

**Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts (Autonomous)**

Syllabus: NEP 2020 w.e.f 2025-26

Programme Name: M.Sc (Information Technology)		Semester: IV
Course Category/Vertical: Major Mandatory		
Name of the Dept: Science and Technology		
Course Title: Blockchain		
Course Code: MSB401		Course Level:6.5
Type: Theory		
Course Credit: 4 credits		
Hours Allotted: 60 Hours		
Marks Allotted: 100 Marks		
Course Objectives: To enable the students to: 1: understand the structure of a Blockchain 2: learn the fundamentals of Ethereum and Bitcoin. 3: gain a comprehensive understanding of smart contract and Dapp. 4: learn the concepts of permissioned and public blockchains and NFT.		
Course Outcomes: After completion of the course, a student should be able to: CO1. provide conceptual understanding of the function of Blockchain as a method of securing distributed ledgers, how consensus on their contents is achieved. CO2. demonstrate blockchain applications. CO3. gain the ability to write and deploy basic smart contracts on the Ethereum blockchain using Solidity programming language and tools like Truffle and Remix. CO4. able to analyze cryptoeconomic design and learn NFT and permissioned blockchains		

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Unit No.	Content	Hours
I	Blockchain Introduction a. Blockchain – Introduction, History, Centralised versus Decentralised systems, Layers of blockchain, Importance of blockchain, Blockchain uses and use cases. b. Working of Blockchain – Blockchain foundation, Cryptography, Game Theory, Computer Science Engineering, Properties of blockchain solutions, blockchain transactions, distributed consensus mechanisms, Blockchain mechanisms, Scaling blockchain.	15
II	Bitcoin and Ethereum a. A Working of Bitcoin: Money, Bitcoin, Bitcoin blockchain, bitcoin network, bitcoin scripts, Full Nodes and SVPs, Bitcoin wallets, Interacting with the Bitcoin Blockchain b. Ethereum- Ethereum as a Next-Gen Blockchain, Design Philosophy of Ethereum, Ethereum Blockchain, Ethereum Accounts, Advantages of Accounts, Account State, Merkle Patricia Tree, Ethereum Transaction and Message Structure, Ethereum State Transaction Function, Gas and Transaction Cost, Ethereum Smart Contracts, Contract Creation, Ethereum Virtual Machine. c. Mining Ether: Difficulty, Factors Required for Block Validation, How Proof of Work Helps Regulate Block Time, Faster Blocks, How Ethereum Uses Stale Blocks, Forking	15
III	Smart Contract & Dapp a. Smart Contracts and Solidity: Basic of Solidity Programming:- writing loops in solidity, statement and expressions in solidity, Value types, Global special variables, Units and Functions b. Behind Dapp Deployment- Seven Ways to Think About Smart Contracts, Smart Contract Deployment- EVM as Back End: Introduction to Truffle, Use of Remix and test networks for deployment, Dapp deployment. c. Blockchain Application Development -Decentralized Applications, , Interacting Programmatically with Ethereum—Sending Transactions, Creating a Smart Contract, Executing Smart Contract Functions	15
IV	Permissioned Blockchain ,Cryptoeconomics & NFT a. Permissioned Blockchain- , Public vs. Private Blockchains, Decentralized Application Architecture, Hyperledger concept, Exploring Hyperledger fabric project, Iroha project b. Cryptoeconomics- Why Is Cryptoeconomics useful?, Understanding Hashing vs. encryption, Speed of blocks, Ether Issuance scheme, Common Attack Scenarios	15

	c. NFT - What are NFTs?NFT Marketplaces,Creating and Minting NFTs,Legal Aspects of NFTs, The Future of NFTS	
	Total Hours	60

References:

Sr.No	Title	Author	Publisher	Edition	Year
1	Introducing Ethereum and Solidity	Chris Dannen	Apress		2017
2	Beginning Blockchain: A Beginner's Guide to Building Blockchain Solutions	Bikramaditya Singhal , Gautam Dhameja ,Priyansu Sekhar Panda	Apress		2018
3	Blockchain for dummies	Tiana Laurence	Wiley		2017
4	The Blockchain Developer	Elad Elrom	Apress		2019
5	Mastering Ethereum	Andreas M. Antonopoulos Dr. Gavin Wood	O'Reilly	First	2018
6	The NFT Handbook	Matt Fortnow,Terry	Wiley	2022	The NFT Handbook

