** credit units (120 GPV Credits and 30 Non-GPV Credits) during the four academic years of the degree programme. More than 50% of the programme will consist of practical oriented skill development. To promote the independent learning skills, appropriate learning activities and time requirement were incorporated into the curriculum. Since the new curriculum was developed using the Student-Centered approach based on the desired learning outcomes, the credit unit was restated based on the student workload. Course notation was made more descriptive, including the number of independent learning hours pertaining to each course in addition to the number of lecture hours and practical hours. The numbers following a course title indicate the number of credit units, the number of lecture hours, practical hours and independent learning hours respectively that are assessed during the course.

E.g:

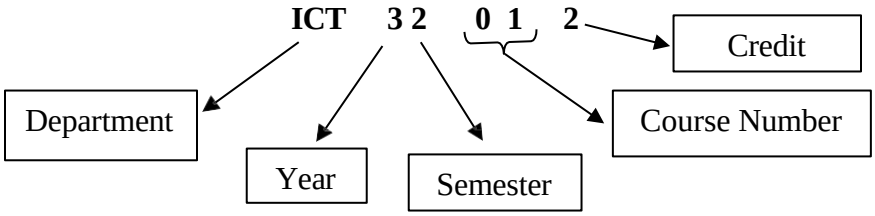
- A 1 credit course of 15 hours of theory and 35 hours of independent learning will be indicated as (1:15/00/35) - **Notional hours: 50 hrs.**
- A 1 credit course of 30 hours of practical and 20 hours of independent learning will be indicated as (1:00/30/20)- **Notional hours: 50 hrs.**
- A 2 credit course of 15 hours of theory, 30 hours of practical and 55 hours of independent learning will be indicated as (2: 15/30/55) - **Notional hours: 100 hrs.**
- A 2 credit course of 30 hours of theory and 70 hours of independent learning will be indicated as (2: 30/00/70) - **Notional hours: 100 hrs.**
- A 2 credit course of 60 hours of practical and 40 hours of independent learning will be indicated as (2: 00/60/40) - **Notional hours: 100 hrs.**

1.3. Course Code

Course notation is an abbreviated term denoting the name of the department followed by **five digits**. The **first** digit represents the year of the programme, the **second** digit represents the semester, the **third and fourth** digit**s** represent the course number offered by the department and the **fifth** digit represents the credit weight of the course.

- **ICT –** Courses offered by the Department of Information and Communication Technology
- **MDS** – Courses offered by the Department of Multidisciplinary Studies

E.g.: **ICT 32012**



1.4. Credits Allocation for Semesters

Credit allocation for each semester and total credits offered in the BICT Hons, BICT Hons (MDT) and BICT Hons (SDT) degree programmes are shown in Table 1.

Table 1: Credit Allocation for Semesters

Year	Semester	Credits
Year I	Semester I	15 + 5 (NGC)
	Semester II	15 + 4 (NGC)
Year II	Semester I	15 + 4 (NGC)
	Semester II	15 + 4 (NGC)
Year III	Semester I	17 + 5 (NGC)
	Semester II	17 + 4 (NGC)
Year IV	Semester I	12
	Semester II	14 + 4 (NGC)
Total Credits		**120 + 30 (NGC)**

Where NGC- Non-GPV Courses

1.5. Course Sequence

Course sequence with name of the course and credit allocation throughout eight semesters for BICT (Hons), BICT (Hons) in Multimedia Designing Techniques and BICT (Hons) in Software Development Techniques are given in Table 2, Table 3 and Table 4 respectively.

BICT Curriculum Course Mapping Table

Table 1: Comprehensive overview of courses, credits, and degree paths (✓ = Compulsory, E = Elective, — = Not Available)

Course Code	Course Title	Credits	BICT (Hons)	BICT Hons (MDT)	BICT Hons (SDT)
YEAR I - SEMESTER I					
ICT 11012	Computer Systems	2	✓	✓	✓
ICT 11023	Fundamental of ICT	3	✓	✓	✓
ICT 11033	Programming Techniques	3	✓	✓	✓
ICT 11042	Social Computing	2	✓	✓	✓
ICT 11052	System Analysis and Design	2	✓	✓	✓
MDS 11063	Discrete Mathematics	3	✓	✓	✓
MDS 11071	English for Technology I*	NGC	✓	✓	✓
MDS 11081	Secondary Languages: Sinhala/Tamil *	NGC	✓	✓	✓
YEAR I - SEMESTER II					
ICT 12012	Business System Analysis	2	✓	✓	✓
ICT 12023	Data Structures and Algorithms	3	✓	✓	✓
ICT 12033	Object Oriented Programming	3	✓	✓	✓
ICT 12043	Operating System	3	✓	✓	✓
ICT 12052	Visual Programming	2	✓	✓	✓
MDS 12062	Computational Mathematics	2	✓	✓	✓
MDS 12071	English for Technology II*	NGC	✓	✓	✓
YEAR II - SEMESTER I					
ICT 21013	Computer Networks	3	✓	✓	✓
ICT 21023	Database Management Systems	3	✓	✓	✓
ICT 21033	Web System Development	3	✓	✓	✓
MDS 21043	Digital Electronic System	3	✓	✓	✓
MDS 21053	Statistical Techniques for Computing	3	✓	✓	✓
MDS 21061	English for Technology III*	NGC	✓	✓	✓
YEAR II - SEMESTER II					

