

B.Sc DEGREE END SEMESTER EXAMINATION MARCH 2017**SEMESTER – 2: COMPUTER APPLICATION (CORE COURSE)****COURSE: 15U2CRCAP3 –: MICRO PROCESSORS AND COMPUTER ORGANIZATION***(Common for Regular 2016 Admission / Supplementary 2015 Admission)*

Time: Three Hours

Max. Marks: 75

PART AAnswer **all** questions. Each question carries 1 mark.

1. Define Memory address register.
2. Give the classification of memory.
3. What is Read Access Time?
4. How PROM is different from ROM?
5. What is volatile memory?
6. What is EPROM?
7. What is locality of reference?
8. List the advantages of write through cache.
9. Define a bus.
10. How effective address is calculated in Base Register Addressing Mode? (1 x 10 = 10)

PART BAnswer **any eight** questions. Each question carries 2 marks.

11. List the difference between Auxiliary memory & Cache memory.
12. What do you mean by virtual memory? Discuss how paging helps in implementing virtual memory.
13. What is an interrupts?
14. Define memory cycle time
15. What are the modes of operation of Pentium processor?
16. List down the general purpose and special purpose registers of 8086.
17. What do you mean by effective address of data?
18. What is a page fault?
19. What is the main difference between implied and immediate modes of addressing?
20. Define hit ratio. (2 x 8 = 16)

PART CAnswer **any five** questions. Each question carries 5 marks.

21. Explain memory unit function?
22. What is bus? Explain it in detail?

23. How do you classify the Instruction set of the 8086 processor? Discuss the arithmetic instructions of 8086.
24. Draw the pin diagram of 80386 and explain any one mode of operation in detail.
25. What is a cache memory? How is the performance of cache memory measured?
26. Define hit ratio and explain its significance.
27. Explain instruction execution cycle.
28. Explain the principle of stack. What are LIFO and FIFO operations of stack? (5 x 5 = 25)

PART D

Answer **any two** questions. Each question carries 12 marks.

29. Discuss the different ways in which ROM can be programmed.
30. What do you mean by effective address of data? List any four addressing modes. How is effective address calculated for them?
31. What is an instruction? How an instruction is executed? With example explain three, two, one, zero address instructions.
32.
 - a. What is the difference between a direct and an indirect address instruction? How many references to memory are needed for each type of instruction to bring an operand into a processor register?
 - b. A Computer uses a memory unit with 256 K words of 32 bits each. A binary instruction code is stored in one word of memory. The instruction has four parts: an indirect bit, an operation code, a register code part to specify one of 64 registers, and an address part.
 - i. How many bits are there in the operation code, the register code part, and the address part?
 - ii. Draw the instruction word format and indicate the number of bits in each part.
 - iii. How many bits are there in the data and address inputs of the memory? (12 x 2 = 24)
