

Reg. No. :

--	--	--	--	--	--	--	--	--	--

**Question Paper Code: 49403**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Electronics and Communication Engineering

14UEC903 - COMPUTER ARCHITECTURE AND ORGANIZATION

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- The addressing mode which makes use of in-direction pointers is
  - Indirect addressing mode
  - Index addressing mode
  - Relative addressing mode
  - Offset addressing mode
- Floating point representation is used to store
  - boolean values
  - whole numbers
  - real integers
  - integers
- In computers, subtraction is generally carried out by
  - 9's complement
  - 10's complement
  - 1's complement
  - 2's complement
- Pipeline implement
  - fetch instruction
  - decode instruction
  - fetch operand
  - calculate operand
- CPU does not perform the operation
  - data transfer
  - logic operation
  - arithmetic operation
  - all the above

6. A micro program written as string of 0's and 1's is a
- (a) symbolic microinstruction                      (b) binary microinstruction  
(c) symbolic micro program                      (d) binary micro program
7. The techniques which move the program blocks to or from the physical memory is called as
- (a) Paging    (b) Virtual memory organization  
(c) Overlays    (d) Framing
8. The advantage of CMOS SRAM over the transistor one's is
- (a) Low cost    (b) High efficiency  
(c) High durability    (d) Low power consumption
9. Interrupts which are initiated by an instruction are
- (a) internal                      (b) external                      (c) hardware                      (d) software
10. Both the CISC and RISC architectures have been developed to reduce the \_\_\_\_\_
- (a) Cost                      (b) Time delay                      (c) Semantic gap                      (d) All of the above

PART - B (5 x 2 = 10 Marks)

11. Write the CPU performance equation..
12. What is coprocessor and what are the functions performed by the coprocessor?
13. What is micro programmed control?
14. Explain virtual memory.
15. What is processor time of a program?

PART - C (5 x 16 = 80 Marks)

16. (a) Explain in detail about CPU organization and Explain with relevant diagram. (16)

Or

- (b) (i) Explain the different types of addressing modes with suitable examples. (10)  
(ii) With examples explain the different types of instruction format. (6)

17. (a) With relevant diagram and expressions, explain the operation of carry look ahead adder. (16)

Or

(b) Write short notes on

(i) Floating point arithmetic?

(ii) Modified booths algorithm (16)

18. (a) Explain the design of micro programmed control unit with relevant diagram. (16)

Or

(b) What is associate memory? Draw the block diagram of associate memory and explain how the read and write operations performed in associated memory. (16)

19. (a) With relevant block diagrams explain the concept of

(i) Magnetic Memory

(ii) Optical Memory. (16)

Or

(b) Write short notes on multilevel memories and optical memories. (16)

20. (a) Explain the IOB organization and communication between CPU and IOB. (16)

Or

(b) Describe the characteristics of super scalar processing (16)

---