ICT 22013	Human Computer Interaction	3	✓	✓	✓
ICT 22022	Information Security	2	✓	✓	✓
ICT 22033	Network Programming	3	✓	✓	✓
ICT 22043	Software Engineering	3	✓	✓	✓
ICT 22052	System Administration	2	✓	✓	✓
MDS 22062	Principles of Management	2	✓	✓	✓
MDS 22071	English for Technology IV *	NGC	✓	✓	✓
YEAR III - SEMESTER I					
ICT 31013	Bio Informatics	3	✓	✓	✓
ICT 31023	e-Commerce	3	✓	✓	✓
ICT 31032	Software Project Management	2	✓	✓	✓
MDS 31041	English for Technology V*	NGC	✓	✓	✓
MDT 31013	Computer Graphics	3	**E**	✓	—
MDT 31023	Emerging Technologies in Multimedia Dev.	3	**E**	✓	—
MDT 31033	Multimedia Design	3	**E**	✓	—
SDT 31013	Emerging Technologies in Software Dev.	3	**E**	—	✓
SDT 31023	Object-Oriented Analysis & Design	3	**E**	—	✓
SDT 31033	Software Architecture & Design	3	**E**	—	✓
YEAR III - SEMESTER II					
ICT 32013	Mobile Application Development	3	✓	✓	✓
ICT 32023	Professional Ethics	3	✓	✓	✓
ICT 32032	Research Methodology	2	✓	✓	✓
MDS 32041	English for Technology VI *	NGC	✓	✓	✓
MDT 32013	Audio and Video Production Techniques	3	**E**	✓	—
MDT 32023	Digital Design and Animation Techniques	3	**E**	✓	—
MDT 32033	Virtual Reality	3	**E**	✓	—
SDT 32013	Cloud Computing	3	**E**	—	✓

SDT 32023	Enterprise Resource Planning Systems	3	**E**	—	✓
SDT 32033	Internet of Things	3	**E**	—	✓
YEAR IV - SEMESTER I					
ICT 41011	Green Computing	1	✓	✓	✓
MDS 41032	Entrepreneurship & Small Business Mgmt.	2	✓	✓	✓
ICT 41026	Industrial Training	6	✓	✓	✓
YEAR IV - SEMESTER II					
ICT 42026	Independent Research Project	6	✓	✓	✓
ICT 42013	Business Intelligence	3	✓	✓	✓
MDS 42031	English For Technology VII *	NGC	✓	✓	✓
MDT 42013	Digital Marketing & Analytics	3	**E**	✓	—
MDT 42022	Fundamental of 3D Software	2	**E**	✓	—
MDT 42033	Multimedia Data Processing	3	**E**	✓	—
SDT 42013	Secure Software Development	3	**E**	—	✓
SDT 42022	Software Configuration Management	2	**E**	—	✓
SDT 42033	Software Quality Assurance	3	**E**	—	✓

* Note: NGC = Non-GPV Course (Credits do not contribute to GPA calculation). E : Elective Courses

Table 2: Course Sequence–BICT Hons

Course Code	Title	Status	Credit		Hours L/P/IL	Total Credits
			Theory	Practical		
Year I Semester I						
ICT 11012	Computer Systems	C	2	-	30/00/70	2
ICT 11023	Fundamental of ICT	C	2	1	30/30/90	3
ICT 11033	Programming Techniques	C	2	1	30/30/90	3
ICT 11042	Social Computing	C	1	1	15/30/55	2
ICT 11052	System Analysis and Design	C	2	-	30/00/70	2
MDS 11063	Discrete Mathematics	C	3	-	45/00/105	3
MDS 11071	English for Technology I*	C	1	-	30/00/70	*NGC*
MDS 11081	Secondary Languages: Sinhala/Tamil *	C	1	-	45/00/105	*NGC*
Total Credit						**15**
Year I Semester II						
ICT 12012	Business System Analysis	C	2	-	30/00/70	2
ICT 12023	Data Structures and Algorithms	C	2	1	30/30/90	3
ICT 12033	Object Oriented Programming	C	2	1	30/30/90	3
ICT 12043	Operating System	C	2	1	30/30/90	3
ICT 12052	Visual Programming	C	1	1	15/30/55	2
MDS 12062	Computational Mathematics	C	2	-	30/00/70	2
MDS 12071	English for Technology II*	C	1	-	30/00/70	*NGC*
Total Credit						**15**
Year II Semester I						
ICT 21013	Computer Networks	C	2	1	30/30/90	3
ICT 21023	Database Management Systems	C	2	1	30/30/90	3
ICT 21033	Web System Development	C	1	2	15/60/75	3
MDS 21043	Digital Electronic System	C	1	2	15/60/75	3
MDS 21053	Statistical Techniques for Computing	C	1	2	15/60/75	3
MDS 21061	English for Technology III*	C	1	-	30/00/70	*NGC*
Total Credit						**15**
Year II Semester II						
ICT 22013	Human Computer Interaction	C	2	1	30/30/90	3
ICT 22022	Information Security	C	2	-	30/00/70	2
ICT 22033	Network Programming	C	2	1	30/30/90	3
ICT 22043	Software Engineering	C	2	1	30/30/90	3
ICT 22052	System Administration	C	1	1	15/30/55	2
MDS 22062	Principles of Management	C	2	-	30/00/70	2
MDS 22071	English for Technology IV*	C	1	-	30/00/70	*NGC*

