



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

NH-12 (Old NH-34), Simhat, Haringhata, Nadia -741249

Department of Information Technology (In-house)

B.Sc. in Information Technology (Cyber Security)

(Effective from academic session 2019-20)

Semester-II

Name of the Course: B.Sc. in Information Technology (Cyber Security)			
Subject: Data Structure and Algorithm with Python & Data Structure and Algorithm with Python Lab			
Course Code: BITCS201 & BITCS291		Semester: II	
Duration: 36 Hrs.		Maximum Marks:100+100	
Teaching Scheme		Examination Scheme	
Theory: 3 hrs./week		End Semester Exam:70	
Tutorial: 0		Attendance: 5	
Practical: 4 hrs./week		Continuous Assessment: 25	
Credit: 3+2		Practical Sessional internal continuous evaluation: 40	
		Practical Sessional external examination: 60	
Aim:			
Sl. No.			
1.	The point of this course is to give you a vibe for algorithms and data structures as a focal area of what it is to be a computer science student.		
2.	You ought to know about the way that there are regularly a few calculations for some issue, and one calculation might be superior to another, or one calculation better in certain conditions and another better in others.		
3.	You should have some idea of how to work out the efficiency of an algorithm.		
4.	You will be able to use and design linked data structures		
5.	You will learn why it is good programming style to hide the details of a data structure within an abstract data type.		
6.	You should have some idea of how to implement various algorithm using python programming.		
Objective:			
Sl. No.			
1.	To impart the basic concepts of data structures and algorithms.		
2.	To understand concepts about searching and sorting techniques.		
3.	To understand basic concepts about stacks, queues, lists, trees and graphs.		
4.	To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures		
Pre-Requisite:			
Sl. No.			
1.	Basics of programming language.		
2.	Logic building skills.		
Contents			
		3 Hrs./week	
Chapter	Name of the Topic	Hours	Marks
01	Introduction to Data Structure Abstract Data Type.	1	2
02	Arrays 1D, 2D and Multi-dimensional Arrays, Sparse Matrices.	3	4



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	Polynomial representation.		
03	Linked Lists Singly, Doubly and Circular Lists, Normal and Circular representation of Self Organizing Lists, Skip Lists, Polynomial representation.	4	7
04	Stacks Implementing single / multiple stack/s in an Array, Prefix, Infix and Postfix expressions, Utility and conversion of these expressions from one to another, Applications of stack, Limitations of Array representation of stack.	4	10
05	Queues Array and Linked representation of Queue, Circular Queue, De-queue, Priority Queues.	4	7
06	Recursion Developing Recursive Definition of Simple Problems and their implementation, Advantages and Limitations of Recursion, Understanding what goes behind Recursion (Internal Stack Implementation)	4	5
07	Trees Introduction to Tree as a data structure, Binary Trees (Insertion, Deletion, Recursive and Iterative Traversals of Binary Search Trees), Threaded Binary Trees (Insertion, Deletion, Traversals), Height-Balanced Trees (Various operations on AVL Trees).	5	15
08	Searching and Sorting Linear Search, Binary Search, Comparison of Linear and Binary Search, Selection Sort, Insertion Sort, Merge Sort, Quick sort, Shell Sort, Comparison of Sorting Techniques	6	15
09	Hashing Introduction to Hashing, Deleting from Hash Table, Efficiency of Rehash Methods, Hash Table Reordering, Resolving collision by Open Addressing, Coalesced Hashing, Separate Chaining, Dynamic and Extendible Hashing, Choosing a Hash Function, Perfect Hashing Function.	5	5
	Sub Total:	36	70
	Internal Assessment Examination & Preparation of Semester Examination	4	30
	Total:	40	100
Practical:			
Skills to be developed:			
Intellectual skills:			
<ol style="list-style-type: none"> 1. Skill to analyze algorithms and to determine algorithm correctness and their time efficiency. 2. Knowledge of advanced abstract data type (ADT) and data structures and their 			



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implementations.

