

**B.Tech. – VIEP – ELECTRICAL ENGINEERING
(BTELVI)**

00396 **Term-End Examination**
June, 2016

BIEEE-014 : COMPUTER CONTROL PROCESS

Time : 3 hours

Maximum Marks : 70

Note : Attempt any *five* questions. All questions carry equal marks. Use of scientific calculator is permitted.

1. What is cascade control system ? When are such systems used in process control ? Explain with an example the block diagram structure of a cascade control system. 14
2. (a) "Ratio control is a type of feed forward control." Justify the statement. 7
(b) Explain 'end point control configuration' of ratio control with the help of an example. 7
3. Discuss the multivariable predictive controller techniques that are popular in process control applications. 14

4. Explain the various quantities that are required to specify the transient response characteristics of single input single output linear time-invariant system. 14
5. Discuss various selection criteria that must be considered for the selection of a suitable programmable logic controller for a specific process control. 14
6. What is the importance of Man-Machine Interface (MMI) in computer-aided process control ? List the components of MMI devices and mention the function of each component. 14
7. What is the use of field-buses in an industrial process control system ? What are the different types of field-buses ? Discuss the advantages and disadvantages. 14
8. Write technical notes on any *two* of the following : 2×7=14
- (a) Distribution Control System
 - (b) Inter-task Communication
 - (c) Control Hierarchies for Plant Level Automation