

**B.TECH SEM – V (2007 COURSE) (INF. TECH.) : SUMMER -  
2018**

**SUBJECT : COMPUTER ORGANIZATION AND ARCHITECTURE**

Day : **Wednesday**  
Date : **23/05/2018**

**S-2018-2676**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 80

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**N. B. :**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** questions from each section.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answers to both the sections should be written in the **SEPARATE** answer books.
  - 4) Draw neat and labeled diagram **WHEREVER** necessary.
  - 5) Assume suitable data, if necessary.
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**SECTION - I**

- Q. 1** a) Describe the different types of RAID in brief. **(05)**  
b) Describe the IEEE standard for floating point numbers. **(05)**  
c) Describe the programmers model of 80836 in real mode in brief. **(04)**
- Q. 2** a) Describe the advanced DRAM organizations. **(07)**  
b) Describe the different replacement algorithms in cache memory. **(06)**
- Q. 3** a) Describe the Booth's algorithm for signed division. **(07)**  
b) Explain in detail the concept of Little and Big Endian. **(06)**
- Q. 4** a) Describe the programmer's model of 80386 in protected mode in detail. **(07)**  
b) Describe the instruction pipelining in 80386. **(06)**

**SECTION – II**

- Q. 5** a) Describe the features of SPARC architecture. **(05)**  
b) Explain the different applications of microprogramming. **(05)**  
c) Describe the non-uniform memory access. **(04)**
- Q. 6** a) Describe the block diagram of CISC architecture in detail. **(07)**  
b) Explain the architecture of SPARC processor with neat diagram. **(06)**
- Q. 7** a) Describe the state table method of hardwired control unit design. **(07)**  
b) What is microprogramming? Explain the microprogramming sequencer. **(06)**
- Q. 8** a) Describe the architectural classification of parallel processing. **(07)**  
b) Describe in detail the MESI protocol. **(06)**