STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For candidates admitted during the academic year 2019-2020)
SUBJECT CODE : 19PH/PC/EL44
M.Sc. DEGREE EXAMINATION APRIL 2022
PHYSICS
FOURTH SEMESTER

COURSE : MAJOR CORE
PAPER : ELECTRONICS II
TIME : 3 HOURS **MAX. MARKS : 100**

SECTION A

Answer any ALL the questions **(10x3=30)**

1. Explain the role of MOD and REG fields of 8086 instructions.
2. With a suitable example explain the instruction timimg.
3. What is the purpose of segment registers in 8086.
4. Differentiate between a microprocessor and microcontroller.
5. What are the schemes for establishing priority in order to resolve Bus arbitration problem.
6. Write a brief note on Flag bits and PSW in 8051.
7. Develop an ALP to add two 8 bit numbers in 8051.
8. What are the constraints in embedded system?
9. Explain in brief on serial data input using 8051.
10. Mention the additional circuits added to single chip microprocessor to function as a microcontroller.

SECTION B

Answer any FIVE questions **(5x5=25)**

11. Develop an ALP program for 8086 to copy the contents of an array to another array using string primitives.
12. How many Addressing modes are there in 8051? Explain any three with examples.
13. Develop a suitable program in 8051 to implement 8 bit A/D conversion.
14. Write a brief note on memory and buses of an embedded hardware unit.
15. Discuss about the flag control instructions in 8086.
16. Write an ALP to sort an array of n numbers in Ascending order.
17. Explain the various Interrupt instructions in 8086.

SECTION C

Answer any THREE questions **(3x15=45)**

18. With a neat diagram Explain the architecture of 8086 in minimum mode.
19. Explain the various data transfer and arithmetic instuuctions in 8086.
20. Enumerate the working of timers. How are counters differ from timers.
21. What is an embedded system? Discuss on the types of operating systems.
22. Elaborate on the addressing modes of 8051 with examples.

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