Note: The candidates are required to attempt two questions each from Sections A and B carrying 15 marks each and the entire Section C consisting of 5 short answer type questions carrying 3 marks each.

SECTION—A

1. Explain General register organisation of CPU with a diagram and the instruction format. (13)
2. What is Cache memory? How does it improve the performance of the system?

3. What is Memory hierarchy? Why do we use different kinds of memory in the Computer system?

4. Explain various addressing modes in detail.

SECTION—B

5. Explain the 4-bit arithmetic circuit with a diagram. Also write the arithmetic micro operations performed by it.


7. Explain programmed I/O in detail. What are the advantages of interrupt initiated I/O over programmed I/O?

8. What is DMA? Explain the working of the DMA controller.
SECTION—C

9. Explain the following terms:

(i) Computer architecture. 25
(ii) RAM and ROM. 9.10
(iii) Error correction code. 2.15
(iv) RAID. 2.33
(v) Status bit conditions. 3.18