

**Vidya Vikas Mandal's**  
**Shree Damodar College of Commerce & Economics, Margao-Goa**  
**F.Y.B.C.A, SEM I, End Semester Examination, October 2018**

**COMPUTER ORGANIZATION AND ARCHITECTURE - (BCA-102)**

**Duration: 2 Hours**

**Total Marks: 50**

**Instructions:** 1) All Questions are Compulsory.  
2) Figures to the right indicate Full Marks.  
3) Start each new question on a fresh page.

**Q1. Answer the following**

**Marks (10)**

A) Define the following:

(5)

- i) Addressable Unit.
- ii) Microprogram
- iii) Artificial Intelligence
- iv) Motherboard
- v) RISC architecture

B) State true or False and justify you answer

(5)

- 1) Any operation in ALU can have 2 input/s and 2 output/s.
- 2) RAM is a permanent memory, therefore can be used for long term data storage.
- 3) 8086 microprocessors have four general purpose registers
- 4) In ASCII code 256 numbers of characters can be represented.
- 5) A microprogram is a complete CPU on a Chip.

**Q.2 Answer the following**

**Marks (10)**

a) Which are registers of ALU, why are they used?

(2)

b) Write a Short note on RAM.

(3)

c) Solve the following:

(5)

Convert ( i—iv) as instructed

- i)  $(9AB)_{16}$  to Octal
- ii)  $(10101)_2$  to Decimal
- iii)  $(257)_{10}$  to Binary
- iv)  $(645)_8$  to Binary
- v)  $(100111111)_2$  to Hexadecimal.

**Marks (10)**

**Q.3 Answer the following**

- a) What are the properties that a microprocessor must demonstrate? (2)
- b) Give three point differences between fourth and Fifth generation of computers. (3)
- c) Draw a neat diagram of the structure of the Control Unit and explain the structure of the Control Unit. (5)

**Marks (10)**

**Q.4 Answer the following**

- a) Subtract 89 from 99 using 2s complement. (2)
- b) Write advantages of Solid state device (SSD) or flash drives. (3)
- c) Explain Direct Memory Access (DMA) method (5)

**Marks (10)**

**Q.5 Answer the following**

- a) What is micro-programmed control unit? Elaborate (2)
- b) Write an assembly language programme to divide two numbers. (3)
- c) What is meant by Effective Address (EA)? Discuss briefly various addressing modes. (5)