

III B.Sc IT
OPEN SOURCE PROGRAMMING
UNTS 61

DATE: 30.12.2020 DAY ORDER: III Hour: III

- Introduction to Java Script.
- Why Java Script
- Advantages of Java Script.
- Basic Java Script Syntax.
- Simple Java Script Programs.

DATE: 5.1.2021 DAY ORDER: I Hour: III

Unit 2 Setting Up for Node JS Development

- What is Node JS?
- Why Node JS?
- Advantages & Disadvantages of Node JS

DATE: 8.1.2021 DAY ORDER: IV Hour: II

- Using REPL
- Executing Node JS
- Understanding Node JS

→ Variables, Functions

DATE: 13.1.2021 DAY ORDER: I Hour: III

→ Closures

- Understanding Node JS Performance
- More Node JS Internals
- More Java Script.

Unit 2 Completed.

DATE: 27.1.2021

DAY ORDER: III

Hour: II

Unit II

Core Node JS

→ Node JS File-Based Module System

DATE: 01-02-2021

* Command Line Arguments

* Buffer

* Path

⇒ Demo on "Reading a file" using fs module.

Handwritten signature/initials

~~28/1/21~~

DATE: 01-02-2021

DAY ORDER: IV

Hour: II

→ OS: Module

* Util Module

⇒ Demo on "Displaying Computer Memory Spaces" using OS & Util Module

DATE: 02-02-2021

DAY ORDER: I

Hour: III

→ AMD ⇒ Asynchronous Module Definition

Node.js Packages

→ Node Modules

→ Folder Based Modules

→ Advantages of Node Modules

→ JSON

* Introduction

DATE: 05-02-2021

Day order: IV

Hour: II

→ NPM

* prompt-sync

* underscore

* moment

⇒ lab program on "Reading input from User" using readline & prompt-sync module.

Date: 09.02.2021 Day order: I Hours: II

- underscore
- semantic versioning
- underscore functions
 - * map, reject
 - * min
 - * max
 - * filter

→ rimraf

→ Accessing JSON variable

- * Conversion from Java Script Object to JSON and JSON to Java Script object.

→ moment

Unit II Completed.

Date: 24.02.2021 Day order: II Hours: III

Unit III

EVENTS AND STREAMS

→ Inheritance in Node JS

→ Overriding

→ Node.js Events

- * on()
- * once()
- * emit()
- * SetMaxListeners()
- * removeAllListeners()
- * addListener()
- * removeListener()
- * listeners

Date: 01.03.2021 Day order: IV Hour: II

Unit I Internal Exam paper were distributed
and questions were discussed

Revision on
→ Events.

Date: 04.03.2021 Day order: I Hour: III

- Listener Management
- Error Event
- Creating your own Event Emitters
- Global Exception Handler
- Signals

Date: 11.03.2021 Day order: I Hour: III

- Streams
 - Pipe
 - Consuming Readable Streams
 - Writing to Writable Streams
 - Creating your own stream
- Unit III Completed.

Date: 16.03.2021 Day Order: IV Hour: II

Unit IV

PERSISTING DATA

- Introduction to NOSQL

II

Date: 19.03.2021

Day order: I

Hour: III

distributed

- Scalability Issues with a Relational Design
- Installing Mongo DB
- Important Mongo DB Concepts
- Mongo DB Using Node.js.

~~22/03/21~~

III

~~22/03/21~~

Date: 23.03.2021

Day order: IV

Hour: II

- Mongoose ODM
 - * Create schema
 - * Convert schema into model
 - * Express & Express-session
 - * Express and mongoose with Database.

~~29/3/21~~

Date: 30.03.2021

Day order: IV

Hour: IV

→ Using a Mongo DB as a Distributed Session Store

→ Managing Mongo DB

Unit IV Completed

UNIT V

FRONT-END BASICS

→ What is SPA?

→ Why Angular JS?

→ Introduction to Twitter Bootstrap

~~19/03/21~~

~~21/03/21~~

II

DATE: 30.12.2020

Day Order: III

Hours: I

Unit I

Introduction to the Concepts of Security

→ Introduction

- * Basic Concepts
- * Modern Nature of Attacks
 - ✓ Automating Attacks
 - ✓ Privacy Concerns
 - ✓ Distance Does not Matter

→ Security Approaches

- * Trusted Systems
- * Security Model
 - ✓ No Security
 - ✓ Security through Obscurity
 - ✓ Host Security
 - ✓ Network Security

→ Security Management Practices.

Date: 4.1.2021

Day Order: VI

Hours: V

→ Principles of Security

- * Confidentiality
- * Integrity
- * Authentication
- * Non-repudiation
- * Access Control
- * Availability
- * Ethical And Legal Issues.

Date: 5.1.2021

Day Order: I

Hours: I

→ Types of Attacks

- * Attacks: A General View
 - ✓ Criminal Attacks
 - ✓ Publicity Attacks
 - ✓ Legal Attacks

Date: 7.1.2021

Day order: III

Hour: V

→ Attacks : A Technical View

* Theoretical Approach

✓ Interception

✓ Fabrication

✓ Modification

✓ Interruption.

* Passive Attacks.

Date: 12.1.2021

Day order: VI

Hour: V

* Active Attacks

→ The Practical Side of Attacks

* Application-level Attacks

* Network-level Attacks

→ Programs that Attack

* Virus

* Worm

* Trojan Horse

* Dealing with Viruses.

→ Specific Attacks

* Sniffing And Spoofing

* Phishing

* Pharming (DNS Spoofing)

Date: 13.1.2020

Day order: I

Hour: I

CRYPTOGRAPHY TECHNIQUES

→ Introduction

→ Plain Text And Cipher Text

→ Substitution Techniques

* Caesar Cipher

* Modified Version of Caesar Cipher.

* Mono-alphabetic Cipher

- * Homophonic Substitution Cipher
- * Polygram Substitution Cipher
- * Polyalphabetic Substitution Cipher

Date: 25.01.2021

Day Order: II

Hour: II

- * Playfair Substitution Cipher
- * Hill Cipher
- Transposition Techniques
 - * Rail-fence Technique
 - * Simple Columnar Transposition Technique
 - * Columnar Transposition with multiple rounds
- Vigenere Cipher
- Book Cipher

Date: 27.01.2021

Day Order: III

Hour: I

- Encryption and Decryption
- Symmetric key Cryptography
 - * Diffie-Hellman Key Exchange Algorithm
- Asymmetric key Cryptography

DATE: 30.01.2021

DAY ORDER: I

Hour: I

- DOS Attacks.

UNIT II

COMPUTER BASED SYMMETRIC-KEY
CRYPTOGRAPHIC ALGORITHMS

- Algorithm Types

Cipher.