| **BIEEE-014**

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

Term-End Examination 00691
June, 2015

BIEEE-014 : COMPUTER CONTROL PROCESS

Time : 3 hours   *Maximum Marks : 70*

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

1. Explain the Feed Forward control using its basic block diagram. Describe its advantages over a feedback control system.   *10*

2. What is ratio control ? Explain any two configurations by which ratio control can be implemented.   *10*

3. What is multivariable control ? Derive the basic expressions for MIMO systems. How are they different from SISO systems ?   *10*

4. Define the Robustness for a multivariable control system. Discuss stability using H_2 and H_∞ theories.   *10*

5. Explain the function of each component of a PLC (Programmable Logic Controller) using its complete block diagram. *10*

6. Develop a ladder that will allow three switches in a room to control a single light source. Switching on any one of the three switches turns the light on but all the three switches have to be off for the light to go off. *10*

7. Explain the functions of real time kernels. Describe the operating system functions of a micro-kernel using the complete structure. *10*

8. What are the different methods of communication in a real time system ? Explain inter task communication in detail. *10*

9. Write short notes on any *two* of the following : *2×5=10*

   (a) Man Machine Interface

   (b) Control of real time systems using microprocessor

   (c) Real time memory management