

**Government College of Engineering, Aurangabad**

(An Autonomous Institute of Government of Maharashtra)

**M.E. (EC) Examination FT (REV)**

End Semester Examination Nov/Dec 2016

**ET 543: ADVANCE INDUSTRIAL AUTOMATION**

**21 DEC 2016**

Max.Marks:60

Time: Three Hours

*“Verify the Course code and check whether you have got the correct question paper”*

*N.B:-*

- 1. Solve any four questions.*
- 2. Figures to the right indicate full marks.*
- 3. Assume suitable data if necessary and state it clearly.*
- 4. Use of non programmable calculator is allowed.*

- Q1. (a) What are the uses of alarms and interrupts in control system? Explain with suitable example. (07)
- (b) Explain basic concept of controllers. Also explain the mathematical modelling. (08)
- Q2. (a) What is LCU? Explain its architecture. How communication facilities are provided for LCU? (15)
- Q3. What is a use of fieldbus in industrial plants? Explain functions, international standards and performance of fieldbus. (15)
- Q4. How automation is achieved in the cement and paper industries? Explain in detail. (15)
- Q5. (a) What is a membership function? Explain the methods of determination of membership functions. (08)
- (b) Explain fuzzy sets and basic notions in detail. (07)