Total No. of Questions – [8] Total No. of Printed Pages –[2]

MAY 2019/ENDSEM

S. Y. B. TECH. (COMPUTER) (SEMESTER - I)

COURSE NAME: COMPUTER ORGANIZATION AND MICROPROCESSORS TECHNIQUES
COURSE CODE: CSUA21173

(PATTERN 2017)

Time: [2 Hours] [Max. Marks: 50]

Instructions to candidates:
1) Answer Q.1, Q.2, Q.3, Q.4, Q.5 OR Q.6, Q.7 OR Q.8.
2) Figures to the right indicate full marks.
3) Use of scientific calculator is allowed.
4) Use suitable data where ever required.

Q. 1) a) Solve the following Multiplication using Booth's Algorithm [6]
Multiplicand = 7
Multiplier =3

OR

b) Solve Division of the following numbers using restoring Division [6]
Algorithm: Dividend=1011, Divisor=0011.

Q. 2) a) Draw and explain the block diagram of an External device. [6]

OR

b) Distinguish between programmed I/O and interrupt driven I/O. [6]

Q.3) a) Draw Instruction Cycle State Diagram. [6]

OR

b) What is user visible registers? List and explain it types in detail. [6]

Q.4) a) List and explain 8086 Flag register with diagram. [4]

OR

b) Match the pairs: [4]

1. Immediate Addressing	A. MOV AX, [BX+DI+08]
2. Based Indexed with Displacement Mode	B. MOV CX, [BX]
3. Register Indirect Addressing Mode	C. ADD AX,[1592H]
4. Direct Addressing Mode	D. MOV AX,2387H

Q.5) a) Explain paging in detail [6]
b) List various Descriptor tables and Explain any one of them. [4]
c) State the rules for privileges. [4]

OR

Q.6) a) What is CPL, DPL and RPL? State relation between them. [6]
b) Explain Page Directory and Page Table. [4]
c) Explain 3 fields of linear address. [4]

Q.7) a) Explain MOV and IN instruction [6]
b) List and explain the various section in an assembly code for NASM. [4]
c) Write an 64 bit assembly language macro 'scall' which can be used to accept or display any message (include comments in the code). [4]

OR

Q.8) a) Explain the use of Procedure with an example. [6]
b) List and explain syscall for linux operating system. [4]
c) Write an 64 bit assembly program to display the message "This is a beautiful book" (include comments in the code). [4]