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B.C.A. (PART-II) EXAMINATION, 2024-25
(IIIrd SEMESTER)



(BCA 304 : Computer Organization and Architecture)

Paper : IV

Time : Three Hours]

[Maximum Marks : 70

- Note:** (i) Answer five questions in all.
(ii) Question No. 1 is compulsory.
(iii) Answer remaining four questions, selecting two from each Section 'A' and 'B'.
(iv) All questions carry equal marks.
1. Answer all parts of the following :
- (a) Define functional units of a digital computer.
(b) Differentiate between encoder and decoder.
(c) What is a multiplexer ?
(d) What is register ?

Section-A

2. Differentiate between stored program organization (SPO) and General register organization (GRO) with suitable diagram.
3. Define system bus architecture and arbitration with suitable diagram.

4. Define modes of data transfer in Input / Output organization with the help of flow chart.
5. What is virtual Memory ? Also explain the concept of implementation of virtual memory with suitable diagram.

Section-B

6. (a) What is memory hierarchy ? Explain in detail with suitable diagram.
(b) What are the different types of instruction formats ?
7. (a) What do you mean by bus structure and types of buses in computer architecture ?
(b) Define the basic difference between S-R flip flop and JK flip flop.
8. (a) Differentiate between static RAM and Dynamic RAM.
(b) What are the different methods of asynchronous data transfer ? Explain in detail.
9. Write notes on any two of the following :
 - (a) Cache memory
 - (b) Control Unit
 - (c) Micro-program sequencing process
 - (d) Input / Output ports

