

B.TECH SEM – V (2007 COURSE) (COMPUTER ENGG.) :

SUMMER - 2018

SUBJECT : COMPUTER ORGANIZATION

Day : **Thursday**
Date : **24/05/2018**

S-2018-2662

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

N. B. :

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** questions from Section – I and Section – II.
 - 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) Explain the feature of PCI bus. (04)
 - b) Represent the following numbers in single and double precision format. (06)
 - i) (861.75) ii) (1.24)
 - iii) (0.123) iv) (372.15)
 - c) Explain types of operands supported by 80386. (04)
- Q. 2**
- a) Explain the detail architecture of PDP-11. (07)
 - b) Define I/O channel. Explain three types of I/O channel. (06)
- Q. 3**
- a) Explain how non-restoring division algorithm differs from restoring division algorithm. Solve following example using restoring division algorithm $1100 \div 0011$. (07)
 - b) Convert following decimal numbers to a double precision floating point number format: (06)
 - i) 1259.125 ii) 4425.67
 - iii) - 207.1875
- Q. 4**
- a) Explain the instruction format and instruction cycle. (07)
 - b) List the various registers in 80386. Explain the significance of test register. (06)

SECTION – II

- Q. 5**
- a) Explain the ALU and its significance. (05)
 - b) Explain magnetic disk and also explain why magnetic disk to considered as secondary storage. (05)
 - c) Explain Bus contention. (04)
- Q. 6**
- a) Explain control unit design considerations in detail. (07)
 - b) Explain hardware control in detail. (06)
- Q. 7**
- a) Define set associative memory. Explain 2-way set associative memory in detail. (07)
 - b) Define virtual memory. Explain the process of converting virtual address into linear address in case of (06)
 - i) paging ii) segmentation
- Q. 8**
- a) Describe components of operating system. Explain the process of loading MS DOS. (07)
 - b) Explain design considerations for RISC machines with relevance to addressing modes, instruction and pipelining. (06)