



NP – 317

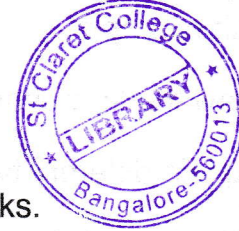
11

II Semester B.C.A. Examination, August/September 2023
(NEP Scheme)
COMPUTER SCIENCE
2.1 : Computer Architecture

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer *all* the Sections.



SECTION – A

- I. Answer **any four** questions. **Each** question carries **2** marks. **(4×2=8)**
- 1) Define computer architecture. Mention different types of computer architecture.
 - 2) Write a Gray code for decimal number 1 to 10.
 - 3) What is register ? Define different types of computer register.
 - 4) Differentiate between CISC and RISC.
 - 5) Draw a logic diagram for 4-bit arithmetic circuit.
 - 6) Define different types of semi conductor memories.

SECTION – B

- II. Answer **any four** questions. **Each** question carries **5** marks. **(4×5=20)**
- 7) Simplify $F(W, X, Y, Z) = \Sigma(0, 1, 2, 4, 5, 6, 8, 9, 12, 13, 14)$ using K-Map and draw a circuit diagram for the same.
 - 8) Define shift register. Explain shift register with parallel load along with a neat diagram.
 - 9) Briefly explain common bus system of basic computer with a neat diagram.
 - 10) Write a short note on :
Programmed I/O.
 - 11) Explain different types of CPU organization.
 - 12) Explain memory hierarchy in computer system.

P.T.O.

NP – 317



SECTION – C

- III. Answer **any four** questions. **Each** question carries **8** marks. **(4×8=32)**
- 13) i) Explain decoder with neat diagram. 4
ii) Define flipflop. Illustrate working of JK-flipflops. 4
- 14) Explain sequential circuit, logic diagram, state table and state diagram with example. 8
- 15) Draw the flow chart for basic computer operation. 8
- 16) Explain different types of addressing mode. 8
- 17) i) Explain DMA controller. 4
ii) Compare RISC and CISC processors. 4
- 18) i) Explain memory mapped I/O. 4
ii) Write a note on virtual memory. 4
-