Total Credit						**15**
Year III Semester I						
ICT 31013	Bio Informatics	C	2	1	30/30/90	3
ICT 31023	e-Commerce	C	2	1	30/30/90	3
ICT 31032	Software Project Management	C	2	-	30/00/70	2
MDS 31041	English for Technology V*	C	1	-	30/00/70	*NGC*
Total Credits form Compulsory Courses						**8**
Elective Courses						
MDT 31013	Computer Graphics	E	2	1	30/30/90	3
MDT 31023	Emerging Technologies in Multimedia Development	E	2	1	30/30/90	3
MDT 31033	Multimedia Design	E	2	1	30/30/90	3
SDT 31013	Emerging Technologies in Software Development	E	2	1	30/30/90	3
SDT 31023	Object-Oriented Analysis & Design	E	2	1	30/30/90	3
SDT 31033	Software Architecture & Design	E	2	1	30/30/90	3
Total Credits form Elective Courses						**9**
Total Credit						**17**
Year III Semester II						
ICT 32013	Mobile Application Development	C	1	2	15/60/75	3
ICT 32023	Professional Ethics	C	2	1	30/30/90	3
ICT 32032	Research Methodology	C	2	-	30/00/70	2
MDS 32041	English for Technology VI*	C	1	-	30/00/70	*NGC*
Total Credits form Compulsory Courses						**8**
Elective Courses						
MDT 32013	Audio and Video Production Techniques	E	1	2	15/60/75	3
MDT 32023	Digital Design and Animation Techniques	E	2	1	30/30/90	3
MDT 32033	Virtual Reality	E	2	1	30/30/90	3
SDT 32013	Cloud Computing	E	1	2	15/60/75	3
SDT 32023	Enterprise Resource Planning Systems	E	2	1	30/30/90	3
SDT 32033	Internet of Things	E	1	2	15/60/75	3
Total Credits form Elective Courses						**9**
Total Credit						**17**
Year IV Semester I						
ICT 41026	Industrial Training	C			00/00/600	6
ICT 41011	Green Computing	C	1	-	15/00/35	1
MDS 41032	Entrepreneurship & Small Business Management	C	2	-	30/00/70	2

Total Credit						**09**
Year IV Semester II						
ICT 42026	Independent Research Project (Dissertation)	C			00/00/600	6
ICT 42013	Business Intelligence	C	2	1	30/30/90	3
MDS 42031	English For Technology VII*	C	1	-	30/00/70	*NGC*
Total Credits form Compulsory Courses						**09**
Elective Courses						
MDT 42013	Digital Marketing & Analytics	E	2	1	30/30/90	3
MDT 42022	Fundamental of 3D Software	E	1	1	15/30/55	2
MDT 42033	Multimedia Data Processing	E	2	1	30/30/90	3
SDT 42013	Secure Software Development	E	2	1	30/30/90	3
SDT 42022	Software Configuration Management	E	1	1	15/30/55	2
SDT 42033	Software Quality Assurance	E	2	1	30/30/90	3
Total Credits form Elective Courses						**8**
Total Credit						**17**

Note: * indicate for the non-GPV courses.

- **English For Technology I-VII is essential to meet the industry's requirements.**
- **Secondary Languages: Sinhala/Tamil is essential to build up the harmony among the students.**
- **Non-GVP courses will be conducted either in weekend or after hours in a flexible manner.**
- **The students need to earn 9 credits from elective courses (any of 3 courses from the given elective course list) in the semester 5.**

Table 3: Course Sequence–BICT Hons (MDT)