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Programme Name: M.Sc (Information Technology)		Semester: IV
Course Category/Vertical: Major Mandatory		
Name of the Dept: Science and Technology		
Course Title: Blockchain Practical		
Course Code: MSBP402		Course Level:6.5
Type: Practical		
Course Credit: 2 credits		
Hours Allotted: 60 Hours		
Marks Allotted: 50 Marks		
Course Objectives: To enable the students to: 1. recognize the importance of blockchain in various industries and its potential to disrupt traditional systems. 2. analyze the structure and functionality of Bitcoin wallets for storing and managing cryptocurrency. 3. introduce the Ethereum Virtual Machine (EVM) as the backend for executing smart contracts. 4. explore the permissioned blockchain.		
Course Outcomes: After completion of the course, a student should be able to: CO1: develop a mechanism for generating RSA key pairs, enabling users to securely encrypt and decrypt messages. CO2: explore the architecture and components of the Bitcoin blockchain, including blocks, transactions. CO3: demonstrate smart contracts and their deployment in decentralized applications (DApps). CO4: evaluate the security and privacy challenges in blockchain systems.		

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Pract. No.	Content	Hours
I	Blockchain	
a.	Develop a secure messaging application where users can exchange messages securely using RSA encryption. Implement a mechanism for generating RSA key pairs and encrypting/decrypting messages	
b.	Allow users to create multiple transactions and display them in an organised format.	
c.	Create a Python class named Transaction with attributes for sender, receiver, and amount. Implement a method within the class to transfer money from the sender's account to the receiver's account..	
d.	Implement a function to add new blocks to the miner and dump the blockchain.	
II		
a.	Write a python program to demonstrate mining.	
b.	Demonstrate the use of the Bitcoin Core API to interact with a Bitcoin Core node.	
c.	Demonstrating the process of running a blockchain node on your local machine.	
d.	Demonstrate mining using geth on your private network.	
III		
	Write a Solidity program that demonstrates various types of functions including regular functions, view functions, pure functions, and the fallback function.	
	Write a Solidity program that demonstrates function overloading, mathematical functions, and cryptographic functions.	
	Write a Solidity program that demonstrates various features including contracts, inheritance, constructors, abstract contracts, interfaces	
	Write a Solidity program that demonstrates use of libraries, assembly, events, and error handling	
	Build a decentralized application (DApp) using Angular for the front end and Truffle along with Ganache CLI for the back end.	
IV		
1.	Install and demonstrate use of hyperledger-Irhoa	
2.	Demonstration on interacting with NFT	
	Total Hours	60

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Programme Name: M.Sc (Information Technology)		Semester: IV
Course Category/Vertical: Major Mandatory		
Name of the Dept: Science and Technology		
Course Title: Deep Learning		
Course Code: MSD403		Course Level:6.5
Type: Theory		
Course Credit: 4 credits		
Hours Allotted: 60 Hours		
Marks Allotted: 100 Marks		
Course Objectives: 1: To present the mathematical, statistical and computational challenges of building Neural networks 2: To study the concepts of deep learning 3: To enable the students to know deep learning techniques to support real-time Applications		
Course Outcomes: After completion of the course, a student will be able to: CO1: Describe basics of mathematical foundation that will help the learner to understand the Concepts of Deep Learning. CO2: Understand and describe model of deep learning and various deep supervised learning architectures for text & image data. CO3: Gain knowledge about various deep learning models and architectures. CO4: Familiarize various deep learning techniques to design efficient algorithms for real-world applications.		

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Unit No.	Content	Hours
1.	a) Applied Math and Machine Learning Basics: Linear Algebra: Scalars, Vectors, Matrices and Tensors, Multiplying Matrices and Vectors , Identity and Inverse Matrices, Linear Dependence and Span , norms, special matrices and vectors, Eigen decompositions. b) Numerical Computation: Overflow and under flow, poor conditioning, Gradient Based Optimization, Constraint optimization.	
2.	a) Deep Networks: Deep feed forward network, regularization for deep learning, Optimization for Training deep models	
3.	a) Convolution Applications: Convolutional Networks, Sequence Modelling, Applications b) Deep Learning Research: Linear Factor Models, Auto encoders, representation learning	
4.	a) Generative Models: Approximate Inference, Deep Generative Models b) Diffusion Models (Reference 3) c) Applications: Transformers, Advance GANs (	
	Total Hours	60

References:

