

M.Sc. S.Y. (Physics) (CBCS Pattern) Semester-IV
PSCPHYTI15.4 - Core Elective E2.5 - Paper-XV - Applied Electronics-II

P. Pages : 1

Time : Three Hours



GUG/W/24/11421

Max. Marks : 80

Either:

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|----|----|--|---|
| 1. | a) | Discuss PCM and delta modulation and their unique feature in digital modulation. | 8 |
| | b) | Explain the effect of thermal noise in delta modulation. | 8 |

OR

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| | e) | Explain the sampling theorem, comment natural sampling and flat top sampling in signal recovery. | 8 |
| | f) | Discuss mathematical interpretation of noise? What is the effect of noise in PCM and demodulation? | 8 |

Either:

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| 2. | a) | What is mesh topology? Explain the any one features of computer communication networks. | 8 |
| | b) | What is the routing procedure? Explain in detail. | 8 |

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| | e) | Discuss in detail ISDN and LAN. | 8 |
| | f) | What is difference between packets and circuit switching network. | 8 |

Either:

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| 3. | a) | Discuss functional block diagram of 8086 with pin configuration. | 8 |
| | b) | Explain in detail memory paging. | 8 |

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| | e) | Explain minimum mode and maximum mode configuration of 8086? Discuss clock generator (8284A). | 8 |
| | f) | Explain t-state, m-state and execution cycle with timing diagram for 8086. | 8 |

Either:

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| 4. | a) | What is UART? Elaborate your answer with functional block diagram of UART. | 8 |
| | b) | How address bus and data bus selection configuration use in memory expansion? Explain. | 8 |

OR

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|--|----|--|---|
| | e) | Explain interrupt structure and its expansion with 8259A PIC. | 8 |
| | f) | What is interfacing? Explain the pins used in interfacing with 8255 PPI. | 8 |

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| 5. | Attempt all the following. | | |
| | a) | What is the tree and bus topology. | 4 |
| | b) | Explain output signal to noise ratio in DM. | 4 |
| | c) | Comments on flag structure of 8086. | 4 |
| | d) | Explain 3 to 8 line decoder. | 4 |
