Hall Ticket No | | | | | | | | | | | Question Paper Code: BES003

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

M.Tech I Semester End Examinations (Supplementary) - July, 2017

Regulation: IARE–R16

COMPUTER ARCHITECTURE
(Embedded Systems)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Write briefly about the advantages of parallelism. **[7M]**
   (b) Discuss about principal of locality in detail. **[7M]**
2. (a) Show that the ratio of the geometric means is equal to the geometric mean of the performance ratios, and that the reference computer of SPEC Ratio matters not. **[6M]**
   (b) Write short notes on **[8M]**
      i. Desktop bench marks
      ii. Server bench marks.

UNIT – II

3. (a) Describe how to overcome Data Hazards with Dynamic Scheduling. **[7M]**
   (b) Explain the basic VLIW approach. **[7M]**
4. (a) Explain static branch prediction and list out its techniques? **[5M]**
   (b) List out the limitations for hardware and software speculation to exploit ILP? **[9M]**

UNIT – III

5. (a) Briefly explain the different Cache performance techniques that can be used to improve miss penalty and miss rate? **[8M]**
   (b) List and briefly explain the six basic cache optimizations. **[6M]**
6. (a) Explain how the processes can be protected via virtual memory. **[8M]**
   (b) Difference between symmetric shared memory and distributed shared memory. **[6M]**

UNIT – IV

7. (a) Explain the concept of RAID and explain various levels. **[8M]**
   (b) List and explain various types of storage systems. **[6M]**

8. (a) Explain how IO Devices are connected to CPU/Memory using buses. **[10M]**

   (b) Explain the terms **[4M]**

   i. dependability

   ii. error latency

UNIT – V

9. (a) Describe the designing procedure for a cluster. **[7M]**

   (b) What are the media used for interconnecting networks? **[7M]**

10. (a) Explain the practical issues in interconnecting networks? **[7M]**

    (b) Discuss the pros and cons of cost of clusters. **[7M]**

– ○ ○ ◯ ○ ○ –