19. Draw and explain the Architecture of 8085 microprocessor.

20. Discuss the characteristics and functional parameters of TTL and CMOS gates.

B 253 NRR

B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2021.

Fifth Semester

Physics

DIGITAL ELECTRONICS

(From 2017-18 onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Convert the decimal 153 to octal number.

2. What you mean by don't care condition?

3. Give the difference between JK flip-flop and JK master slave flip-flop.

4. What is the use of Mod (10) counter?

5. Define bilateral switch.

6. Draw the configuration of R – 2R Ladder network.

7. Give the principle of frequency counter.

8. What is immediate addressing? Give an example.

9. Give the operation pf Flag register in 8085 micro processor.

10. What is the operation of 8255 port?

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Explain the basic theorems of Boolean algebra.

Or

(b) Describe the operation of Four-to-one-line multiplexer with circuit and function table.

12. (a) Describe the working of clocked RS flip-flop with functional diagram.

Or

(b) Discuss the function of 555 timer as table multivibrator.

13. (a) Give the principle and working of four bit Ladder type D/A converter.

Or

(b) Describe the construction and working of digital voltmeter.

14. (a) Explain the various Addressing modes of 8085 microprocessor.

Or

(b) Write a assembly language programme to multiply two 8 bit numbers using 8085.

15. (a) Explain the input and output operations of 8255 parts.

Or

(b) Describe the stack operation of 8085 microprocessor.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Simplify the Boolean function $F = A'B'C' + B'CD' + A'BCD' + AB'C'$ using K-map.

17. Explain the operation of serial in serial out registers.

18. Describe the working of A/D converter using successive approximation method.