BIEL-025(S)

B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00348

Term-End Examination

December, 2016

BIEL-025(S) : ADVANCED MICROPROCESSOR ARCHITECTURE

Time : 3 hours   *Maximum Marks : 70*

Note : Attempt seven questions in all. All questions carry equal marks. Missing data, if any, may be suitably assumed.

1. (a) Explain the Quantitative principles of computer design.   *5*

    (b) What are the important tasks of a computer designer ? Explain with the help of a suitable block diagram.   *5*

2. (a) What is Micro Programmed Control Unit ? With a block diagram, explain the working of an address sequencer.   *5*

    (b) What are the different factors to be considered in costing of computer design ? Explain in brief.   *5*

3. Discuss the classification of instruction set. Give two examples for each group. *10*

4. Briefly explain the role of an assembler and a compiler. Differentiate between one-pass and two-pass assemblers. *6+4*

5. Explain the following terms with suitable examples : *5+5*

   (a) Data Hazards

   (b) Control Hazards

6. What are the difficulties in implementing pipelines ? Explain. How are these difficulties overcome ? *6+4*

7. Give the classification of parallel computers. Also state their applications with suitable examples. *10*

8. Explain in brief the process adopted for reducing branch penalties with Dynamic Scheduling. *10*

9. Write short notes on any *two* of the following : *5+5*

   (a) Virtual Memory

   (b) Memory Addressing

   (c) Register Transfer Language

10. Discuss the VLIW architecture and superscalar processor. *10*