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Shree Damodar College of Commerce & Economics, Margao-Goa
F.Y.B.C.A, SEM I Supplementary Examination, May/June 2019

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

Q.1 Answer the following

Marks (10)

A) Define the following:

(5)

- i) Register addressing mode ii) Program counter register iii) Trap Interrupt
iv) Seek time v) MQ register

B) State True or False and justify your answers:

(5)

- 1) Interrupt caused by devices slows down the performance of system.
2) Instructions are stored in MBR prior to its execution.
3) Every instruction has a micro-program stored in the control memory.
4) Instruction 'RCL BX, 02' with BX—ABCDh and CF--1, on execution sets the CF to 1.
5) XCHG AX, BX does the swapping operation.

Q.2 Answer the following

Marks (10)

- a) Give four points of differences between third and fourth generation computers
b) Draw a neat diagram of Von Neuman architecture and explain its working
c) Solve the following:

(2)

(3)

(5)

- i) $(7052)_8$ to $(??)_2$ ii) $(408)_{10}$ to $(?)_2$ iii) $(ABCD)_{16}$ to $(??)_8$
iv) $(1010111110)_2$ to $(?)_8$
v) Subtract decimal number 48 from 86. Use Binary 2's complement for subtraction.

Q.3 Answer the following

Marks (10)

- a) Give two points of differences between static memory and dynamic memory
b) What is the usefulness of flag register? Write in brief about any 4 flag registers.
c) Explain memory hierarchy w.r.t storage and speed.

(2)

(3)

(5)

Q.4 Answer the following**Marks (10)**

- a) Give four points of differences between programmed driven I/O and DMA. (2)
- b) What is an addressing mode? Give appropriate examples of register addressing mode and immediate addressing mode. (3)
- c) List five functions performed by device controller . (5)

Q.5 Answer the following**Marks (10)**

- a) If BH—49h then on execution of ROL BH ,03 , what will be the content of BH , CF (2)
- b) Write an assembly language programme to find sum of 10 numbers. (3)
- c) With the help of neat diagram explain Micro-programmed control unit (5)