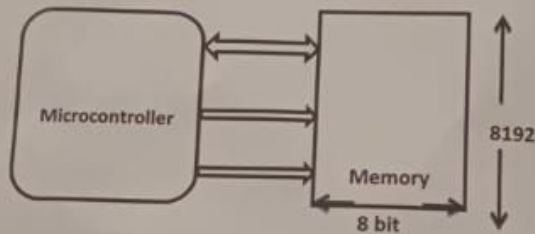


- > KEEPING MOBILE PHONE/ELECTRONIC DEVICES EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE
 > DON'T WRITE ANYTHING ON THE QUESTION PAPER

Answer ALL Questions
 (10 X 10 = 100 Marks)

1. (i) Explain why microcontrollers are preferred over microprocessors for small to medium appliance applications. [5]
 (ii) Identify the following buses given in the diagram. Also, calculate the size of address bus, data bus and the number of bits to be stored in the given memory. [5]



2. (i) Explain memory segmentation in 8086 microprocessor. Explain how physical address is calculated with an example. [5]
 (ii) Draw the format of the 8086 Flag Register and explain the function of each bit in it. [5]
3. Analyse the following program and specify the contents in the RAM register banks and stack pointer [SP] after execution of the following program.

```

ORG 00H
SETB PSW.3
SETB PSW.4
MOV R6, #0F5H
MOV R7, #22H
CLR PSW.4
MOV R5, #0A2H
MOV R3, #0CDH
PUSH 1EH
PUSH 0DH
  
```

→ Reset the Microcontroller at this point and execute the following program.

