Code No: **PT41046** **R13** **Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

ADVANCED COMPUTER ARCHITECTURE

(Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1. a) What do you mean by desktop computing? [4]
   b) What is Pipelining? [3]
   c) Define Instruction level Parallelism. [3]
   d) Write about Static Brach Prediction. [4]
   e) Discuss about MIMD. [5]
   f) Write about Network Performance measures. [3]

PART–B *(3x16 = 48 Marks)*

2. a) List and explain the functional requirements of an Computer Architecture. [8]
   b) Write and explain bout the principles of Instruction set. [8]

3. a) Discuss about major Hurdles of Pipelining. [8]
   b) Write any four advanced optimizations of Cache Performance. [8]

4. a) How to overcome Data Hazards with Dynamic Scheduling? Explain. [8]
   b) Discuss Tomasulo's Algorithm with a Loop Based Example. [8]

5. a) Discuss about static branch prediction. [8]
   b) Write and explain about Compiler Techniques for Exposing ILP. [8]

6. a) Write about Symmetric Shared- Memory Architectures. [10]
   b) Write briefly about the characteristics of application domain. [6]

7. a) What is Interconnecting network? Why is it important? [8]
   b) List and explain some examples of inter connected networks. [8]