WALCHAND COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)
Visharambag, Sangli – 416415

Second YearB.Tech. Computer Science and Engineering
MSE,ODD SEMESTER,AY 2023-24
Computer Organization and Architecture (6CS204)

PRN: ____________________ | MSE |

& Date: Tuesday, 26/09/2023 Time: 3.00 pm to 4.30 pm

Max Marks: 30

IMP: Verify that you have received question papers with correct course code, branch etc.

…ctions
a) All questions are compulsory.
b) Writing question number on answer book is compulsory otherwise answers may not be assessed.
c) Assume suitable data wherever necessary.
d) Figures to the right of question text indicate full marks.
e) Mobile phones, smart gadgets and programmable calculators are strictly prohibited.
f) Except PRN anything else writing on question paper is not allowed.
g) Exchange/Sharing of stationery, calculator etc. not allowed.

…n the right of marks indicates course outcomes (Only for faculty use) Marks

State all Machine Cycles for the following Instructions clearly indicating **15** CO2
1. Cycle Type: Op Code Fetch (***F***), Memory Read (***R***) & Memory Write (***W***)
2. The Register/Pair which is Source of Address during the Machine Cycle
3. The Register which is Source or Destination of Data during the Machine Cycle (***NO Other Explanation needed***) ***(Attempt ANY TEN)***

For Example ***CALL 8000H*** *is having following Machine Cycles*

M1 : (F, PC, IR) *M2 : (R, PC, Z)* *M3 : (R, PC, W)*

M4 : (W, $\overline{SP}$*,* PC_H*)* *M5 : (W,* $\overline{SP}$*,* PC_L*)*

a) LDA 3000H ***b)*** DCR M ***c)*** LDAX B
d) ADD M ***e)*** PUSH H ***f)*** POP B
g) MOV M, B ***h)*** MVI M, 55H ***i)*** SHLD 6000H
j) LXI B, 2233H ***k)*** RET

Write an 8085 Assembly Language Program to transfer a Block of 5 Bytes from ***8000H*** onwards to ***9000H*** onwards. **3** CO2

Q 3 Answer ***ANY THREE*** of the following. 12

a) Write an 8085 Assembly Language Program to add two 16-Bit Numbers stored in Memory at ***8050H*** & ***8051H*** and ***8052H*** & ***8053H*** and store the result of the addition at ***8054H***, ***8055H*** & ***8056H***.

b) Write an 8085 Assembly Language Program to arrange an array of 8 bytes starting from ***8100H*** in ascending order.

c) Write an 8085 Assembly Language Program to multiply two 8-Bit Numbers stored at ***8050H*** and ***8051H*** and store the result of the addition at ***8052H*** & ***8053H***.

d) With a neat Diagram Explain the Internal Architecture of 8085 including Register Set, Memory Interfacing and Functioning of 8085.

..... End of question paper .....