3. Ability to implement algorithms to perform various operations on data structures.

List of Practical:

1. Implementation of array operations.
2. Stacks and Queues: adding, deleting elements.
3. Circular Queue: Adding & deleting elements
4. Merging Problem : Evaluation of expressions operations on Multiple stacks & queues
5. Implementation of linked lists: inserting, deleting, and inverting a linked list.
6. Implementation of stacks & queues using linked lists:
7. Polynomial addition, Polynomial multiplication
8. Sparse Matrices: Multiplication, addition.
9. Recursive and Non Recursive traversal of Trees Threaded binary tree traversal. AVL tree implementation Application of Trees.
10. Application of sorting and searching algorithms Hash tables' implementation: searching, inserting and deleting, searching & sorting techniques.

Assignments:

Based on the curriculum as covered by subject teacher.

List of Books

Text Books:

Name of Author	Title of the Book	Edition/ISSN/ISBN	Name of the Publisher
Michael H. Goldwasser, Michael T. Goodrich, and Roberto Tamassia	Data Structures and Algorithms in Python	1118476735, 9781118476734	John Wiley & Sons
Rance D Necaie	Data Structures and Algorithms Using Python	9788126562169	John Wiley & Sons

Reference Books:

SartajSahni	DataStructures, Algorithms and applications in C++	Second Edition	Universities Press
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List of equipment/apparatus for laboratory experiments:

Sl. No.	
1.	Computer with moderate configuration
1.	Python 2.7 or higher and other softwares as required.

End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	Unit	Objective Questions (MCQ only with the correct answer)	Subjective Questions



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		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	1 to 9	10	10	5	3	5	60
B	1 to 9			5	3	15	
C	1 to 9						
<ul style="list-style-type: none"> Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part. Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper. 							
Examination Scheme for end semester examination:							
Group	Chapter	Marks of each question		Question to be set	Question to be answered		
A	All	1		10	10		
B	All	5		5	3		
C	All	15		5	3		
Examination Scheme for Practical Sessional examination:							
Practical Internal Sessional Continuous Evaluation							
Internal Examination:							
Continuous evaluation						40	
External Examination: Examiner-							
Signed Lab Note Book		10					
On Spot Experiment		40					
Viva voce		10				60	



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Name of the Course: B.Sc. in Information Technology (Cyber Security)			
Subject: Data Privacy & Security & Data Privacy & Security Lab			
Course Code: BITCS202 & BITCS292		Semester: II	
Duration: 36 Hrs.		Maximum Marks: 100+100	
Teaching Scheme		Examination Scheme	
Theory: 3 hrs./week		End Semester Exam: 70	
Tutorial: 0		Attendance : 5	
Practical: 4 hrs./week		Continuous Assessment: 25	
Credit: 3 + 2		Practical Sessional internal continuous evaluation: 40	
		Practical Sessional external examination:60	
Aim:			
Sl. No.			
1.	Highlight several current attack vectors and the associated mitigating behaviour.		
2.	Explain how employees can internally determine risk level of their actions while using the Internet.		
3.	Explain how current threats to foreign adversaries, eg. Flame, could be adapted to assault US infrastructures, or could backfire causing domestic damage.		
4.	Re-iterate the key points from the annual required computer security awareness training provided by corporate, tying in points from that training to this module to form cohesion across the trainings.		
Objective:			
Sl. No.			
1.	Using the above attack vectors give real world, relatable scenarios, that the employees can identify in their own work days		
2.	To understand Security policies.		
Contents			3 Hrs./week
Chapter	Name of the Topic	Hours	Marks
01	Introduction Fundamental Concepts, Definitions, Statistics, Data Privacy Attacks, Data linking and profiling, access control models, role based access control, privacy policies, their specifications, languages and implementation, privacy policy languages, privacy in different domains- medical, financial, etc.	7	10
02	Data explosion Statistics and Lack of barriers in Collection and Distribution of Person-specific information, Mathematical model for characterizing and comparing real-world data sharing practices and policies and for computing privacy and risk measurements, Demographics and Uniqueness.	6	10
03	Protection Models Null-map, k-map, Wrong map	3	10
04	Survey of techniques Protection models (null-map, k-map, wrong map), Disclosure control, Inferring entity identities, Strength and weaknesses of techniques,	7	10

