Roll No........................

Total No. of Questions : 13]   [Total No. of Pages : 02

J-3170[S-1026]   **[2037]**

BCA (Semester - 4ᵗʰ)
COMPUTER SYSTEM ARCHITECTURE
(BCA - 403)

Time : 03 Hours   **Maximum Marks : 75**

Instruction to Candidates:

1) Section - A is **compulsory.**

2) Attempt any **Nine** questions from Section - B.

Section - A

Q1)   *(15* x *2 = 30)*

a)   Define the term operation code.

b)   What information is there in INPR and OUTR?

c)   Differentiate LDA and STA instructions.

d)   What is the task of ALU?

e)   What is stack pointer?

f)   Convert $(3*4) + (5*6)$ into reverse polish notation.

g)   What are the one address instructions?

h)   What is the task of LOAD instruction?

i)   What is asynchronous data transfer?

j)   Differentiate main memory and secondary memory.

k.   What is swapping?

1)   Define content addressable memory.

m)   Write short note on dynamic loading.

n)   Differentiate external and internal fragmentation.

o)   What is the difference between sequential access and direct access?

                                              P.T.O.

Section - B

(9 x *5 = 45)*

Q2) Explain the demonstration of direct and indirect addressing by taking examples.

Q3) Explain the difference between hardwired control and microprogrammed control.

Q4) Explain memory reference instructions in detail.

Q5) What are the differences between register stack and memory stack?

Q6) Explain all types of addressing modes?

Q7) Explain the bus architecture in input output interface.

Q8) Describe four possible devices that produce an acceptable output for person to understand.

Q9) Explain the difference between programmed I/O and interrupt initiated I/O.

Q10) Explain DMA and why does DMA have priority over the CPU when both request a memory transfer.

Q11) Explain RAM chip with the block diagram.

Q12) What is booting and what functions are done by boot strap loader.

Q13) Explain different page replacement algorithms.