Course Code	Title	Status	Credit		Hours L/P/IL	Total Credits
			Theory	Practical		
Year I Semester I						
ICT 11012	Computer Systems	C	2	-	30/00/70	2
ICT 11023	Fundamental of ICT	C	2	1	30/30/90	3
ICT 11033	Programming Techniques	C	2	1	30/30/90	3
ICT 11042	Social Computing	C	1	1	15/30/55	2
ICT 11052	System Analysis and Design	C	2	-	30/00/70	2
MDS 11063	Discrete Mathematics	C	3	-	45/00/105	3
MDS 11071	English for Technology I*	C	1	-	30/00/70	*NGC*
MDS 11081	Secondary Languages: Sinhala/Tamil *	C	1	-	45/00/105	*NGC*
Total Credit						**15**
Year I Semester II						
ICT 12012	Business System Analysis	C	2	-	30/00/70	2
ICT 12023	Data Structures and Algorithms	C	2	1	30/30/90	3
ICT 12033	Object Oriented Programming	C	2	1	30/30/90	3
ICT 12043	Operating System	C	2	1	30/30/90	3
ICT 12052	Visual Programming	C	1	1	15/30/55	2
MDS 12062	Computational Mathematics	C	2	-	30/00/70	2
MDS 12071	English for Technology II*	C	1	-	30/00/70	*NGC*
Total Credit						**15**
Year II Semester I						
ICT 21013	Computer Networks	C	2	1	30/30/90	3
ICT 21023	Database Management Systems	C	2	1	30/30/90	3
ICT 21033	Web System Development	C	1	2	15/60/75	3
MDS 21043	Digital Electronic System	C	1	2	15/60/75	3
MDS 21053	Statistical Techniques for Computing	C	1	2	15/60/75	3
MDS 21061	English for Technology III*	C	1	-	30/00/70	*NGC*
Total Credit						**15**
Year II Semester II						
ICT 22013	Human Computer Interaction	C	2	1	30/30/90	3
ICT 22022	Information Security	C	2	-	30/00/70	2
ICT 22033	Network Programming	C	2	1	30/30/90	3
ICT 22043	Software Engineering	C	2	1	30/30/90	3
ICT 22052	System Administration	C	1	1	15/30/55	2
MDS 22062	Principles of Management	C	2	-	30/00/70	2
MDS 22071	English for Technology IV*	C	1	-	30/00/70	*NGC*

Total Credit						**15**

Year III Semester I						
ICT 31013	Bio Informatics	C	2	1	30/30/90	3
ICT 31023	e-Commerce	C	2	1	30/30/90	3
ICT 31032	Software Project Management	C	2	-	30/00/70	2
MDT 31013	Computer Graphics	C	2	1	30/30/90	3
MDT 31023	Emerging Technologies in Multimedia Development	C	2	1	30/30/90	3
MDT 31033	Multimedia Design	C	2	1	30/30/90	3
MDS 31041	English for Technology V*	C	1	-	30/00/70	*NGC*
Total Credit						**17**
Year III Semester II						
ICT 32013	Mobile Application Development	C	1	2	15/60/75	3
ICT 32023	Professional Ethics	C	2	1	30/30/90	3
ICT 32032	Research Methodology	C	2	-	30/00/70	2
MDT 32013	Audio and Video Production Techniques	C	1	2	15/60/75	3
MDT 32023	Digital Design and Animation Techniques	C	2	1	30/30/90	3
MDT 32033	Virtual Reality	C	2	1	30/30/90	3
MDS 32041	English for Technology VI*	C	1	-	30/00/70	*NGC*
Total Credit						**17**
Year IV Semester I						
ICT 41026	Industrial Training	C			00/00/600	6
ICT 41011	Green Computing	C	1	-	15/00/35	1
MDS 41032	Entrepreneurship & Small Business Management	C	2	-	30/00/70	2
Total Credit						**09**
Year IV Semester II						
ICT 41026	Independent Research Project (Dissertation)	C			00/00/600	6
ICT 42013	Business Intelligence	C	2	1	30/30/90	3
MDT 42013	Digital Marketing & Analytics	C	2	1	30/30/90	3
MDT 42022	Fundamental of 3D Software	C	1	1	15/30/55	2
MDT 42033	Multimedia Data Processing	C	2	1	30/30/90	3
MDS 42031	English For Technology VII*	C	1	-	30/00/70	*NGC*
Total Credit						**17**

Table 4: Course Sequence–BICT Hons (SDT)

Course Code	Title	Status	Credit		Hours L/P/IL	Total Credits
			Theory	Practical		
Year I Semester I						
ICT 11012	Computer Systems	C	2	-	30/00/70	2
ICT 11023	Fundamental of ICT	C	2	1	30/30/90	3
ICT 11033	Programming Techniques	C	2	1	30/30/90	3
ICT 11042	Social Computing	C	1	1	15/30/55	2
ICT 11052	System Analysis and Design	C	2	-	30/00/70	2
MDS 11063	Discrete Mathematics	C	3	-	45/00/105	3
MDS 11071	English for Technology I*	C	1	-	30/00/70	*NGC*
MDS 11081	Secondary Languages: Sinhala/Tamil *	C	1	-	45/00/105	*NGC*
Total Credit						**15**
Year I Semester II						
ICT 12012	Business System Analysis	C	2	-	30/00/70	2
ICT 12023	Data Structures and Algorithms	C	2	1	30/30/90	3
ICT 12033	Object Oriented Programming	C	2	1	30/30/90	3
ICT 12043	Operating System	C	2	1	30/30/90	3
ICT 12052	Visual Programming	C	1	1	15/30/55	2
MDS 12062	Computational Mathematics	C	2	-	30/00/70	2
MDS 12071	English for Technology II*	C	1	-	30/00/70	*NGC*
Total Credit						**15**
Year II Semester I						
ICT 21013	Computer Networks	C	2	1	30/30/90	3
ICT 21023	Database Management Systems	C	2	1	30/30/90	3
ICT 21033	Web System Development	C	1	2	15/60/75	3
MDS 21043	Digital Electronic System	C	1	2	15/60/75	3
MDS 21053	Statistical Techniques for Computing	C	1	2	15/60/75	3
MDS 21061	English for Technology III*	C	1	-	30/00/70	*NGC*
Total Credit						**15**
Year II Semester II						
ICT 22013	Human Computer Interaction	C	2	1	30/30/90	3
ICT 22022	Information Security	C	2	-	30/00/70	2
ICT 22033	Network Programming	C	2	1	30/30/90	3
ICT 22043	Software Engineering	C	2	1	30/30/90	3
ICT 22052	System Administration	C	1	1	15/30/55	2
MDS 22062	Principles of Management	C	2	-	30/00/70	2
MDS 22071	English for Technology IV*	C	1	-	30/00/70	*NGC*