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	entry specific databases						
05	Computation systems for protecting delimited data MinGen, Datafly, Mu-Argus, k-Similar, Protecting textual documents: Scrub		6	15			
06	Technology, Policy, Privacy and Freedom Medical privacy legislation, policies and best practices, Examination of privacy matters specific to the World Wide Web, Protections provided by the Freedom of Information Act or the requirement for search warrants.		7	15			
	Sub Total:		36	70			
	Internal Assessment Examination & Preparation of Semester Examination		4	30			
	Total:		40	100			
<p>Practical: Skills to be developed: Intellectual skills: 1. Learn and apply different security aspects 2. Develop programming skills List of Practical: Based on test environment. Assignments: Based on theory lecture</p>							
List of Books							
Text Books:							
Name of Author	Title of the Book	Edition/ISSN/ISBN	Name of the Publisher				
B. Raghunathan	The Complete Book of Data Anonymization: From Planning to Implementation		Ch Pub, 2013.				
Reference Books:							
. Sweeney	Computational Disclosure Control: A Primer on Data Privacy Protection		MIT Computer Science, 2002				
List of equipment/apparatus for laboratory experiments:							
Sl. No.							
1.	Computer						
2.	Switch						
3.	Test Server						
End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.							
Group	Unit	Objective Questions (MCQ only with the correct answer)	Subjective Questions				
		No of question	Total Marks	No of question	To answer	Marks per question	Total Marks



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		to be set		to be set			
A	All	10	10	5	3	5	60
B	All			5	3	15	
C	All						

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	Chapter	Marks of each question	Question to be set	Question to be answered
A	All	1	10	10
B	All	5	5	3
C	All	15	5	3

Examination Scheme for Practical Sessional examination:

Practical Internal Sessional Continuous Evaluation

Internal Examination:

Continuous evaluation			40
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External Examination: Examiner-

Signed Lab Note Book	10	
On Spot Experiment	40	
Viva voce	10	60



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Name of the Course: B.Sc. in Information Technology (Cyber Security)			
Subject: Introduction to Ethical Hacking			
Course Code: BITCS203		Semester: II	
Duration: 36 Hrs.		Maximum Marks: 100	
Teaching Scheme		Examination Scheme	
Theory: 3 hrs./week		End Semester Exam: 70	
Tutorial: 1 hrs./week		Attendance : 5	
Practical: 0		Continuous Assessment: 25	
Credit:4		Practical Sessional internal continuous evaluation: NA	
		Practical Sessional external examination: NA	
Aim:			
Sl. No.			
1.	To learn Network Foot printing, Collect System Information, Collect Organization's information		
Objective:			
Sl. No.			
1.	To understand Legal aspects of penetration testing		
2.	To develop Practical hacking exercise		
Pre-Requisite:			
Sl. No.			
1.	Basic knowledge of programming		
Contents			4 Hrs./week
Chapter	Name of the Topic	Hours	Marks
01	Introduction Key issues plaguing the information security world, incident management process, and penetration testing	2	5
02	Footprinting Various types of footprinting, footprinting tools, and Countermeasures	2	5
03	Network Scanning and Enumeration Network scanning techniques and scanning countermeasures. Enumeration techniques and enumeration countermeasures.	2	10
04	Attacks System hacking methodology, steganography, steganalysis attacks, and covering tracks Different types of Trojans, Trojan analysis, and Trojan Countermeasures. Working of viruses, Virus analysis, computer worms, malware analysis procedure, and countermeasures, Packet sniffing techniques and how to defend against sniffing. Social Engineering techniques, identify theft, and social engineering countermeasures. DoS/DDoS attack techniques, botnets, DDoS attack tools, and DoS/DDoS countermeasures. Session hijacking techniques	10	15

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	and countermeasures		
05	Web Server Attacks Different types of web server attacks, attack methodology, and Countermeasures. SQL injection attacks and injection detection tools. Various cloud computing concepts, threats, attacks, and security techniques and tools	8	15
06	Cryptography Different types of cryptography ciphers, Public Key Infrastructure (PKI), cryptography attacks, and cryptanalysis tools	6	10
07	Penetration Testing Various types of penetration testing, security audit, vulnerability assessment, and penetration testing roadmap	6	10
	Sub Total:	36	70
	Internal Assessment Examination & Preparation of Semester Examination	4	30
	Total:		100

