SHIVAJI COLLEGE, UNIVERSITY OF DELHI

DEPARTMENT OF COMPUTER SCIENCE

INTERNAL TEST (Academic Year 2023-24)

Name of the Course	: B.Sc. (PS) with CS	Semester	: III
Name of the Paper	: Computer System Architecture	Faculty Name	: Rakesh Yadav
Duration	: 1 Hour	Maximum Marks: 20	
Date of Test	: 25.09.2023		

SET A

Attempt all Questions. Carries Equal Marks

Q NO 1 How many 256 X 8 bits per word RAM chips are needed to provide a memory capacity of 4096 words x 16 bits per word ?

Q No 2 Explain the working of a 4 x 1 MUX with a suitable diagram.

Q NO 3State any two differences between combinational and sequential circuit.

Q No 4 Give the characteristic table of J K flip flop.

Q No 5 consider a memory of capacity 16M words by 32 bits per word. How many address lines and input – output data lines are needed?

Q NO 6 Simplify the following Boolean Expression using Boolean Algebra

(BC' +A'D) (AB' + CD')

Q NO 7 How many Flip Flops will be complemented in an 8 bit counter to reach the next count after

(a) 01100111 (b) 11111111

Q NO 8 Construct a 3x8 decoder using two 2x4 decoders and one 2x1 decoder

Q No 9 Simplify the given Boolean function using K Map in SOP form

$F(A,B,C,D) = \sum (0,4,5,7,8,10,15)$

Along with don't care condition

$d(A, B,C,D) = \sum (2,6,11,13)$

Faculty Signature: