1040

Code : 15MC62T

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

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

ROBOTICS

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** questions from Part **A**.
(ii) Answer any **seven** full questions from Part **B**.

PART – A

1. Explain the work volume and accuracy of robot. **5**

2. Explain the tactile sensors used in robot. **5**

3. With sketch explain force sensing wrist. **5**

4. Explain how image is stored in vision system. **5**

5. Explain the robot vision system in inspection **5**

6. Explain constants and variable in VAL language. **5**

7. Explain speed control statement in VAL languages. **5**

8. Explain ADD commands in lisp programming. **5**

9. Explain list commands in lisp programming with example. **5**

PART – B

10. (a) Explain with neat sketch cylindrical configuration of a robot. 5
    (b) Explain the types of joints used in robot. 5

11. (a) Explain with sketch basic robot motions. 8
    (b) Explain any two advantages of Industrial robot. 2

12. (a) Explain with sketch the actuation of a gripper by using cam. 5
    (b) Explain with sketch proximity sensor using reflected light against sensor array. 5

13. (a) Explain the factors considered in selection and design of grippers. 6
    (b) Explain the types of grippers used in robot. 4

14. (a) Explain with sketch working principle of vidicon camera. 7
    (b) Explain edge detection in high level vision system. 3

15. Explain manual and power lead through method of robot programming. 10

16. (a) Explain MOVE and related statements in VAL language. 5
    (b) Explain problem representation technique in Artificial Intelligence (AI). 5

17. Explain MIN and PLUS commands in Lisp programming with example. 10

18. Explain pick and place robot. 10

19. Explain robots in automated inspections. 10