

AU-324

M.Sc. (Part—I) Semester—II (CBCS Scheme) Examination

ELECTRONICS

(2-ELE-4 Mechatronics)

Paper—VIII

Time : Three Hours]

[Maximum Marks : 80

Note :—(1) All questions are compulsory.

(2) Draw neat labelled diagram wherever necessary.

EITHER

1. (a) Explain programmable logic controller. 8
- (b) What is mechatronics ? Explain with block diagram. 8

OR

- (p) Explain derivative control mode of controller. 8
- (q) Explain analog and digital control systems. 8

EITHER

2. (a) What is PID ? Explain PID circuit. 6
- (b) Explain digital controller. 4
- (c) Describe closed loop controller. 6

OR

- (p) Explain controller tuning in detail. 6
- (q) Explain two step mode in controller. 6
- (r) What is velocity control ? 4

EITHER

3. (a) What is sequencing ? Explain in brief. 6
- (b) Explain Ladder programming in detail. 6
- (c) Explain shift registers. 4

OR

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| (p) Explain timers in detail. | 6 |
| (q) Explain basic PLC structure in detail. | 6 |
| (r) What is data handling ? | 4 |

EITHER

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| 4. (a) Explain serial and parallel communication. | 8 |
| (b) What is protocol ? Explain wireless protocol. | 8 |

OR

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| (p) Explain digital communication in detail. | 8 |
| (q) What is network ? Explain in brief. | 8 |

EITHER

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| 5. (a) Explain parity and error coding checks. | 8 |
| (b) Explain common hardware fault. | 8 |

OR

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| (p) Explain emulation and simulation in detail. | 8 |
| (q) Explain watch dog timer in detail. | 8 |