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**PRESIDENCY UNIVERSITY**

**Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 10 – 01- 2025 **Time:** 09:30 am – 12:30 pm |

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| **School:** SOM-UG | **Program:** BBA (Financial Technology) | |
| **Course Code :** COM3028 | **Course Name :** Cryptocurrency and its uses | |
| **Semester**: V | **Max Marks**: 100 | **Weightage**: 50% |

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| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** |
| **Marks** | **11** | **26** | **26** | **26** | **11** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

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| **Answer ALL the Questions. Each question carries 2 marks. (10Q x 2M = 20M)** | **Bloom's Level** | **CO** |

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| **1** | What is the primary objective of cryptocurrency? | **2 Marks** | **Remember** | **CO1** |
| **2** | What is Bitcoin? | **2 Marks** | **Remember** | **CO1** |
| **3** | Write a short note on Ethereum and its features. | **2 Marks** | **Remember** | **CO2** |
| **4** | When did the first crypto exchange evolve, and what was it called? | **2 Marks** | **Remember** | **CO2** |
| **5** | What is the Tangency Portfolio in Modern Portfolio Theory? | **2 Marks** | **Remember** | **CO3** |
| **6** | List two major risks associated with Bitcoin investments. | **2 Marks** | **Remember** | **CO3** |
| **7** | Why is user onboarding important for cryptocurrency platforms? | **2 Marks** | **Understand** | **CO4** |
| **8** | What are some common challenges in securing cryptocurrency assets? | **2 Marks** | **Understand** | **CO4** |
| **9** | Identify two factors and explain how they can be applied to contribute to the success of cryptocurrency investors. | **2 Marks** | **Apply** | **CO5** |
| **10** | Discuss how ethical considerations can be applied to promote responsible practices in cryptocurrency usage and investment. | **2 Marks** | **Apply** | **CO5** |

**Part B**

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| **Answer ALL the Questions. Each question carries 7 marks. (5Q x 7M = 35M)** | | | **Bloom's Level** | **CO** |
| **11** | Describe the key features of cryptocurrency. | **7 Marks** | **Remember** | **CO1** |
|  | **Or** | | | |
| **12** | Outline the types of cryptocurrencies with examples. | **7 Marks** | **Remember** | **CO1** |

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| **13** | What are the major revenue streams for crypto exchanges, and how do they work? | **7 Marks** | **Remember** | **CO2** |
|  | **Or** | | | |
| **14** | Discuss the key components of a crypto exchange’s trading mechanism. | **7 Marks** | **Remember** | **CO2** |

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| **15** | Explain the concept of the Capital Asset Pricing Model (CAPM) and its relevance to cryptocurrency investments. | **7 Marks** | **Remember** | **CO3** |
|  | **Or** | | | |
| **16** | Given:  Asset A: E(RA)=10%, σA=20%  Asset B: E(RB)=15%, σB=30%  Risk-free rate: Rf=5%  Correlation between A and B: ρ=0.6   1. Calculate portfolio return and risk using weights (e.g., 50% in A and 50% in B).   b) Compute the Sharpe Ratio for different   combinations to find the optimal portfolio. | **7 Marks** | **Remember** | **CO3** |

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| **17** | Explain why cryptocurrency regulations are important. Provide any five countries crptocurrency regualtions and tax system. | **7 Marks** | **Understand** | **CO4** |
|  | **Or** | | | |
| **18** | Identify four key risks in cryptocurrency investments and strategies to mitigate them. | **7 Marks** | **Understand** | **CO4** |

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| **19** | Identify and explain two emerging trends in cryptocurrency markets. | **7 Marks** | **Apply** | **CO5** |
|  | **Or** | | | |
| **20** | How is the integration of AI and blockchain influencing the cryptocurrency landscape? | **7 Marks** | **Apply** | **CO5** |

**Part C**

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| **Answer Any THREE Questions. Each question carries 15 marks. (3Q x 15M = 45M)** | **Bloom's Level** | **CO** |

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| **21** | Discuss the different types of cryptocurrency exchanges and its various functions. | **15 Marks** | **Remember** | **CO2** |
| **22** | You are managing a diversified cryptocurrency portfolio that consists of Bitcoin (BTC), Ethereum (ETH), and Binance Coin (BNB). You want to apply the Capital Asset Pricing Model (CAPM) to estimate the expected returns of these cryptocurrencies.  The Cryptocurrency Market Index (CMC Index) serves as the market portfolio, and the current risk-free rate (Rf) is based on U.S. Treasury bonds at 4%. Below are the betas (β) of the individual cryptocurrencies with respect to the CMC Index:  Bitcoin (BTC): =1.5  Ethereum (ETH): β=2.0  Binance Coin (BNB): β=1.0  Additionally, the expected return of the cryptocurrency market (Rm) is 20%.  Calculate the expected return for each of the cryptocurrencies and then find the weighted average expected return of the portfolio, given the following portfolio weights:  Bitcoin (BTC): 50%  Ethereum (ETH): 30%  Binance Coin (BNB): 20%  Use the CAPM formula to calculate the expected returns for each cryptocurrency and the overall portfolio. | **15 Marks** | **Remember** | **CO3** |
| **23** | Discuss about the fundamental analysis and its various tools in the context of cryptocurrency investment. | **15 Marks** | **Understand** | **CO4** |
| **24** | **Case Study:**  Anna, a young investor, entered the cryptocurrency market during a bull run in 2021. Motivated by fear of missing out (FOMO), she invested in Dogecoin and other speculative tokens without conducting research. Initially, she saw profits, but when the market corrected, she lost 70% of her portfolio’s value. Anna’s case highlights the dangers of emotional investing.  Required:   1. **What mistakes did Anna make in her investment strategy?** 2. **How did market corrections affect Anna’s portfolio?** 3. **What could Anna have done differently?** 4. **What role does market sentiment play in cryptocurrency trading?** 5. What lessons can regulators learn from this case? | **15 Marks** | **Apply** | **CO5** |