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Seat No.	

B.E. (Computer Science. & Engineering) (Semester - VII) (Revised) Examination, April - 2018
ADVANCED COMPUTER ARCHITECTURE
Sub. Code :67541

Day and Date : Tuesday, 24- 4 - 2018 **Total Marks : 100**
Time : 2.30 p.m. to 5.30 p.m.

Instructions :
1) **Attempt any Three questions from each section.**
2) **Figures to the right indicates full marks.**
3) **Assume suitable data if necessary.**

SECTION - I

Q1) a) What is MTTF? How rate of failure is computed? What is significance of MTTF in software product development? **[8]**

b) What is need of classification of computer architectures? How Michael Flynn has classified different computer architectures? **[8]**

Q2) a) What are different shared memory multiprocessor models? How these models differ from each other? **[8]**

b) What is concept of linear pipelining? Explain unifunction and Multifunction pipelines. **[8]**

Q3) a) Explain scalable coherent multiprocessor model with distributed shared memory. State its applications. **[8]**

b) Explain principle of multithreading. Draw and explain multithreaded architecture. **[8]**

Q4) Write short notes on following (any three) **[3×6=18]**

a) Pipeline vector processors

b) Systolic Arrays and its applications

c) Latency hiding techniques

d) Associative memory processor

P.T.O.

SECTION - II

Q5) a) What is need of distributed architectures? Compare between loosely coupled and tightly coupled architectures. Which architecture is preferred for real time applications? [8]

b) Explain with steps intracluster memory access in Cm* architecture. [8]

Q6) a) What is GPU? Draw GPU memory structure. How GPU memory is shared by all vector loops. [8]

b) What is Grain size? Explain grain packing and scheduling. [8]

Q7) a) Explain how parallelism in a program is detected using Bernstein's conditions. State properties of Bernstein's conditions. [8]

b) What is hardware and software parallelism? With suitable example explain mismatch between them. [8]

Q8) Write short notes on following (any three) [3×6=18]

a) Vector Architecture

b) Data and Resource dependences

c) Latency

d) Cross cutting issues Mobile Vs Server GPUs.

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