

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2017
(Fourth Semester)

Branch - ELECTRONICS

DIGITAL & LINEAR IC'S

Time : Three Hours

Maximum: 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Mention the advantages of IC's.
- 2 Why aluminium* is preferred for metallization?
- 3 List out the characteristics of digital IC.
- 4 Define Fanout.
- 5 Define an operational amplifier.
- 6 What is CMRR?
- 7 List out the types of comparator.
- 8 State the important features of an instrumentation amplifier.
- 9 Define capture range.
- 10 List out the application of PLL.

SECTION - B (25 Marks!)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Write short notes on monolithic IC technology.
OR
b Explain monolithic diode with diagram. - - ..
- 12 a Explain the DTC circuit using OP-Amp.
OR
b To compare MOS and CMOS.
- 13 a Explain voltage adder using OP-Amp.
' OR
b Derive V to I and I to V convertor.
- 14 a How can make an OP-Amp as comparator?
OR
b Explain the working of triangular wave generator.
- 15 a Explain the operation of PLL with its fictional diagram.
OR
b Write basic principle of PLL with neat block diagram.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Explain the fabrication procedure of (i) Monolithic transistors (ii) Monolithic diodes.
- 17 Explain (i) RTL circuit (ii) TTL circuit.
- 18 Explain the differential amplifier and derive its gain.
- 19 Explain in detail about astable multivibrator.
- 20 Explain monostable mode timer with neat diagram using IC 555.