Total Credit						**15**

Year III Semester I						
ICT 31013	Bio Informatics	C	2	1	30/30/90	3
ICT 31023	e-Commerce	C	2	1	30/30/90	3
ICT 31032	Software Project Management	C	2	-	30/00/70	2
SDT 31013	Emerging Technologies in Software Development	C	2	1	30/30/90	3
SDT 31023	Object-Oriented Analysis & Design	C	2	1	30/30/90	3
SDT 31033	Software Architecture & Design	C	2	1	30/30/90	3
MDS 31041	English for Technology V*	C	1	-	30/00/70	*NGC*
Total Credit						**17**
Year III Semester II						
ICT 32013	Mobile Application Development	C	1	2	15/60/75	3
ICT 32023	Professional Ethics	C	2	1	30/30/90	3
ICT 32032	Research Methodology	C	2	-	30/00/70	2
SDT 32013	Cloud Computing	C	1	2	15/60/75	3
SDT 32023	Enterprise Resource Planning Systems	C	2	1	30/30/90	3
SDT 32033	Internet of Things	C	1	2	15/60/75	3
MDS 32041	English for Technology VI*	C	1	-	30/00/70	*NGC*
Total Credit						**17**
Year IV Semester I						
ICT41011	Green Computing	C			30/00/70	1
ICT 41026	Industrial Training	C			00/00/600	6
MDS41032	Entrepreneurship &Small Business Management	C			30/00/70	2
Total Credit						**09**
Year IV Semester II						
ICT42026	Independent Research Project (Dissertation)	C			00/00/600	6
ICT 42013	Business Intelligence	C	2	1	30/30/90	3
SDT 42013	Secure Software Development	C	2	1	30/30/90	3
SDT 42022	Software Configuration Management	C	1	1	15/30/55	2
SDT 42033	Software Quality Assurance	C	2	1	30/30/90	3
MDS 42031	English For Technology VII*	C	1	-	30/00/70	*NGC*
Total Credit						**17**

Note:

- * indicate for the non-GPV courses.
- The students may select the elective courses but not exceeding the total credits of each semester to earn the 120 credits.
- Students who select all the specialized courses in a relevant track under the "Elective Courses" in the 3rd year and 4th year of the academic programme and complete all the requirements are eligible to get the degree along with the selected specialization ie. BICT Hons (MDT) or BICT Hons (SDT)

2. Teaching and Learning Methods

Each course module is a learning package consisting of following main components,

1) Aims, Objectives and Intended Learning Outcomes (ILOs)-The Knowledge and Skills that a student should acquire.
2) Course contents
3) Type of Teaching and Learning Methods to which a student will be exposed in the module:
    - Class Room Lecture (CRL)
    - Self-Directed Learning (SDL)
    - Small Group Discussion and Tutorials (SGDT)
    - Audio, Video and Photography Displays (AVPD)
    - Multimedia Power Point Presentation (MPP)
    - Practical Demonstration (PD)
    - Field Level Demonstration (FLD)
4) Assessment Methods
5) Final Marks Computation
6) Recommended Readings

3. Examinations and Evaluation Procedures

Each course will be evaluated by continuous assessment and end semester examination within the semester. Each academic year consists of two semesters and each semester comprises of 15 weeks. There will be eight end semester examinations during the four academic years for the BICT Hons, BICT Hons (MDT) and BICT Hons (SDT) degree programmes.

3.1 Eligibility for Applying Examination

3.1.1 Course Attendance

University regulations require 80% attendance for all components of a course. Absence on medical grounds or any other valid reason must be approved by the Faculty Board and Senate. Medical Certificates should be submitted within fourteen days after illness. If a student does not meet the required attendance for a course, then he/she will not be allowed to sit the end semester examination of that course and shall be given "Not Allowed" (NA) and will be considered as repeat candidate at the next attempts.

3.1.2 Application Procedure

Applications for examinations will be entertained two weeks before from the last teaching date of the semester. Every application should be made on the prescribed form obtained from the Assistant Registrar of the Faculty. Duly filled application forms are submitted on or before the deadline.

3.2 Evaluation of Course Unit

A course shall be evaluated by means of *Continuous Assessment (CA)- Formative Assessment and End Semester Examination (ESE) - Summative Assessment*.

