UPH /CT/6016

B.SC . DEGREE EXAMINATION, APRIL 2018
III YEAR - VI SEMESTER
Core Major Paper XVI - INTEGRATED ELECTRONICS

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10 marks)$

Answer any **TEN** questions

1. State Demorgan's theorem.
2. What are universal gates?
3. What are Multiplexer?
4. Draw the circuit of half adder.
5. Expand LSI.
6. What is Flipflop?
7. Write the output of JK Flip flop. When J=1; k=0 for a clock pulse.
8. Define slew rate?
9. Mention any two characteristics of op-Amp.
10. What is the input impedance of an ideal opamp?
11. An astable multivibrator has how many stable states?
12. What is the use of 555 timer?

Section B $(5 \times 4 = 20 marks)$

Answer any **FIVE** questions

13. State and prove Demorgans theorem.
14. How is NOR gate used as an universal building block.
15. Draw the circuit of Full Subtractor and explain.
16. What is encoder? Give the truth table for a octal to binary encoder.
17. With necessary circuit explain action of a D flip Flop.
18. How can op amp be used as a differentiator.
19. Explain the working of a stable multivibrator.

P.T.O.

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

Answer any **THREE** questions

20. Simplify using k map Y= (A,B,C,D) = (0,1,2,3,4,6,8,9,10,11,12,14)
21. Discuss the working of a multiplexer.
22. Construct the truth table and explain the synchronous counter in detail.
23. Explain briefly the operation of summing amplifier.
24. Discuss how 555 timer works as a Schmitt trigger.