

1C8113

Total No. of Questions : 20

Total No. of Pages : 03

Roll No. :

1C8113

MCA I-Sem. (Main/Back) Exam. - 2024

MCA-104/ Computer Architecture

Time : 3 Hours

Maximum Marks : 70

Min. Passing Marks : 28

Instructions to Candidates :

Attempt all ten questions from Part-A. All five questions from Part-B and three questions out of five questions from Part-C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly. Use of following supporting material is permitted during examination.

(Mentioned in Form No. 205)

2.

PART-A

[10×2=20]

(Word Limit 25 Words)

1. Define Computer Architecture.
2. Write the symbol and truth table of NAND Gate.

[P.T.O.]

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- Q.3. Write down the functionality of I/O Processor.
- Q.4. State any two characteristics of Multiprocessor.
- Q.5. Define Virtual Memory.
- Q.6. What are the three Control Inputs for Registers?
- Q.7. What do you understand by Floating Point Arithmetic?
- Q.8. Define an Instruction Code.
- Q.9. What do you understand by Distributed Computing?
- Q.10. What is the difference between Synchronous and Asynchronous Data Transfer?

PART-B

[5×4=

(Word Limit 100 Words)

- Q.1. What is the limitation of SR Flip-Flop? Explain its working with neat diagram.
- Q.2. Explain the working of Control Unit. What is the difference between Hardwired Micro-programmed Architecture?
- Q.3. What is the function of DMA Controller? Explain its working with the help of diagram. $RD, R/W, I, CP$
- Q.4. With the help of suitable diagram, explain the working of a Cache Memory Organization.
- Q.5. Discuss briefly about Array and Vector Processing.

Ans.

Address
control
data

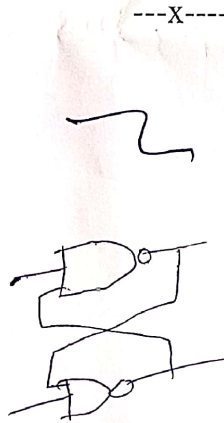
PART-C

[3×10=30]

(Any Three)

- Q.1. What do you understand by Combinational and Sequential Circuits? Explain working of Combinational Circuit by suitable example.
- Q.2. Explain the data movement among Registers with the help of Common Bus system.
- Q.3. What is the difference between Software Interrupt and Hardware Interrupt? Explain Interrupt cycle. *R n th*
- Q.4. Discuss the different components of Assembly program by taking example of addition of two numbers assembly program.
- Q.5. Explain the Architecture of 8085 Microprocessor with the help of neat diagram.

Control
data
computation on



Switching to interrupt context