Sr.No	Title	Author	Publisher	Edition	Year
1.	Deep Learning Ian Goodfellow,	Yoshua Bengio, Aaron	An MIT Press book	1st	2016
2.	Fundamentals of Deep Learning	Nikhil Buduma	O'Reilly	1st	2017
3.	Generative Deep Learning	David Foster	O'Reilly	2nd	2023
4.	Deep Learning: Methods and Applications	Deng & Yu	Now Publishers	1st	2013

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Programme Name: M.Sc (Information Technology)		Semester: IV
Course Category/Vertical: Major Mandatory		
Name of the Dept: Science and Technology		
Course Title: Deep Learning Practical		
Course Code: MSDP404		Course Level:6.5
Type: Practical		
Course Credit: 2 credits		
Hours Allotted: 60 Hours		
Marks Allotted: 50 Marks		
Course Objectives: 1. To learn to use popular frameworks like TensorFlow or PyTorch to construct, train, and evaluate deep learning models for various tasks. 2. To apply various deep learning techniques to design efficient algorithms for real-world applications. 3. To optimize and deploy trained models into production environments. 4. To gain the ability to analyze problems, select appropriate deep learning approaches, evaluate model performance, and troubleshoot issues.		
Course Outcomes: After completion of the course, a student will be able to: CO1: Use tensors to implement deep learning algorithms and techniques. CO2: Apply deep neural network models. CO3: Analyze the impact of hyperparameter tuning on optimization. CO4: Evaluate and visualize the performance of the model.		

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Pract. No.	Content	Hours
I	Introduction to TensorFlow	
a.	Create tensors with different shapes and data types. Perform basic operations like addition, subtraction, multiplication, and division on tensors. Reshape, slice, and index tensors to extract specific elements or sections. Performing matrix multiplication and finding eigenvectors and eigenvalues using TensorFlow	
b.	Program to solve the XOR problem	
II	Linear Regression	
a.	Implement a simple linear regression model using TensorFlow's low-level API (or tf. keras). Train the model on a toy dataset (e.g., housing prices vs. square footage). Visualize the loss function and the learned linear relationship. Make predictions on new data points.	
III	Convolutional Neural Networks (Classification)	
a.	Implementing deep neural network for performing binary classification task	
b.	Using a deep feed-forward network with two hidden layers for performing multiclass classification and predicting the class.	
IV	Write a program to implement deep learning Techniques for image segmentation.	
V	Write a program to predict a caption for a sample image using LSTM.	
VI	Applying the Autoencoder algorithms for encoding real-world data	
VII	Write a program for character recognition using RNN and compare it with CNN.	
VIII	Write a program to develop Autoencoders using MNIST Handwritten Digits	
IX	Demonstrate recurrent neural network that learns to perform sequence analysis for stock price.(google stock price)	
X	Applying Generative Adversarial Networks for image generation and unsupervised tasks.	
	Total Hours	60

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Programme Name: M.Sc (Information Technology)		Semester: IV
Course Category/Vertical: Elective		
Name of the Dept: Science and Technology		
Course Title: Robotic Process Automation Practical		
Course Code: MSRP405		Course Level:6.5
Type: Practical		
Course Credit: 4 credits		
Hours Allotted: 120 Hours		
Marks Allotted: 50 Marks		
Course Objectives: 1: UiPath Fundamentals: Learn UiPath RPA basics, including Studio and Orchestrator. 2: Workflow Design: Develop automation workflows efficiently with UiPath Studio. 3: Data Manipulation: Extract, transform, and integrate data using UiPath. 4: Error Management: Handle exceptions and ensure reliable automation. 5: Orchestrator Management: Configure and monitor Orchestrator for robot management. 6: Advanced Features: Explore advanced UiPath capabilities like OCR and web automation.		
Course Outcomes: Upon the successful completion of this course, students will be able to: CO1. Recall and describe fundamental RPA and UiPath concepts, including key features of Studio and Orchestrator. CO2. Explain RPA principles and how UiPath facilitates process automation through its mechanisms. CO3. Interpret roles of components and tools in the UiPath ecosystem, understanding their functions. CO4. Summarize UiPath's data manipulation and integration capabilities for efficient automation. CO5. Utilize UiPath Studio to create workflows for simple business processes, incorporating data extraction and manipulation techniques		

