

Code No: R15A0413**MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****III B.Tech II Semester Supplementary Examinations, April 2023****Digital Communications****(ECE)**

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Time: 3 hours**Max. Marks: 75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

- 1). a What do you mean by wave symmetry? [2M]
- b How is '0' and '1' is represented in binary phase shift keying technique? [3M]
- c What are the various pulse modulation techniques ? [2M]
- d List the advantages of Digital transmission? [3M]
- e What was the first generation of cellular systems? [2M]
- f What is a 2G phone system? [3M]
- g What are the error control techniques that are used for reliable communication? [2M]
- h What is the error that happens during parallel transmission? [3M]
- i Name the modem that is used for low speed applications and the importance of this? [2M]
- j Name the various data link protocols used in wide area networks? [3M]

PART-B (50 MARKS)**SECTION-I**

- 2 What are the various types of transmission modes and explain. [10M]
- OR
- 3 Explain the different types of noise in a communication system and the importance of signal to noise ratio? [10M]

SECTION-II

- 4 Explain Twisted-pair transmission lines and Coaxial (Concentric) Transmission Lines? [10M]

OR

- 5 Explain with the help of a block diagram the Frequency- Division Multiplexing [10M]

SECTION-III

- 6 What is a satellite multiple accessing arrangement? List and describe, in detail with neat diagrams, the three forms of satellite multiple accessing arrangements. [10M]

OR

- 7 Explain the Digital Cellular Telephone? [10M]

SECTION-IV

- 8 Explain ASCII codes and their importance in communication systems? [10M]

OR

- 9 What are the various error detection techniques to check the redundancy? Explain the Hamming code? [10M]

SECTION-V

- 10 Draw the block diagram of FSK modem used in asynchronous mode? Explain the purpose of each block. [10M]

OR

- 11 Explain any one Asynchronous Data Link Protocols? [10M]
