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B.E/B.Tech. (FT) DEGREE END SEMESTER EXAMINATION APRIL /MAY 2011
INDUSTRIAL ENGINEERING BRANCH
VII SEMESTER
IE503 –Industrial Robotics
(REGULATION 2004)

Time: 3 hr **Answer All Questions** **Max Marks: 100**

PART 'A' (10 x 2 = 20 Mark)

1. Give difference between automatic machine and robot.
2. What are the power transmission systems available for robotics?
3. What is the working principle of Inductosyn?
4. Give some disadvantages of potentiometers and ways to overcome that.
5. Give some applications of edge detection.
6. What is the principle of pattern recginition?
7. What are the types of coordinate systems?
8. Differentiate Approach and Move commands in robot programming?
9. What are the methods available for economic analysis of robots?
10. Give some industrial applications of robot?

PART 'B' (5 x 16 = 80 Marks)

11. (i) Explain the various drive mechanisms used in robotics with neat sketch(12)
    (ii).Classify the end effectors used in robotics. (4)

12. (a) Briefly explain optical position sensor and its applications in detail.
    (Or)
    (b). Describe any two types of Non- contact type proximity sensors in detail.

13. (a). Explain Image segmentation and its applications in detail.
    (Or)
    (b). Give some applications of voice recoginition and explain the procedure for voice recoginition

14. (a). Explain the types of coordinate system for robotics in detail with neat sketches
    (Or)
    (b). Explain all basic commands needed for robot programming with its syntax and an example.

15. (a).Describe the cycle time analyis procedure for robots with an example.
    (Or).
    (b).(i) Explain the various economic analysis methods of robotics in detail (8)
    (ii). Enumurate various industrial applications of robotics (8)