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Pract. No.	Content	Hours
1.	RPA Basics: Sequences and Flowcharts: - Create a simple sequence-based project. - Create a flowchart-based project. - Automate UiPath Number Calculation (Subtraction, Multiplication, Division of numbers). - Create an automation UiPath project using different types of variables (number, datetime, Boolean, generic, array, data table)	
2.	Decision making and looping: - Consider an array of names. We have to find out how many of them start with the letter "a". Create an automation where the number of names starting with "a" is counted and the result is displayed. - Demonstrate switch statement with an example. - Create an automation To Print numbers from 1 to 10 with break after the writeline activity inside for each activity - Create an automation using Do..While Activity to print numbers from 5 to 1 - Create an automation using Delay Activity between two writeline activities to separate their execution by 5 seconds - Create an automation to demonstrate use of decision statements (if)	
3.	Types of Recording: - Basic Recording using Toolbar - Basic Recording using Notepad - Desktop Recording using Tool bar - Desktop Recording by creating a workflow - Web Recording e.g. Find the rating of the movie from imdb web site - Web Recording manually	
4.	- Automate the process to extract data from an excel file into a data table and vice versa - Create an automation to Write data to specific cell of an excel sheet. - Create an automation to Read data to specific cell of an excel sheet. - Create an automation to append data to specific cell of an excel sheet. - Create an automation to sort a table of an excel sheet. - Create an automation to filter a table of an excel sheet - Choose a repetitive manual task from your workplace or daily life. Design and implement an RPA bot to automate this task using your preferred RPA tool	

5.	Different controls in UiPath: a. Implement the attach window activity. b. Automate using Anchor Base. c. Automate using Element Exists. d. Automate using Find Children control. e. Use Get Ancestor control f. Use Find Relative control	
6.	Keyboard and Mouse Events: a. Demonstrate the following activities in UiPath: i. Mouse (click, double click and hover) ii. Type into iii. Type Secure text b. Demonstrate the following events in UiPath: . Element triggering event i. Image triggering event ii. System Triggering Event c. Automate the process of launching an assistant bot on a keyboard event.	
7.	Screen Scraping and Web Scraping methods: a. Automate the following screen scraping methods using UiPath: a. Full Text b. Native c. OCR b. Demonstrate Data Scraping and display values in Message box. c. Demonstrate Screen Scraping for a pdf, web page and image file.	
8.	PDF Automation and Exception Handling: a. Read PDF With OCR b. Merge PDF's into one c. Get PDF Total Page count Using Regex d. Extract data from a PDF or Excel file and populate it into a database or spreadsheet. e. Extract data from a PDF or Excel file and populate it into a database or spreadsheet. Implement data manipulation techniques like filtering, sorting, or data validation. f. Demonstrate Exception Handling using UiPath	
9.	Email Automation: a. Configure Email using UiPath b. Read Emails c. Send Email with Attachment d. Save Email Attachments e. Reply to Email	
10	Orchestrator management and mini project: a. Deploy bots to Orchestrator b. Run jobs from Orchestrator	

	c. Queue Introduction: i. Add items to Queue. ii. Get Queue item from Orchestrator d. Build UiPath Chatbot using Google dialogflow	
11	RPA Applications: a. Automate the extraction of data from invoices, validate information, and update accounting systems. b. Automate data entry tasks from various sources such as emails, forms, or documents, and validate data against predefined rules. c. Automate the process of expense reporting by extracting data from receipts, categorizing expenses, and generating reports. d. Automate inventory tracking and management processes, including stock updates, reordering, and inventory audits. e. Automate sales order processing tasks such as order entry, validation, and fulfilment.	
12	Prepare the Robotics process automation project on any one of the following domains: RPA in Logistics, Intelligent Process Automation, IT Process Automation Explained, RPA in Banking, RPA in Education, RPA in Telecommunications, RPA in Healthcare, RPA in Insurance, RPA in Accounting, RPA Challenges, RPA in Real Estate, RPA in BPO, RPA Security	
	Total Hours	120

