Reg. No. :

Question Paper Code:U8501

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Professional Elective

21ITV501 – METAVERSE

(Common to CSE & CSD Engineering Branches)

(Regulations 2021)

Duration: Three hours   Maximum: 100 Marks

Answer All Questions

PART – A (5 x 20= 100 Marks)

1. (a) Assume you are building a virtual campus tour application. How would you use the Metaverse and its 7-layer value chain to develop the platform?   CO2-App   (20)

Or

   (b) Apply the concept of immersive experience and Metaverse to enhance an online learning environment. Justify the benefits over traditional e-learning.   CO2- App   (20)

2. (a) Design a Metaverse-based virtual shopping experience using AR and AI. How would each technology improve the user journey?   CO2- App   (20)

Or

   (b) Create a tourism experience in the Metaverse using AR and MR. How would this enhance the tourist's engagement and interaction with cultural landmarks?   CO2- App   (20)

3. (a) Describe the working mechanism of cryptocurrency in a decentralized Metaverse economy.   CO1- U   (20)

Or

   (b) Explain how smart contracts function on blockchain platforms. What makes them suitable for trustless interactions in the Metaverse?   CO1- U   (20)

4. (a) Discuss the benefits and challenges of using blockchain for digital   CO1- U   (20)
        identity in virtual worlds.

                                    Or

    (b) Describe   how   NFTs   support   transparency,   royalties,   and   CO1- U   (20)
        ownership in a decentralized system.

5. (a) Explain in the Metaverse creates immersive user   CO1- U   (20)
        experiences. Describe its features, benefits, and technologies used.

                                    Or

    (b) Describe how social interactions occur in the Metaverse. Explain   CO1- U   (20)
        the use of avatars, chat features, and virtual communities.

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