

B.TECH SEM – VI (2007 COURSE) (COMPUTER ENGG.) :
SUMMER - 2018

SUBJECT: ADVANCED COMPUTER ARCHITECTURE

Day: **Friday**
Date: **01/06/2018**

S-2018-2709

Time: **02.30 PM TO 05.30 PM**
Max Marks: **80**

N.B.:

- 1) **Q. No. 1 and Q.No.5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the section should be written in the **SEPARATE** answer books.
- 4) Use of non-programmable **CALCULATOR** is allowed.
- 5) Draw neat and labeled diagrams **WHEREVER** necessary.
- 6) Assume suitable data if necessary.

SECTION-I

- Q.1** a) Explain the parallelism in uniprocessor system. **(05)**
b) Write memory contention and arbitration techniques in detail. **(05)**
c) Explain briefly the different parallel computers architecture. **(04)**
- Q.2** a) Draw and explain feng's classification in detail. **(07)**
b) Explain in detail typical Ultrasparc based system with block diagram. **(06)**
- Q.3** a) What is need of super scalar architecture? Explain in detail. **(07)**
b) Write short note on cache miss and hits. **(06)**
- Q.4** a) Explain in detail Very long instruction Word Processor (VLIW) architecture. **(07)**
b) What is pipeline? Discuss classification of pipeline processors. **(06)**

SECTION-II

- Q.5** a) What are the different architecture configurations of SIMD array processors? **(05)**
b) Write short notes on Time shared bus. **(05)**
c) Explain in detail code optimization and vectorization. **(04)**
- Q.6** a) Write difference between RISC and CISC architecture. **(07)**
b) Explain processor arrays in detail. **(06)**
- Q.7** a) Draw and explain inter communication network. **(07)**
b) What is loosely coupled multiprocessor. **(06)**
- Q.8** Write short notes **(13)**
i) Multiprocessor operating system.
ii) Interprocess communication mechanism.