**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, November 2022**

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|  | **2BC3180** | Roll No. | Total Printed Pages: 1 |
| **2BC3180** |  |
| BCA II Year III- Semester (Back) End Semester Examination, November 2022  **(DS)** | |
| **BCD03107.2 : Blockchain Fundamentals** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

Attempt **five** questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Use of following supporting material is permitted during examination for this subject.

# **1.--------------------------Nil--------------------** **2.------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
| **Q.1** | **(a)** | What are the major problems in conventional centralized banking system? How blockchain can solve these problems? | **(6)** | **Remember** |
|  | **(b)** | What do you understand about blocks and chains in a blockchain system? How does a block get verified in a chain system? | **(6)** | **Apply** |
|  |  | **OR** |  |  |
| **Q.2** | **(a)** | What are the different types of blockchain? What are limitations of blockchain? | **(6)** | **Remember** |
|  | **(b)** | What types of records can be kept in the Blockchain? Is there any restriction on the same? | **(6)** | **Understand** |
|  |  | **UNIT-II (CO2)** |  |  |
| **Q.3** | **(a)** | How do verifiers check if a block is valid? List down some of the extensively used cryptographic algorithms and tell which one is more suitable in Blockchain and why? | **(6)** | **Apply** |
|  | **(b)** | How does digital signature work? Discuss the basics of cryptocurrency. | **(6)** | **Understand** |
|  |  | **OR** |  |  |
| **Q.4** | **(a)** | How to implement Blockchain technology for sharing documents of individual person for verification. | **(6)** | **Apply** |
|  | **(b)** | What is hash function? Which hash algorithm is used in bitcoin crypto-currency? Explain the working in brief. | **(6)** | **Understand** |
|  |  | **UNIT-III (CO3)** |  |  |
| **Q.5** | **(a)** | What is the difference between centralized networks, decentralized network, and distributed ledger? | **(6)** | **Understand** |
|  | **(b)** | How to mine a block? Discuss the mining difficulties. | **(6)** | **Apply** |
|  |  | **OR** |  |  |
| **Q.6** | **(a)** | Are there any network-specific conditions for employing Blockchain technology in an organization? What is the difference between centralized networks, decentralized network, and distributed ledger? | **(6)** | **Analyze** |
|  | **(b)** | What is the difference between Proof of work and Proof of stake? | **(6)** | **Understand** |
|  |  | **UNIT-IV (CO4)** |  |  |
| **Q.7** | **(a)** | What is Ethereum? What is the difference between Bitcoin and Ethereum? | **(6)** | **Understand** |
|  | **(b)** | What is Corda platform? Where can we use it? | **(6)** | **Understand** |
|  |  | **OR** |  |  |
| **Q.8** | **(a)** | Mention some popular blockchain platforms for developing blockchain applications with their merits and demerits. | **(6)** | **Understand** |
|  | **(b)** | Discuss different types of Blockchains and their possible uses. List the MNC giants which have started to work on their crypto currency. | **(6)** | **Understand** |
|  |  | **UNIT V (CO5)** |  |  |
| **Q.9** | **(a)** | How to use blockchain technology in an application? What are main programming languages? | **(6)** | **Apply** |
|  | **(b)** | How to design a blockchain application for Cross border payments? | **(6)** | **Create** |
|  |  | **OR** |  |  |
| **Q.10** | **(a)** | How to use blockchain technology in Trade Finance Network? | **(6)** | **Apply** |
|  | **(b)** | How to use blockchain technology to stop multiple identities of a same person? | **(6)** | **Apply** |