Total No. of Questions – [8]

Total No. of Printed Pages –[2]

G.R. No.	

Paper Code - U218-123 (BE-FS)

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 division of the following numbers using restoring division algorithm: [6]
Dividend (A:Q) = 0000:0111 (7)
Divisor (M)= 0011 (3)

OR

b) Draw flow chart of Booth's Algorithm for Two's Complement Multiplication. [6]

Q. 2) a) How typical cache organization works? Explain with diagram. [6]

OR

b) Explain block diagram of I/O Module. [6]

Q.3) a) List and explain control and status registers in detail. [6]

OR

b) Draw and explain Data Flow Fetch Cycle and Data Flow Indirect Cycle. [6]

Q.4) a) List and explain 80386 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) Draw the diagram indicating combined segment and page translation. [6]

b) Explain protection in 80386 in detail. [4]

c) State the rules for privileges. [4]

OR

Q.6) a) Differentiate between segmentation in 80386 and 8086. [6]

b) List various types of privileged levels and Explain DPL. [4]

c) Explain LDT and IDT. [4]

Q.7) a) Explain Any 3 String Instructions with example. [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) Assuming the following values in the register BH= 38 and CH= 5AH, show the contents of the register after following Operation ROL BH,4 and SHL CH,4. Justify your answer. [6]

b) List and explain syscall for linux operating system. [4]

c) Write an 64 bit assembly program to display the message "WELCOME TO VIIT" (include comments in the code). [4]