Assignments:
Based on lecture

List of Books

Text Books:

Name of Author	Title of the Book	Edition/ISSN/ISBN	Name of the Publisher
Jon Erickson	Hacking: The Art of Exploitation	2 nd Edition	No_Starch_Press

Reference Books:

	The_Basics.of_.Hacking.and_.Penetration.Testing		Syngress
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End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	Unit	Objective Questions (MCQ only with the correct answer)		Subjective Questions			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	1 to 7	10	10	5	3	5	60
B	1 to 7			5	3	5	
C	1 to 7			5	3	15	

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	Chapter	Marks of each	Question to be	Question to be
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		question	set	answered
A	All	1	10	10
B	All	5	5	3
C	All	15	5	3

Name of the Course: B.Sc. in Information Technology (Cyber Security)			
Subject: Discrete Mathematics			
Course Code: BITCS204		Semester: II	
Duration: 36 Hrs		Maximum Marks: 100	
Teaching Scheme		Examination Scheme	
Theory: 3 hrs./week		End Semester Exam: 70	
Tutorial:1 hrs./week		Attendance: 5	
Practical:0		Continuous Assessment: 25	
Credit:4		Practical Sessional internal continuous evaluation: NA	
		Practical Sessional external examination: NA	
Aim:			
Sl. No.			
1.	The aim of this course is to introduce you with a new branch of mathematics which is discrete mathematics, the backbone of Computer Science.		
2.	In order to be able to formulate what a computer system is supposed to do, or to prove that it does meet its specification, or to reason about its efficiency, one needs the precision of mathematical notation and techniques. The Discrete Mathematics course aims to provide this mathematical background.		
Objective: Throughout the course, students will be expected to demonstrate their understanding of Discrete Mathematics by being able to do each of the following			
Sl. No.			
1.	Use mathematically correct terminology and notation.		
2.	Construct correct direct and indirect proofs.		
3.	Use division into cases in a proof.		
4.	Use counterexamples.		
5.	Apply logical reasoning to solve a variety of problems.		
Pre-Requisite:			
Sl. No.			
1.	Knowledge of basic algebra		
2.	Ability to follow logical arguments.		
Contents			4 Hrs./week
Chapter	Name of the Topic	Hours	Marks
01	Set Theory Definition of Sets, Venn Diagrams, complements, Cartesian products, power sets, counting principle, cardinality and countability (Countable and Uncountable sets), proofs of some general identities on sets, pigeonhole principle. Relation: Definition, types of relation,	7	14

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	composition of relations, domain and range of a relation, pictorial representation of relation, properties of relation, partial ordering relation. Function: Definition and types of function, composition of functions, recursively defined functions.		
02	Propositional logic Proposition logic, basic logic, logical connectives, truth tables, tautologies, contradictions, normal forms (conjunctive and disjunctive), modus ponens and modus tollens, validity, predicate logic, universal and existential quantification. Notion of proof: proof by implication, converse, inverse, contrapositive, negation, and contradiction, direct proof, proof by using truth table, proof by counter example.	8	14
03	Combinatorics Mathematical induction, recursive mathematical definitions, basics of counting, permutations, combinations, inclusion-exclusion, recurrence relations (nth order recurrence relation with constant coefficients, Homogeneous recurrence relations, Inhomogeneous recurrence relation), generating function (closed form expression, properties of G.F., solution of recurrence relation using G.F, solution of combinatorial problem using G.F.)	7	14
04	Algebraic Structure Binary composition and its properties definition of algebraic structure, Groyas Semi group, Monoid Groups, Abelian Group, properties of groups, Permutation Groups, Sub Group, Cyclic Group, Rings and Fields (definition and standard results).	6	10
05	Graphs Graph terminology, types of graph connected graphs, components of graph, Euler graph, Hamiltonian path and circuits, Graph coloring, Chromatic number. Tree: Definition, types of tree(rooted, binary), properties of trees, binary search tree, tree traversing (preorder, inorder, post order). Finite Automata: Basic concepts of Automation theory, Deterministic finite Automation (DFA), transition function, transition table, Non Deterministic Finite Automata (N DFA), Mealy and Moore Machine, Minimization of finite Automation.	8	18
	Sub Total:	36	70
	Internal Assessment Examination & Preparation of Semester Examination	4	30
	Total:	40	100
Assignments: Based on the curriculum as covered by subject teacher.			
List of Books			