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Programme Name: M.Sc (Information Technology)	Semester: IV
Course Category/Vertical: Elective	
Name of the Dept: Science and Technology	
Course Title: Cyber Forensics Practical	
Course Code: MSCP406	Course Level:6.5
Type: Practical	
Course Credit: 4 credits	
Hours Allotted: 120 Hours	
Marks Allotted: 50 Marks	
Course Objectives: To enable the students to: 1: Understand the fundamentals of computer forensics investigation processes and methodologies. 2: Gain proficiency in using various forensic tools and techniques for data recovery, analysis, and preservation. 3: Develop skills in detecting and defeating anti-forensic techniques employed by perpetrators. 4: Learn how to perform forensic investigations on different operating systems, networks, web attacks, databases, malware, email crimes, and mobile devices. 5: Apply acquired knowledge and skills through practical exercises and case studies to conduct thorough and effective forensic investigations.	
Course Outcomes: After completion of the course: CO1: Data Recovery: Students will be able to recover lost or deleted data using tools like EaseUS Data Recovery Wizard, ensuring data integrity and completeness during investigations. OC2: Hashing and Checksum Calculations: Students will perform hash, checksum, or HMAC calculations using HashCalc, enabling them to verify data integrity and authenticity. CO3: Disk Imaging: Students will create disk image files of hard disk partitions using tools like R-drive Image Tool, ensuring preservation of evidence for analysis. CO4: File System Analysis: Students will analyze different file system types using Sleuth Kit (TSK) and Autopsy, enabling them to understand file structures and recover relevant evidence. CO5: Data Acquisition and Duplication: Students will create dd image files, investigate NTFS drives using DiskExplorer for NTFS, and view content of forensic images using FTK Imager Tool, ensuring accurate and thorough data acquisition. CO6: Defeating Anti-Forensics Techniques: Students will learn to crack application passwords, detect steganography, and identify and unpack packed files using tools like ExeInfo PE and UPX, ensuring effectiveness in overcoming anti-forensics measures.	

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Prac No	Practical Description	Hours
1	Computer Forensics Investigation Process - Recovering Data using the EaseUS Data Recovery Wizard. - Performing Hash, Checksum, or HMAC Calculations using the HashCalc. - Creating a Disk Image File of a Hard Disk Partition using the R-drive Image Tool.	
2	Understanding Hard Disks and File Systems - Analyzing File System Types Using the Sleuth Kit (TSK). - Analyzing Raw image using Autopsy. - Analyze file system of Linux image file. - Analyze file system of Windows image file.	
3	Data Acquisition and Duplication - Creating a dd image file - Investigating NTFS Drive Using DiskExplorer for NTFS. - Viewing Content of Forensic Image Using Access Data FTK Imager Tool	
4	Defeating Anti-forensics Techniques - Cracking Application Password - Detecting Steganography - Perform a practical of identifying the packer used to pack a file by using ExeInfo PE and then unpacking the file using UPX.	
5	Performing OS Forensics - Perform a Practical collect volatile information from a host computer running on a Windows OS by using tools PsTools, LogonSessions, and NetworkOpenedFiles. - Perform a Practical for Discovering and Extracting Hidden Forensic Material on Computers Using OSForensics. - Performing a Computer Forensic Investigation Using the Helix Tool - examine Windows event logs using Event Log Explorer.	
6	Network Forensics - Investigating Network Traffic Using Wireshark - Investigating Network Attacks using Kiwi Log Viewer	
7	Investigating Web Attacks Analyzing Domain and IP Address Queries Using SmartWhois Tool	
8	Database Forensics Analyzing SQLite Databases using DB Browser for SQLite	

9	Malware Forensics a. Perform Static Analysis of the Suspicious File b. performing dynamic analysis of a malicious file to find the processes It starts, network operations, file changes and other activities.	
10	Investigating Email Crimes a. Recovering Deleted Emails Using the Recover My Email utility. b. Tracing an Email Using the eMailTrackerPro Tool.	
11	Mobile Forensics a. Analyzing the Forensic Image and Carving the Deleted Files Using Autopsy.	
	Total Hours	120

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Programme Name: M.Sc (Information Technology)	Semester: IV
Course Category/Vertical: Elective	
Name of the Dept: Science and Technology	
Course Title: Advanced IoT Practical	
Course Code: MSAP407	Course Level:6.5
Type: Practical	
Course Credit: 4 credits	
Hours Allotted: 120 Hours	
Marks Allotted: 50 Marks	
Course Objectives: To enable the students to: 1. To understand how to load Raspbian and Windows IoT Core on Raspberry Pi and execute applications on it using Python and node.js. 2. To develop a home automation system that can remotely control at least 4 devices. 3. To learn how to interface the fingerprint module with Raspberry Pi, capture and store fingerprints and display whether the fingerprint is valid or not on the 16X2 LCD display. 4. To develop a private Ethereum blockchain with Raspberry Pi. 5. To integrate Node Red with MQTT on Raspberry Pi. 6. To learn how to use Microsoft Speech API for transcribing, converting, and real-time speech translation.	
Course Outcomes: Upon completion of this practical course, learners will be able to: 1. Understand how to load Raspbian and Windows IoT Core on Raspberry Pi and execute applications on it using Python and node.js. 2. Develop a home automation system that can remotely control at least 4 devices. 3. Learn how to interface a fingerprint module with Raspberry Pi, capture and store fingerprints, and display whether the fingerprint is valid or invalid on the 16X2 LCD display. 4. Learn how to interface an RFID module with Raspberry Pi, write and read RFID cards, map them with student Roll no and display information on the student. 5. Learn how to interface a GPS module with Raspberry Pi and display the latitude and longitude on the 16X2 LCD display. 6. Integrate Node Red with MQTT on Raspberry Pi. 7. Use Microsoft Speech API to transcribe, convert, and translate speech in real-time. 8. Use Microsoft Language API to identify common terms, detect sentiments and opinions, distill information, enable natural language interaction, and translate over 100 languages and dialects.	

