B.TECH SEM - IV (2007 COURSE) (E & TC ENGG.) :
WINTER - 2017

SUBJCET: COMPUTER ORGANIZATION AND OPERATING SYSTEM

Day: **Thursday** Time: **02.30 PM TO 05.30 PM**
Date: **23/11/2017** **W-2017-2442** 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 sections should be written in **SEPARATE** answer book.
4) Assume suitable data if necessary.

SECTION-I

Q.1 **a)** Write a short note on optical memory. **(04)**
b) List all the applications of micro processing. **(05)**
c) What are the problems of bus contention? How to avoid them. **(05)**

Q.2 **a)** Explain the Von- Neumann architecture with the help of a neat diagram. **(07)**
b) Explain the microinstruction performed during the execution of following instruction. **(06)**
i) MUL AL [5000H] ii) JZ delay

Q.3 **a)** Write a short note on RAID. **(07)**
b) What are the different controls registers. Explain them with an example of each. **(06)**

Q.4 **a)** Explain the following with respect to multibus **(07)**
i) power supply lines ii) Interrupt lines
iii) initialization iv) Bus contention lines
b) What is the difference between closely and loosely coupled multiprocessor configurations? **(06)**

SECTION-II

Q.5 **a)** Explain the concept of address translation? **(04)**
b) What are the process states? **(05)**
c) Write in brief about Round Robin scheduling. **(05)**

Q.6 **a)** Differentiate between batch and time sharing OS. **(07)**
b) Differentiate between a micro kernel and a layered kernel. **(06)**

Q.7 **a)** What are the design issues related to message passing in inter process communication? **(07)**
b) What are contents of thread control block (TCB)? **(06)**

Q.8 **a)** List the security issues related to file management and explain them. **(07)**
b) Keeping frame size to 3, find the number of page fault with respect to FIFO and LRU, with page reference order: 2,7,1,0,3,9,5,7,7,6,7,5,6,8. **(06)**

* * * *