Register No.: ……………………………… Name: ……………………………………………………………..

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)
(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)
THIRD SEMESTER INTEGRATED M.C.A DEGREE EXAMINATION (R), FEBRUARY 2022
(2020 SCHEME)

Course Code:	**20IMCAT201**
Course Name:	**Computer Organization**
Max. Marks:	**60** **Duration: 3 Hours**

PART A
(Answer all questions. Each question carries 3 marks)

1. What is meant by byte addressable memory? Discuss Big-endian and Little-endian assignments.
2. Explain the basic instruction types and instruction formats of assembly language notation.
3. With a neat block diagram list the functional units of a computer system.
4. Explain the need for WMFC signal when writing to main memory.
5. Add -16 and -31 using signed 2's complement representation.
6. Write a brief note on n-bit ripple carry adder with suitable example.
7. Discuss daisy chaining priority interrupt.
8. How do you enable and disable interrupts?
9. What is ROM? How does PROM differ from EEPROM?
10. Write a short note on synchronous DRAM.

PART B
(Answer one full question from each module, each question carries 6 marks)

MODULE I

11. With neat diagram and suitable example, describe the working of a single bus organization.   (6)

OR

12. a) List any two addressing modes.   (2)
     b) Write down the steps to execute the instruction: Add LOCA, R0   (4)

MODULE II

13. Explain multi bus organization with a neat sketch.   (6)

OR

14. Explain hardwired control unit with a neat diagram.   (6)

MODULE III

15. Draw the block diagram of sequential multiplier and explain it with an example.   (6)

OR

16.   Write down the Booth's multiplication algorithm with an example.   (6)

MODULE IV

17.   Describe DMA with suitable block diagram.   (6)

OR

18.   Draw the block diagram of serial interface and explain in detail.   (6)

MODULE V

19.   Explain semiconductor RAM memories.   (6)

OR

20.   Describe associative mapping process of cache memory.   (6)

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