

S.E. CM PN S.EM III NEP June 2026,

Time : 2 Hours

Marks : 60

11/06/26

Notes:

1. Question No. 1 is Compulsory.
2. Attempt any THREE from Q2. To Q6.
3. All questions carry equal mark.
4. Calculator having number conversion function is not allowed.

Q1 Attempt any THREE.

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|---|---|---|
| A | Convert $(74.25)_{10}$ and $(47.50)_{10}$ into hexadecimal numbers and perform addition on converted numbers. | 5 |
| B | Explain instruction pipeline. | 5 |
| C | Explain characteristics of memory. | 5 |
| D | Explain Associative memory. | 5 |

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| Q.2 | A | Convert $(56.45)_{10}$ into IEEE 754 floating point Single Precision format. | 8 |
| | B | Explain different pipeline hazards. | 7 |

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| Q.3 | A | Draw flow chart for nonrestoring division algorithm and solve $(15)_{10} / (2)_{10}$. | 8 |
| | B | Explain programmed IO and interrupt-driven data transfer methods. | 7 |

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| Q.4 | A | Compare Direct, Associative, Set Associative Cache Mapping techniques. | 8 |
| | B | Compare Hardwired and Softwired control unit design techniques. | 7 |

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| Q.5 | A | Explain architecture of 8086 microprocessor. | 8 |
| | B | Multiply $(-8)_{10}$ and $(-3)_{10}$ using Booth's algorithm | 7 |

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| Q.6 | A | Explain Flynn's classification. | 8 |
| | B | Differentiate between different operation modes of 80386DX processor | 7 |