Continuous Assessment of theory course consisting of *Quiz/Assignment and Mid-Semester Examination* and Practical Course consisting of *Assignments/Reports/Spot Tests/In–Course Assessments* shall be carried out during the delivery period of that course. The date and time of the continuous assessment determined by the lecturer-in-charge of that particular course. The Quiz and Mid-Semester Examination should be conducted at the end of the 5^{th} and 10^{th} week respectively of the academic semester and the date of the respective examination will be notified at least five (05) working days prior to the students vz in the class room and the notice board by the lecturer-in-charge. The Grades earned by a student in various components of the continuous assessment in a course shall be displayed in the notice board with the lecturer-in-charge/ Head of the Department.

End Semester Examination of theory and practical for a course will be conducted at the end of the semester in which the teaching of the course is completed, by the Department of Academic Affairs of the University. The date and time of the end Semester Examination shall be decided at the beginning of each semester by the Dean in consultation with the Heads of Department and recommendation of the Faculty Board and approval of the Senate. The Board of Examination for the Faculty shall be chaired by the Dean and finalize the grade of the courses and release of results. The grades obtained by the students for the courses shall be displayed to the notice board by the Head of the Department concerned.

Dean shall send the grades list of all courses to the Department of Academic Affairs along with detailed mark sheet. When the results of the examination of all courses of particular semester of the academic year received by the Department of Academic Affairs, will send the grade list to the Senate in order to get the approval. To release the overall performance of the students in that level of academic year indicating in the **Semester Grade Point Average (SGPA**) scored by the students in that Semester. The Board of Examination shall chair by the Vice-Chancellor for release the award of degree with the **Overall Grade Point Average (OGPA**) and the Class obtained by the students.

3.2.1 Evaluation for Theory Course Unit

The examination time allocations depend on the course credits and in Continuous Assessment vz-Quiz and Mid Semester Examination will be confined to 35% of the total theory marks and end semester examination will be confined to 65% as given below:

Mode of Evaluation	Time Allocation in Hours		Marks (%)
	=<2 Credit Units	>2 credit Units	
Quiz	1/2	1/2	10
Mid-Semester Examination	1	1	25
End Semester Examination	2	3	65

The final marks $\mathbf{M_t}$ for theory course is defined as follows:

$$\mathbf{M_t = T \times 65\% + Q \times 10\% + Mid \times 25\%}$$

Where, **T** is the marks obtained in the "End Semester" examination, **Q** is the marks obtained in "Quiz" or "Assignment" and **Mid** is the marks obtained in the "Mid Semester" examination. The "Quiz" examination or "Assignment" will not be repeated. If a student absent/failed to sit the "Quiz" examination or "Assignment" for each course as per the schedule date announced by the lecturer-in-charge, the marks will be given as zero. Mid Semester examination is compulsory for each course. If a student absence on medical grounds for "Mid Semester" examination may be treated as a proper attempt for this the medical certificates should be submitted within fourteen days after illness and must be approved by the Faculty Board. If a student absence for "Mid Semester" examination with valid reason must be approved by the Faculty Board to treat as a proper attempt. Other than this, a student absent/failed to sit the "Mid Semester" examination, may be allowed to sit for another "Mid Semester" examination when it is held next and maximum of 10 marks given for such an attempt.

3.2.2 Evaluation for Practical Course Unit

The practical component of the course will be assessed by continuous assessment and end semester examination. The marks allocation for practical will be based on the credit allocated for the practical component in the respective course and the duration of the examinations may vary according to the number of credits. Appropriate Continuous Assessment procedures vz; Assignments*/Reports/Spot Tests/In–Course Assessments* will be determined by the lecturer-in-charge. Oral examinations shall be a component of the practical assessment for certain courses. This will be informed to the students at the beginning of the semester.

The final marks will be evaluated by giving 40% for continuous assessment and 60% for the end semester examination as follows,

Mode of Evaluation	Marks (%)
Continuous Assessment	40
End Semester Examination	60

The final marks $\mathbf{M_p}$ for practical course is defined as follows:

$$\mathbf{M_p = P \times 60\% + A \times 40\%}$$

Where, **P** is the marks obtained in the "End Semester" examination and **A** is the average marks of the "Continuous Assessments".

3.2.3 Evaluation of Theory Course with Practical Component

The final marks are evaluated using the individual marks obtained in the theory and practical examination. The final mark **M** for the course with theory and practical components are evaluated as follows,

$$\mathbf{M} = \frac{\mathbf{C_t \times M_t + C_p \times M_p}}{\mathbf{C_t + C_p}}$$

Where, $\mathbf{C_t}$ and $\mathbf{C_p}$ are the credit values of theory and practical component of the course respectively. The student should pass the theory and practical components of a course in the same sitting in order to pass the course. A student who fails in a course should repeat both the theory and practical examinations.

3.3 Evaluation of Independent Research Project

Independent Research Project is mandatory for all the students. It will be assessed continuously and the marks will be allocated as follows:

Proposal Presentation	- 10%
Student Progress	- 10%
Project Report	- 50%
Viva–voce Examination	- 30%

Proposal presentation, student progress, research report and viva-voce examination are mandatory. The proposal presentation and viva-voce examination will be assessed by a panel of examiners appointed by the Faculty Board. Students must obtain minimum of 50% in each assessment criterions (Proposal presentation, student progress, research report and viva-voce examination) to successfully complete the independent research project. The minimum grade to pass the Independent Research Project is "C". If the student fails to secure the minimum requirement, will be considered as repeat and requested to carry out the work during the time frame recommended by the department and approved by the faculty board. Five copies of the final hard bound reports

certified by the supervisor must be submitted to the Head of the Department within one month from the date of viva-voce examination for the release of results.