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Text Books:							
Name of Author		Title of the Book		Edition/ISSN/ISBN		Name of the Publisher	
Kenneth H. Rosen		Discrete Mathematics and its Applications				Tata Mc.Graw Hill	
eymourLipschutz, M.Lipson		Discrete Mathematics				Tata Mc.Graw Hill	
Reference Books:							
V. Krishnamurthy		Combinatorics:Theory and Applications				East-West Press	
Kolman, Busby Ross		Discrete Mathematical Structures				Prentice Hall International	
End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.							
Group	Unit	Objective Questions (MCQ only with the correct answer)		Subjective Questions			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	1 to 5	10	10				
B	1 to 5			5	3	5	60
C	1 to 5			5	3	15	
<ul style="list-style-type: none"> Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part. Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper. 							
Examination Scheme for end semester examination:							
Group	Chapter	Marks of each question	Question to be set	Question to be answered			
A	All	1	10	10			
B	All	5	5	3			
C	All	15	5	3			



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Name of the Course: B.Sc. in Information Technology (Cyber Security)			
Subject: Environmental Science			
Course Code: BITCS205		Semester: II	
Duration: 36 Hrs		Maximum Marks: 100	
Teaching Scheme		Examination Scheme	
Theory: 1 hr./week		End Semester Exam: 70	
Tutorial: 0		Attendance: 5	
Practical: 0		Continuous Assessment: 25	
Credit: 1		Practical Sessional internal continuous evaluation: NA	
		Practical Sessional external examination: NA	
Aim:			
Sl. No.			
1.	To enable critical thinking in relation to environmental affairs.		
2.	Understanding about interdisciplinary nature of environmental issues		
3.	Independent research regarding environmental problems in form of project report		
Objective:			
Sl. No.			
1.	To create awareness about environmental issues.		
2.	To nurture the curiosity of students particularly in relation to natural environment.		
3.	To develop an attitude among students to actively participate in all the activities regarding environment protection		
4.	To develop an attitude among students to actively participate in all the activities regarding environment protection		
Contents			4 Hrs./week
Chapter	Name of the Topic	Hours	Marks
01	Introduction Basic ideas of environment, basic concepts, man, society & environment, their interrelationship. Mathematics of population growth and associated problems, Importance of population study in environmental engineering, definition of resource, types of resource, renewable, non- renewable, potentially renewable, effect of excessive use vis-à-vis population growth, Sustainable Development. Materials balance: Steady state conservation system, steady state system with non-conservative pollutants, step function. Environmental degradation: Natural environmental Hazards like Flood, earthquake, Landslide-causes, effects and control/management, Anthropogenic degradation like Acid rain-cause, effects and control. Nature and scope of Environmental Science and Engineering.	3	5
02	Ecology Elements of ecology: System, open system, closed system, definition of ecology, species, population, community, definition of ecosystem-	7	10

