Day	:	**Saturday**	**S-2018-2623**	Time	:	**10.00 AM TO 01.00 PM**
Date	:	**09/06/2018**		Max. Marks: 80		

N. B. :

1) **Q. No.1** and **Q. No. 5** are **COMPULSORY**. Out of remaining attempt **Any TWO** questions from each section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in the **SEPARATE** answer book.
4) Neat diagrams must be drawn **WHEREVER** necessary.

SECTION-I

Q.1
a) Draw the OPAMP symbol and explain the various op-amp terminals. **(05)**
b) Write the difference between OPAMP and Norton amplifier **(05)**
c) Draw the circuit diagram for temperature compensated antilog amplifier. **(04)**

Q.2
a) Discuss the working of Wilson current source with a neat circuit diagram. **(07)**
b) Define following characteristics of an OPAMP. Also state their ideal values. **(06)**
   i) CMRR   ii) Slew rate   iii) Bandwidth

Q.3
a) Draw the circuit diagram for basic differentiator. Derive its output equation and draw its output waveforms for sine and square wave input. **(07)**
b) Write a short note on graphic equalizer. **(06)**

Q.4
a) Draw the circuit diagram of inverting schmitt trigger circuit and derive equations for V_{UT} and V_{LT}. **(07)**
b) Draw the circuit diagram and waveforms of full wave precision rectifier and derive its output for sine wave input. **(06)**

SECTION-II

Q.5
a) Using multiplier IC, describe voltage squarer with neat circuit diagram. **(04)**
b) Discuss FM demodulation using PLL. **(06)**
c) State and explain any one application of V to I converter. **(04)**

Q.6
a) With neat circuit diagram, discuss triangular wave generator using op-amp. Write formula for frequency of oscillation. **(07)**
b) Draw and discuss functional block diagram of IC 566. **(06)**

Q.7
a) Discuss frequency multiplier using PLL with circuit diagram. **(07)**
b) State and describe any one application of power amplifier IC LM380. **(06)**

Q.8
a) With neat circuit diagram describe V to I converter for grounded load. **(07)**
b) Discuss F to V converter using IC LM331. **(06)**

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