POLYTECHNIC, B.E/B.TECH, M.E/M.TECH, MBA, MCA & SCHOOL

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Reg. No. :

Question Paper Code : 50492

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Fourth Semester

Electronics and Communication Engineering

EC 8453 – LINEAR INTEGRATED CIRCUITS

(Common to: Biomedical Engineering/Medical Electronics/Robotics and Automation)

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Define slew rate.

2.   Compare LF155 and TL082.

3.   Write a technical note on adder, subtractor and integrator.

4.   What is the purpose of Butterworth filters?

5.   List the applications of PLL for AM detection.

6.   State variable transconductunce technique.

7.   What do you understand from voltage and current modes?

8.   Give a note on sigma to delta converters.

9.   Give the principle of multivibrators.

10. Draw the block diagram of IC 555 timer.

PART B — (5 × 13 = 65 marks)

11. (a)   Explain with an internal circuit diagram of IC 741.

Or

(b)   Elaborate of Op amp stages and give basic information on Op-amps.

12. (a) Describe Sign changer, scale changer and voltage follower.

Or

(b) Compare Logarithmic and Antilogarithmic amplifiers.

13. (a) Give a detailed view on Analog multiplier using emitter coupled Transistor pair.

Or

(b) Give a detailed view on FSK modulation and demodulation, clock synchronization.

14. (a) Discuss on R-2R Ladder types, specifications and modes.

Or

(b) Discuss on A/D converter using voltage to time conversion.

15. (a) Explain the Optocouplers and fibre optic IC.

Or

(b) State and explain IC Voltage Regulators.

PART C — (1 × 15 = 15 marks)

16. (a) Analyse and report on clipper, clamper, peak detector and precision rectifier.

Or

(b) Analyse and compare Audio power, video and isolation amplifiers with its specifications, diagram, circuits, advantages, disadvantages and applications.

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