

**1301****October 2024**

*Time - Three hours*  
*(Maximum Marks: 100)*

- [N.B.** 1. Answer all questions under Part-A. Each question carries 3 marks.  
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

**PART - A**

1. What is slew rate?
2. Draw the pin diagram of op-amp IC 741.
3. List the various types of DAC.
4. Write a note on IC555 timer.
5. Realize OR and NOT gates by using only NOR gates.
6. Find the 2's compliment of  $11000011_2$ .
7. Draw the circuit of 3 to 8 decoder.
8. Define flip-flop.
9. What is RAM? Mention its types.
10. Define anti-fuse technology.

[Turn over.....]

**PART - B**

11. (a) Explain about the different parameters of op-amp.  
(Or)
- (b) (i) Explain about three input non inverting summing amplifier. (7)  
(ii) Explain about integrator with neat diagram. (7)
12. (a) Explain the operation of successive approximation ADC.  
(Or)
- (b) Explain the working of Schmitt trigger using IC 555.
13. (a) Simplify  $(A,B,C,D) = \sum(0,2,4,5,6,7,8,10,12,13,14,15)$  using K-map.  
(Or)
- (b) Explain about full adder and half adder with their logic diagrams.
14. (a) (i) What is the difference between a multiplexer and de-multiplexer? (4)  
(ii) Explain the operation of 4 to 1 multiplexer. (10)  
(Or)
- (b) Explain the operation of decade counter.
15. (a) Write short notes on :  
(i) SD RAM.(7)  
(ii) DDR RAM.(7)  
(Or)
- (b) Write short notes on :  
(i) EPROM.(7)  
(ii) Memory expansion.(7)

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