M.Sc. DEGREE EXAMINATION,APRIL 2020
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. What is meant by pinch off voltage?
2. What is monolithic technology?
3. Differentiate between synchronous and asynchronous counters.
4. What are the different uses of a shift register?
5. What is meant by filter network?
6. What is Butterworth filter?
7. What are the control signals necessary in the memory mapped I/O?
8. What happens when the 8085 execute the out instruction?
9. What is the purpose for the 8255?
10. Write down the output control signals used in 8255.
11. What is assembly language program?
12. Explain the term 'resolution' of a D/A converter?

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

Answer any **FIVE** questions

13. Explain different types of FET biasing?
14. Explain the working of a shift right register using JK flip-flops?
15. Explain with circuit, the working of an OpAmp differentiator. Explain the response of the differentiator for a square wave input.
16. Explain the different addressing modes of 8085?
17. Explain the features of Programmable Peripheral Interface 8255?
18. Explain the negative resistance characteristics of UJT. Also, explain how UJT can be used as a relaxation oscillator?
19. Discuss the working of an monostable multivibrator using OpAmp. Draw the waveforms at the output and across the capacitor.

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

Answer any **THREE** questions

20. In detail, explain the construction, working and characteristics of depletion type MOSFET.
21. With necessary theory, discuss the circuit and working of a 4-bit R-2R Ladder D/A converter.
22. Explain, how would you solve the second order differential equation using operational amplifiers.
23. Explain the 8085 instruction set in detail.
24. Explain the interface a stepper motor with 8255 and explain its function.

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