M.Sc DEGREE EXAMINATION,APRIL 2019
I Year I Semester
Integrated Electronics And Microprocessor

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. Give working principle of FET.
2. What are the limitations in IC technology?
3. Differentiate between synchronous and asynchronous counters.
4. Write a note on dual slope ADC.
5. Differentiate between analog integrator and differentiator.
6. What do you mean by Butterworth filter circuits?
7. Give different addressing modes in 8085 μp.
8. What are hand shaking operations?
9. What are the basic operational modes of 8255 microprocessor?
10. Draw block diagram of 8255 microprocessor.
11. What do you mean by VLSI? Give its merits.
12. Write a note on thin film and hybrid technologies.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Describe the working of UJT as relaxation oscillator.
14. Write a note on design of random sequence counters.
15. Define and explain the high, low and band pass filters with neat sketch.
16. Explain briefly, timing diagram of memory READ and memory WRITE cycles.
17. Discuss in brief about biasing of FET and MOSFET.
18. Write an assembly language program for 8085 to multiply two eight bit numbers.
19. Explain how DAC is interfaced with a microprocessor.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. With neat diagram, explain construction, operation, characteristics and application of TRIAC.
21. Outline working of the following with neat sketch: (i) Design of synchronous counters, (ii) Serial parallel registers, and (iii) R-2R ladder DAC.
22. With circuit diagrams, explain internal architecture and working of monostable and astable operations of 555 timer.
23. Discuss the different arithmetic instructions in the instruction set of 8085 with examples.
24. Explain the principle of multiplexing of displays. Describe how four 7-segment displays can be interfaced to 8255 using multiplexing technique.

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