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List of Practical:	
Unit 1	Hours
Load Raspbian and Windows IoT Core on Raspberry Pi and execute applications on it using Python and node.js.	
Create a home automation system and control the devices remotely. Control 4 devices with the system.	
Interface fingerprint module with raspberry Pi to capture and store fingerprints. Interface 16X2 LCD with the same Pi and display whether the fingerprint is valid or invalid.	
Interface RFID module with Raspberry Pi. Write and read RFID cards. Map the with student Roll no. Read the card and display the information of the student.	
Interface GPS module with Raspberry Pi. Display the latitude and longitude on the 16X2 LCD display.	
Unit 2	
Interface Pi Camera with Raspberry Pi. Capture and store faces along with their names. Scan the face and display the Name of the person.	
a. Create a private Ethereum blockchain with Raspberry Pi. b. Integrate Node Red with MQTT on Raspberry Pi.	
Interface fingerprint module with Raspberry Pi. Control different devices with fingerprint. If the finger print is registered and valid, the device should function, else Access denied should be displayed on LCD 16X2 display.	
Create a full-featured Kubernetes application on a Pi cluster Setup Raspberry Pi Cluster Install Kubernetes on Raspberry Pi Cluster Install Kubernetes Ingress on Raspberry Pi Cluster Perform Kubernetes application monitoring on Raspberry Pi cluster Install MairaDB on Raspberry Pi Develop Application using the above installations	
Interface stepper motor with Raspberry Pi. Use the motor to rotate an item clockwise and anticlockwise in steps.	
Build AI Powered Auto Billing System for Fast Checkout in Retail Stores with Raspberry Pi.	
Send telemetry from a device to an IoT hub and read it with a service application.	
Use the Azure CLI and Azure portal to configure IoT Hub message routing.	
Use Microsoft Speech API to a. Transcribe audible speech into readable, searchable text.	

b. Convert text to lifelike speech for more natural interfaces.	
c. Integrate real-time speech translation into your apps.	
a. Identify and verify the person speaking by using voice characteristics.	
Use Microsoft Language API to	
a. Identify commonly used and domain-specific terms.	
b. Automatically detect sentiments and opinions in text.	
c. Distill information into easy-to-navigate questions and answers.	
d. Enable your apps to interact with users through natural language.	
e. Translate more than 100 languages and dialects.	
Use Microsoft Vision API to	
a. Identify and analyze content in images and video.	
b. Customize image recognition to fit your business needs.	
Use Microsoft Language API to	
c. Identify potential problems early. (Decision services / Anomaly Detector)	
d. Detect potentially offensive or unwanted content. (Decision services / Content Moderator)	
e. Create rich, personalized experiences for every user. (Decision services / Personalizer)	
Develop a project for Condition monitoring for Industrial IoT (Case Study and Implementation)	
Develop a project for Predictive maintenance for Industrial IoT (Case Study and Implementation)	
Develop a project for Real-time asset tracking and management (Case Study and Implementation)	
Create a digital model of your physical space or assets (Case Study and Implementation)	
Total Hours	120

References:

1. <https://www.raspberrypi.org/>
2. <https://betterprogramming.pub/develop-and-deploy-kubernetes-applications-on-a-raspberry-pi-cluster-fbd4d97a904c>
3. <https://learn.microsoft.com/en-us/azure/iot/tutorial-iot-industrial-solution-architecture>
4. <https://azure.microsoft.com/en-in/solutions/iot>
5. <https://circuitdigest.com/microcontroller-projects/raspberry-pi-based-automatic-library-management-system>