

4609**BOARD DIPLOMA EXAMINATION, (C-14)****JUNE-2019****DAEI - 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) State the need for high CMRR.
- 2) List any three advantages of Integrated op-amp over discrete op-amp.
- 3) List any three effects of negative feedback on an amplifier.
- 4) Draw the circuit of Isolation amplifier.
- 5) Draw the ideal and practical frequency response plots for Band Select Filter(BSF).
- 6) List any three limitations of passive filters.
- 7) Write the formula for output frequency of Astable multivibrator.
- 8) List any three applications of 555 IC timer.
- 9) Draw the basic comparator using op-amp.
- 10) List any three applications of PLL.

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PART-B

10x5=50M

- Instructions:** 1) Answer any **five** questions.
2) Each question carries **ten** marks.
3) Answer should be comprehensive and the criteria for valuation are the content but not the length of the answer.

- 11) Explain the operation of typical Integrated circuit operational amplifier with block diagram.
- 12) a) List any six specifications of ideal operational amplifier. 6M
b) Draw the pin diagram of dual-in-line package for a typical IC 741 op-amp. 4M
- 13) Explain the operation of Integrator and Differentiator circuits using operational amplifier.
- 14) Explain the operation of Instrumentation amplifier with circuit diagram.
- 15) Explain the operation of Low Pass Filter (LPF) using operational amplifier with circuit diagram.
- 16) Explain the operation of various blocks of 555 IC timer with block diagram .
- 17) Explain the operation of square wave generator with circuit diagram.
- 18) a) Draw the block diagram of PLL.
b) Draw the circuit diagram of Mono Stable Multivibrator using 555 IC.

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