

Code No.: DS405PC

R20

H.T.No.

8 R

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II-B.TECH-II-Semester End Examinations (Regular) - June- 2022
COMPUTER ORGANIZATION AND ARCHITECTURE
(CSD)

[Time: 3 Hours]

[Max. Marks: 70]

- Note:** 1. Answer any FIVE questions. Each question carries 14 marks.
2. All questions carry equal marks.
3. Illustrate your answers with NEAT sketches wherever necessary.

5X14=70

1. a) Build the functional diagram of a computer and explain each block. [7M]
b) What is RTL? Explain with suitable examples? What is its significance? [7M]
2. a) Explain various instruction formats based on the number of address fields used in the instruction format with an example. [7M]
b) Explain Logic micro operations with an examples? [7M]
3. a) Explain the Booth's multiplication algorithm. [7M]
b) Design and explain the flowchart for decimal division. [7M]
4. a) Compare and Contrast between Memory Mapped I/O and Isolated I/O. [7M]
b) What is auxiliary memory? Explain the various memory components used as auxiliary memory in computer systems. [7M]
5. a) Explain the parallel processing architecture and its uses. [7M]
b) What are the various forms available for establishing an interconnection network in a multiprocessor system? Explain? [7M]
6. a) Make use of 8-bit 2's complement integers, perform the following computations: [7M]
i. $26 - (-4)$ ii. $1 - 7$.
b) Construct a bidirectional shift register with parallel load and give the function table of the circuit. [7M]
7. a) What are the different types of addressing Modes? Explain Register mode and Absolute Mode with examples. [7M]
b) Compare and Contrast between Hardwired control and Micro programmed control. [7M]
8. a) Explain the difference between fixed point representation and floating point representation. [7M]
b) Explain the hardware implementation and hardware algorithm for addition and subtraction of signed magnitude data with an example. [7M]
