

(UG593)

Roll No. 231512014027

S.C.No.—2214202

B.C.A. EXAMINATION, 2024

(Second Semester)

(Main)

COMPUTER ORGANIZATION AND
ARCHITECTURE

22BCA202

Time : 3 Hours

Maximum Marks : 80

Note : Attempt *Five* questions in all. Q. No. 1 is compulsory. All questions carry equal marks.

1. Explain the following : 8×2=16

- (a) Locality of Reference
- (b) Interrupts
- (c) Memory Address Register
- (d) Instruction Code
- (e) MSAM

- (f) CPU
- (g) Master-Slave Flip-Flops
- (h) Stack Organization.
- 2. Describe different types of flip-flop with suitable examples. 16
- 3. Explain Flynn's classification of computers in detail. 16
- 4. Explain instruction cycle in detail. 16
- 5. (a) What is the memory-reference instruction? Explain with example. 8
- (b) Write a short note on design of accumulator unit. 8
- 6. What do you mean by addressing modes? Discuss various addressing modes with example. 16
- 7. What is parallel processing? Explain, how through put is enhanced with the help of parallelism. 16

- 8. What is the design principle for cache memory? Discuss different types of cache mapping schemes. 16
- 9. (a) What do you mean by Asynchronous Data Transfer? Explain. 8
- (b) Explain DMA controller with suitable diagram. 8