	<p>components types and function.</p> <p>Structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems, Mangrove ecosystem (special reference to Sundar ban), Food chain [definition and one example of each food chain], Food web.</p> <p>Biogeochemical Cycle- definition, significance, flow chart of different cycles with only elementary reaction [Oxygen, carbon, Nitrogen, Phosphate, Sulphur].</p> <p>Biodiversity- types, importance, Endemic species, Biodiversity Hot-spot, Threats to biodiversity, Conservation of biodiversity.</p>		
03	<p>Air pollution and control</p> <p>Atmospheric Composition: Troposphere, Stratosphere, Mesosphere, Thermosphere, Tropopause and Mesopause. Energy balance: Conductive and Convective heat transfer, radiation heat transfer, simple global temperature model [Earth as a black body, earth as albedo], Problems. Green house effects: Definition, impact of greenhouse gases on the global climate and consequently on sea water level, agriculture and marine food. Global warming and its consequence, Control of Global warming. Earth's heat budget. Lapse rate: Ambient lapse rate Adiabatic lapse rate, atmospheric stability, temperature inversion (radiation inversion). Atmospheric dispersion: Maximum mixing depth, ventilation coefficient, effective stack height, smokestack plumes and Gaussian plume model. Definition of pollutants and contaminants, Primary and secondary pollutants: emission standard, criteria pollutant. Sources and effect of different air pollutants- Suspended particulate matter, oxides of carbon, oxides of nitrogen, oxides of sulphur, particulate, PAN. Smog, Photochemical smog and London smog. Depletion Ozone layer: CFC, destruction of ozone layer by CFC, impact of other green house gases, effect of ozone modification. Standards and control measures: Industrial, commercial and residential air quality standard, control measure (ESP. cyclone separator, bag house, catalytic converter, scrubber (ventury), Statement with brief reference).</p>	6	10
04	<p>Water Pollution and Control</p> <p>Hydrosphere, Hydrological cycle and Natural water. Pollutants of water, their origin and effects: Oxygen demanding wastes, pathogens, nutrients, Salts, thermal application, heavy metals, pesticides, volatile organic compounds. River/Lake/ground water pollution: River: DO, 5 day BOD test, Seeded BOD test, BOD reaction rate constants, Effect of oxygen demanding wastes on river [deoxygenation, reaeration], COD, Oil, Greases, pH. Lake: Eutrophication [Definition, source and effect]. Ground water: Aquifers, hydraulic gradient, ground water flow (Definition only) Standard and control: Waste water standard [BOD, COD, Oil, Grease], Water Treatment system [coagulation and flocculation, sedimentation and filtration, disinfection, hardness and alkalinity, softening] Wastewater treatment system, primary and secondary treatments [Trickling filters, rotating biological contractor,</p>	6	15

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	Activated sludge, sludge treatment, oxidation ponds] tertiary treatment definition. Water pollution due to the toxic elements and their biochemical effects: Lead, Mercury, Cadmium, and Arsenic.						
05	Land Pollution Lithosphere, Internal structure of earth, rock and soil 1L Solid Waste: Municipal, industrial, commercial, agricultural, domestic, pathological and hazardous solid wastes, Recovery and disposal method- Open dumping, Land filling, incineration, composting, recycling. Solid waste management and control (hazardous and biomedical waste).	4	10				
06	Noise Pollution Definition of noise, effect of noise pollution, noise classification [Transport noise, occupational noise, neighbourhood noise] Definition of noise frequency, noise pressure, noise intensity, noise threshold limit value, equivalent noise level,(18hr Index), Ldn. Noise pollution control.	5	10				
07	Environmental Management Environmental impact assessment, Environmental Audit, Environmental laws and protection act of India, Different international environmental treaty/ agreement/ protocol.	5	10				
	Sub Total:	36	70				
	Internal Assessment Examination & Preparation of Semester Examination	4	30				
	Total:	40	100				
Name of Author	Title of the Book	Edition/ISSN/ISBN	Name of the Publisher				
G. M.Masters,	Introduction to Environmental Engineering and Science		Prentice-Hall of India Pvt. Ltd., 1991				
Reference Books:							
A. K. De	Environmental Chemistry		New Age International				
End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.							
Group	Unit	Objective Questions (MCQ only with the correct answer)		Subjective Questions			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	1 to 5	10	10				
B	1 to 5			5	3	5	60
C	1 to 5			5	3	15	
<ul style="list-style-type: none"> Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part. 							



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

NH-12 (Old NH-34), Simhat, Haringhata, Nadia -741249

Department of Information Technology (In-house)

B.Sc. in Information Technology (Cyber Security)

(Effective from academic session 2019-20)

- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:				
Group	Chapter	Marks of each question	Question to be set	Question to be answered
A	All	1	10	10
B	All	5	5	3
C	All	15	5	3

Name of the Course: B.Sc. in Information Technology (Cyber Security)	
Subject: Project I	
Course Code: BITCS281	Semester: II
Duration: 36 Hrs.	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: 0	End Semester Exam: 100
Tutorial: 0	Attendance: 0
Practical: 2 hrs./week	Continuous Assessment: 0
Credit: 1	Practical Sessional internal continuous evaluation: 40
	Practical Sessional external examination: 60
Contents	
Students will do projects on application areas of latest technologies and current topics of societal relevance.	