3.4 Evaluation of Industrial Training

Industrial Training is mandatory for all the students. It will be evaluated based on the following criteria:

Periodical Report	- 10%
Record Book	- 10%
Confidential Report	- 10%
Training Report	- 30%
Viva-voce Examination	- 40%

During the training period students are requested to maintained the record book (daily diary) given by the department and certify each activity by the industry supervisor, furthermore at the end of the training the industry supervisor requested to submit a confidential training satisfactory report to the department in a prescribed format. If a student fails to secure the satisfactory level in the training report, will be treated as failure in the training and instructed to go for more on training. Students are requested to submit the periodical (progress) report for the period of every two (02) months in a prescribed format, given by the department, along with the certification of industry supervisor and training report to the department in a prescribed format along with the certification of industry supervisor before the deadline. If a student fails to submit the training report within the deadline, it has to be treated as repeat.

The members of the evaluation panel for the viva-voce examination will be appointed by the head of the department with the approval of the Faculty Board and will contain

- Two Senior Lecturers in the relevant field
- One Senior level industrialist

Periodical reports, record book, confidential report, training report and viva-voce examination are mandatory. Students must obtain minimum of 50% in each assessment methods to successfully complete the industrial training. The minimum grade to pass Industrial Training is “C”. If the student fails to secure the minimum requirement, will be considered as repeat and requested to carry out the work during the time frame recommended by the department and approved by the faculty board.

3.5 Evaluation of Non-GPV Course

Non-GPV courses will be evaluated with grades same as the GPA courses but the earned grade point values will not be contributed to the computation of Overall Grade Point Average (OGPA). However, obtaining a minimum grade of "C" is mandatory to pass each non-GPV course. Student must pass all the non-GPV courses for the eligibility of the award of degree.

3.6 Absence from the Examinations

When a student fails to appear for the examination due to illness should inform to the Dean of the Faculty through the Head of the Department within **7 days** from the date of examination. A Medical Certificate, obtained from the government medical officer, should follow within **14 days** to reach the Assistant Registrar of the Faculty of Technology. The medical certificate must be endorse by the university medical officer. The particulars should be presented to the faculty board and the senate for approval. Student receives the symbol of "**MC**" (Medical) for that course.

Absence of a student for an examination on the account of bereavement in the family (death of parent, brother, sister, spouse, or child) will be excused if approval is obtained from the faculty board and the senate by the submission of the death certificate and appropriate proof of the relationship. In this case, the student receives the symbol of "**DFR**" (Deferred) for that course.

Absent without valid reason will be given the symbol of "**AB**" (Absent) for that course.

3.7 Repeating the Examination and Completing the Degree Programme

A student may submit any justifiable reason for the absent of schedule examinations which must accepted by the Faculty Board and approved by the University Senate or under the medical ground supported by a valid medical certificate the chance will be retained. Other than this, a student absent for scheduled examinations will be treated as a repeat candidate. Students are allowed to repeat the examinations of any course only **Thrice**. The maximum grade for a repeat examination shall be "C". A student who obtains the grade "E" must be repeated the examination for that respective course and a student who obtains any grade less than "C" (D, D+ and C-) may repeat the examination for that respective course to improve the grade. For this purpose, **only three more attempts** will be given and the maximum grade shall be "C". Students are expected to repeat such examinations when it is held next. If student obtains a lower grade while repeating, he/she is entitled to keep the previous grade. Formative assessment marks will be incorporated for the computation of final grade for students who sit a summative examination as proper candidate and as repeat candidate at the first time (2^{nd} attempt). For 3^{rd} and 4^{th} attempts, only summative examination marks shall contribute to the final grade of that course unit. Repeat students may be allowed to follow the lectures with the consent of the lecturer. However, they will not be allowed to attend practical classes.

4. Grading System

4.1 Grades, Grade Point Values and the Descriptions

Grades and Grade Point Values and the Descriptions are as follows:

Grades	Grade Point	Description
A+	4.00	Excellent
A	4.00	
A-	3.70	
B+	3.30	Good
B	3.00	
B-	2.70	
C+	2.30	Pass
C	2.00	
C-	1.70	Weak Pass
D	1.30	Conditional Pass
E	0.00	Fail

4.2 References Indicate the Status when a Course is Not Completed

Following of similar references may be used to indicate the status in the result sheet when a student did not complete a course. This is for record keeping of the university and for the information of the students.

References	Grade Point	Description
E	0.0	Both CA and ESA marks are below the prescribed minimum.
W	-	Withdrawn
MC	-	Under Medical Circumstance/s
DFR	-	Under bereavement in the family
AB	-	Absent

4.3 Release of Examination Results

Results of the semester examinations will be released in every semester after the evaluation of the answer scripts and the result sheet will be issued to each candidate.

