Register No.:

408

October 2017

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B.

(2) Answer division (a) or division (b) of each question in PART-C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. What is propagation delay?
2. What is gray code? Give example.
3. Add the binary numbers 1011 and 1001.
4. Define modulo N counter.
5. What is DDR RAM?
6. How many address bits are needed to address 64K memory?
7. Write the non-maskable and non-vectored interrupts of 8085.
8. Name the flags used in 8085 microprocessor.

PART – B

9. Convert the octal number 1301.53_8 into hexadecimal.
10. Define the laws of Boolean algebra.
11. What is even parity? How will you generate even parity?
12. What is race around condition? How is it eliminated in flip flop?
13. Draw the logic diagram and truth table of T flip flop.
14. Write about flash memory.
15. What are SDRAM?
16. Explain the interrupt priority of 8085.

PART – C

17. (a) Simplify the following function using K-map and simulate its output.

$f = \sum(3, 4, 5, 6, 7, 8, 9, 12, 13)$

(Or)

(b) (i) Explain TTL NAND gate with a neat sketch.
(ii) Compare the characteristics of TTL and CMOS logic.

18. (a) What is a decoder? Explain the working of 3 to 8 decoder with necessary sketch.

(Or)

(b) Explain the operation of BCD to seven segment decoder with a neat sketch.

19. (a) Explain about the operation of PIPO shift register with logic diagram.

(Or)

(b) With the logic diagram, explain the operation of 4 bit ring counter.

20. (a) What is ROM memory? Explain the organisation of ROM memory?

(Or)

(b) Explain how read/write operations are performed in memory.

21. (a) Explain the logical instructions of 8085.

(Or)

(b) Draw the timing diagram for MOV r1, r2 instruction and explain.
