

**Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS,
FARMAGUDI, PONDA - GOA**

**B.C.A. CBCS (SEMESTER-I) END EXAMINATION, NOVEMBER, 2022
COMPUTER ORGANIZATION AND ARCHITECTURE**

Duration: 2 hours

Total Marks: 60

Instructions: i) All questions are compulsory.

ii) Figures to the right indicate full marks.

Q.1. A. Select the correct option and rewrite the statement. (5x1=05)

- i. Computer architecture in which single instructions can execute several low-level operations is ____.
- ii. The scheme in which the address specifies which memory word or register contains the operand is _____.
- iii. Small, very high speed memory maintained by the instruction fetch stage is _____.
- iv. A program that converts computer instruction into basic operations is _____.
- v. A chip based computer component that makes retrieving data more convenient is _____.

B. Answer the following.(5x1=05)

- i. What is IO Controller.
- ii. What are the elements of Processor.
- iii. What is Raid 0.
- iv. What is Virtual Memory.
- v. What do you mean by LSB.

Q.2.A. Draw the instruction Cycle State Diagram. (02)

B.Explain the Functional view of computer. (03)

C.Explain the major computer operations and draw block diagram of the computer.(05)

Q.3. A.Perform the following conversions.

(i) $(10001011)_2 = (X)_{10}$

(ii) $(45)_{10} = (X)_2$ **(02)**

B.Perform the following operations.(03)

(i) $(-4) + (+4)$

(ii) $(+5) + (+6)$

C.Explain the Von Neumann Architecture with the diagram.(05)

Q.4.A.Explain swapping.(02)

B.Explain multilevel caching with diagram. (03)

C.Explain the DMA module with the diagram. (05)

Q.5. A. Differentiate between CD and DVD. (02)

B.Explain the typical Cache Organization with diagram. (03)

C.Explain Read and Write mechanism of Magnetic Disk.(05)

Q.6. A.Draw and explain Model of Control Unit. (02)

B.Explain the Vertical Micro-programming. (03)

C.Explain different Sequencing Techniques.(05)