4.4 Percentage Marks Range

Percentage of Marks Range	Grades	Grade Point
85 and above	A+	4.00
75 to 84	A	4.00
70 to 74	A-	3.30
65 to 69	B+	3.00
60 to 64	B	2.70
55 to 59	B-	2.30
50 to 54	C+	2.00
45 to 49	C	1.70
40 to 44	C-	1.30
35 to 39	D	1.00
0 to 34	E	0.00

4.5 Pass/ Fail Criteria

i. Grade D or above is required to earn credit value for a course.

ii. Student is considered to complete a semester successfully only if he/she has achieved a SGPA of 2.00 or above and has no "E" grade and not more than three credits may have the grades of "C-" or "D+" or "D" in that semester. In addition to that student must be obtained "C" grade or above in each non-GPV courses offered in that particular semester.

4.6 Calculation of Semester Grade Point Average (SGPA)

The calculation of the "Semester Grade Point Average (SGPA)" will be based on the summation of Grade Points earned for all GPA courses in a semester weighted according to number of credits as per the following formula, where ***Ci*** is the number of credits for the i^{th} course in a given semester and ***GPi***, is the grade points earned for that course and ***n*** is the number of GPA courses in the semester**.**

$$SGPA = \frac{\sum_{i=1}^{n} Ci\ GPi}{\sum_{i=1}^{n} Ci}$$

4.7 Overall Grade Point Average (OGPA)

The "Overall Grade Point Average (OGPA)" describes a student's standing in terms of grade points earned for all GPA courses up to a given point of time weighted according to number of

credits as per the following formula, where ***Ci*** is the number of credits for the ***i^{th}*** course and ***GPi*** is the grade points earned for that course and ***n*** is the total number of GPA courses.

$$OGPA = \frac{\sum_{i=1}^{n} Ci\ GPi}{120}$$

5. Award of Degree and Classes

5.1 Award of Degree

Bachelor of Information and Communication Technology Honours

A student deemed to have satisfied the requirement for the award of Honours Degree of Bachelor of Information and Communication Technology, if he or she has obtained the following requirements within eight (08) academic years,

- SGPA minimum of 2.00 and has no "E" grade and not more than three (03) credits in the grades of "C$^-$ "or "D" in each semester **and**
- OGPA minimum of 2.00 **and**
- Grade "C" or above in all the non-GPV courses.

Bachelor of Information and Communication Technology Honours in Multimedia Designing Techniques

A student deemed to have satisfied the requirement for the award of Honours Degree of Bachelor of Information and Communication Technology in Multimedia Designing Techniques, if he or she has obtained the following requirements within eight (08) academic years,

- SGPA minimum of 2.00 and has no "E" grade and not more than three (03) credits in the grades of "C$^-$" or "D" in each semester **and**
- OGPA minimum of 2.00 **and**
- Grade "C" or above in all the non-GPV courses **and**
- Select all the specialized courses in "Multimedia Designing Techniques" under the "Elective Courses" in the 3rd and 4th years of the academic programme.

Bachelor of Information and Communication Technology Honours in Software Development Techniques

A student deemed to have satisfied the requirement for the award of Honours Degree of Bachelor of Information and Communication Technology in Software Development Techniques, if he or she has obtained the following requirements within eight (08) academic years,

- SGPA minimum of 2.00 and has no "E" grade and not more than three (03) credits in the grades of "C$^-$" or "D" in each semester **and**

- OGPA minimum of 2.00 **and**
- Grade "C" or above in all the non-GPV courses **and**
- Select all the specialized courses in "Software Development Techniques" under the "Elective Courses" in the 3rd and 4th years of the academic programme.

5.2 Award of Class

A student who has fulfilled all the conditions for the award of degree within **FOUR (04)** academic years, except for the situation accepted by the Faculty Board and approved by the Senate, shall be awarded a class if he/she fulfils the additional requirement:

First Class	: Obtain minimum OGPA 3.70
Second Class (Upper Division)	: Obtain OGPA 3.30 – 3.69
Second Class (Lower Division)	: Obtain OGPA 3.00 – 3.29

Requirements for award of classes

A student who has fulfilled all the conditions for the award of degree within FOUR (04) academic years, except for the situation accepted by the Faculty Board and approved by the Senate, shall be awarded a class if he/she fulfils the additional requirement:

First Class:

i. Obtain minimum OGPA of 3.70;
ii. Obtain A or better grades in at least 48 credits, of which at least 10 credits from 400 level (4th Year (ie. 7th and 8th Semesters));
iii. Complete of the degree programme within four (04) academic years.

Second Class (Upper Division):

i. Obtain OGPA between 3.30 - 3.69;
ii. Obtain B or better grades in at least 48 credits, of which at least 10 credits from 400 level (4th Year (ie. 7th and 8th Semesters));
iii. Complete of the degree programme within four (04) academic years.

Second Class (Lower Division):

i. Obtain OGPA between 3.00 - 3.29;
ii. Obtain B or better grades in at least 48 credits, of which at least 10 credits from 400 level (4th Year (ie. 7th and 8th Semesters));
iii. Complete of the degree programme within four (04) academic years.