

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

MCA (Sem.-4)
IOT AND BLOCKCHAIN TECHNOLOGY

Subject Code : PGCA-1967

M.Code : 91862

Date of Examination : 05-01-2023

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. Write briefly :

- a) UDP and TCP
- b) ZigBee
- c) IoT interfaces
- d) Blockchain transactions
- e) Crypto Currency
- f) Public Blockchain
- g) Identity on Blockchain
- h) Block in a Blockchain
- i) Embedded Systems
- j) Block Mining.

Dec - 2022

SECTION-B

2. Discuss in detail the various protocols and communication models involved in IoT.
3. Explain these concepts in detail :
 - (a) IoT levels and deployment templates
 - (b) Big Data Analytics
4. Define and describe various APIs for communication in IoT.
5. Write a detailed note on the IoT applications in the areas of health, agriculture, environment and energy.

SECTION-C

6. Define Blockchain? Why it came into existence? Discuss the permissioned model of block chain in detail and explain the idea of cryptocurrency to blockchain.
7. What is Bitcoin? Explain process of creation of coins, payments and double spending, and bitcoin scripts.
8. Write a detailed note on the enterprise applications of blockchain such as Blockchain enabled trade, We Trade- Trade Finance network and Supply chain financing.
9. Explain the issues and challenges associated with blockchain. Also discuss the concepts of block propagation and block relay.



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June-2022

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MCA (Sem.-4)
IOT AND BLOCKCHAIN TECHNOLOGY

Subject Code : PGCA-1967

M.Code : 91862

Date of Examination : 19-07-22

Time : 3 Hrs.

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2. SECTION - B & C have FOUR questions each.
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4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. Write briefly :

- a) ZigBee
- b) Bluetooth
- c) CoAP
- d) Bitcoin
- e) Crypto Currency
- f) MQTT
- g) KYC
- h) Block Relay
- i) Block Mining
- j) Big Data Analytics.

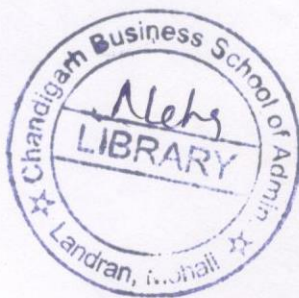


SECTION-B

2. Discuss the various characteristics of IoT and explain the physical as well as logical design of IoT.
3. Explain these concepts with suitable diagrams.
 - a) Cloud Computing
 - b) Wireless Sensor Networks.
4. Define and describe the various hardware and software components of IoT.
5. Write a detailed note on the IoT applications in the areas of home automation, cities, retail and logistics.

SECTION-C

6. Define block chain. Why it came into existence? Discuss the terms- public ledgers, smart contracts, block in a block chain, transactions, distributed consensus and public vs. private block chain.
7. Explain the Bitcoin P2P network and how transactions in bitcoin networks are processed.
8. Write a detailed note on the enterprise applications of blockchain such as cross border payments, KYC, Food Security and Mortgage over Blockchain.
9. Explain the issues and challenges associated with cryptocurrency. Also, discuss the security aspects of blockchain.



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MCA (Sem.-4)

MACHINE LEARNING AND DATA ANALYTICS USING PYTHON

Subject Code : PGCA-1976

Paper ID : 91855

Date of Examination : 05-07-22

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION - B & C have **FOUR** questions each.
3. Attempt any **FIVE** questions from SECTION B & C carrying **TEN** marks each.
4. Select atleast **TWO** questions from SECTION - B & C.

SECTION-A

1. Write short notes on :
- a) Reinforcement Learning
 - b) Logistic Classification
 - c) Random Forest
 - d) Principal Component Analysis
 - e) Python Functions
 - f) Numpy
 - g) Pandas
 - h) Matplotlib
 - i) Histogram
 - j) Clustering.

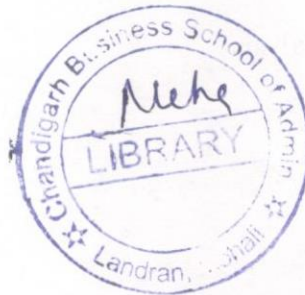


SECTION-B

2. What is Machine Learning? What is its relationship with Deep learning? Explain supervised and unsupervised learning with examples.
3. What is the difference between regression and classification? Explain linear regression.
4. Explain Naive Bayes classification technique. What are its advantages and disadvantages?
5. What are neural networks? Discuss the architecture of neural networks in detail.

SECTION-C

6. Describe various kinds of operators and control structures in Python. How to find out whether a number is even or odd using python bitwise operators?
7. What are python arrays and how to use them? Discuss the concept of array indexing with examples in detail.
8. Write a Pandas program to create Data Frames that contains random values, contains missing values, contains date time values and contains mixed values.
9. Write detailed notes on Matplotlib histograms and pie charts.



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MCA (Sem.-4)

ADVANCED WEB TECHNOLOGIES

Subject Code : PGCA-1958

Paper ID : 91856

Date of Examination : 07-07-22

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

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4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. **Write short notes on :**
- a) What is type conversion in PHP?
 - b) Discuss any two basic PHP errors.
 - c) What is MySQL?
 - d) What is CMS?
 - e) Why do we require NPM?
 - f) What is the use of date picker?
 - g) List out different data types of PHP.
 - h) What is a tooltip?
 - i) What are the various attributes of XML?
 - j) What is JSX?

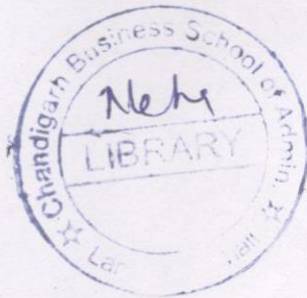


SECTION-B

2. Describe the PHP session in detail.
3. In today's world, what are the various Web services available? Explain with an example.
4. What is the meaning of Session management, and how cookies are used for it?
5. What are the various types, usages and benefits of CMS?

SECTION-C

6. What is the use of AJAX in the Website?
7. Explain, how Node.js is used in dynamic website development?
8. What are the various components of react API?
9. Discuss various datatypes of XML. Also, explain how to create XML documents.



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