1036

Code : 15MC52T

Register Number | | | | | | | | | | |

V Semester Diploma Examination, Nov./Dec.-2018

# DESIGN OF MECHATRONICS SYSTEM

Time : 3 Hours ] [ Max. Marks : 100



## PART – A

Answer any **six** questions. 5 × 6 = 30

1. Explain the key elements of mechatronics system design. 5

2. Explain electrical system in mechatronics. 5

3. Explain the I/O channels of analog signals. 5

4. Explain the methods of overcome overframing. 5

5. Explain testing of transportation bridge surface material briefly. 5

6. Explain strain gauge weighting system. 5

7. Explain the De-icing temperature control system. 5

8. Explain the speed control of a DC motor, briefly. 5

9. Explain artificial intelligence. 5





[Turn over

## PART – B

Answer any **seven** full questions. **10 × 7 = 70**

10. Explain mechatronics design process with diagram. 10

11. Explain information systems. 10

12. Explain data acquisition and control system with diagram. 10



13. Explain the transducer calibration system for automotive applications with necessary diagram. 10

14. Explain thermal fatigue cycle of ceramic plate. 10

15. Explain the design of pick and place robot with control diagram. 10

16. Explain the design of car park barrier system with diagram. 10



17. (a) Explain Barcode reader. 5

(b) Explain automatic room heating system. 5

18. Explain the steps involved in fuzzy logic design. 10

19. (a) Explain the process of fabrication of microsensor. 5

(b) Explain three different types of microsensors. 5