SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Sc.(Physics) - END SEMESTER EXAMINATIONS APRIL-2023
SEMESTER - VI
20UPHCT6014 - Integrated Electronics

Total Duration : 2 Hrs 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Show that NAND gate is a universal gate.
2. What is a full adder? Illustrate how a full adder can be constructed using half adders.
3. Construct a D flip flop and explain its working.
4. Examine the working of Non-inverting summing amplifier.
5. Outline how a Schmitt trigger can be constructed using 555 timer.
6. Sketch a MOD 16 counter, with a proper working table and output waveform.
7. Construct a Wien Bridge Oscillator and discuss its working.
8. With necessary block diagram, explain the working of the A/D converter by successive approximation method.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Explain the K map method of solving expressions.
10. Illustrate the working of a multiplexer in detail and give its uses.
11. Construct and discuss the working of shift registers. Enlist its application.
12. Outline the working of an Op-Amp as a differentiator. Explain the response of the differentiator for various wave inputs.
13. Construct a binary weighted resistor D/A converter.

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