4609

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH /APRIL-2019

DAEIE - FIFTH SEMESTER EXAMINATION

LINEAR INTEGRATED CIRCUITS & APPLICATIONS

Time: 3 hours Max. Marks:80

PART -A **10x3=30M**

Instructions : 1) Answer **all** questions. Each question carries **three** marks
2) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1) Define the term slew rate with refernce to operational amplifier.

2) Give the manufacturing methods of linear IC's.

3) Write the formula of output voltage for differentiator circuit.

4) Give the applications of OP AMP in open loop operation.

5) List the disadvantages of active filters.

6) Draw the circuit of LPF using operational amplifier.

7) List applications of a 555 IC timer.

8) Give the formula for ouput frequency of Astable multivibrator.

9) Draw input, output wavefroms of a schmitt trigger circuit.

10) List any three applications of PLL circuit.

PART-B 10x5=50M

Instructions : 1) Answer any **five** questions andEach question carries **ten** marks.
2) Answer should be comprehensive and criterion for valuation is the content but not the length of the answer.

11) Explain the integrated operational amplifer with block diagram.

12) Explain the operation of a differential amplifire with circuit.

13) Describe the operation of a Instrumentation amplifire with a circuit diagram.

14) Explain the operation of voltage follower circuit and give its advantages.

15) Sketch the ideal and practical response plots for L.P.F, H.P.F, B.P.F, and B.S.F.

16) Explain the operating principle of phase locked loop (PLL) with the help of block diagram.

17) Explain the functional block diagram of timer 555 IC. 10M

18) a) Explain the operation of a basic comparator circuit. 5M

b) Explain the use of 555 IC to generate square wavefrom using diode in Astable mode. 5M

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