Code No.: DS405PC   R20   H.T.No. | | 8 | R | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–II–Semester End Examinations (Supply) - February- 2024
COMPUTER ORGANIZATION AND ARCHITECTURE
(CSD)

[Time: 3 Hours]   [Max. Marks: 70]

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question
carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1. a) What is the purpose of the Program Counter? [2M]
   b) How many multiplexers are need to transfer data from 4 registers each of 16 bits. [2M]
   c) Define Microprogram sequencer. [2M]
   d) Explain instruction format and its types. [2M]
   e) How fixed point values are represented? [2M]
   f) Solve the different ways to represent negative values. [2M]
   g) Differentiate write back and write through. [2M]
   h) Compare primary memory and secondary memory. [2M]
   i) Define pipelining. [2M]
   j) What is Cache Coherence. [2M]

PART-B   (50 Marks)

2. Illustrate how all the arithmetic operations can be performed using single arithmetic unit. [10M]

OR

3. Explain how instruction is decoded along with timing and control diagram. [10M]

4. How to design a control unit for microprogramming? Explain along with input logics. [10M]

OR

5. Discuss different addressing modes with examples. [10M]

6. Multiply 1010 and 111111 using Booth's Algorithm. [10M]

OR

7. Draw flow chart for division algorithm using Floating point values with an example. [10M]

8. Explain various I/O Interface techniques. [10M]

OR

9. Describe different mapping techniques of Cache memory. [10M]

10. Differentiate CISC and RISC along with examples. [10M]

OR

11. Elaborate each stream of the Flynn's classification with an example. [10M]

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