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CEI1334

Analog Integrated Circuits & Applications (New) (1100)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Use of non-programmable calculator is allowed.
5. Figures on right indicate full marks.
6. Assume suitable data if necessary.

UNIT - I

1. Solve any two.

20

- a) Define the terms:
- | | |
|------------------------|------------------------|
| i) I/P offset voltage. | ii) I/P offset current |
| iii) I/P bias current. | iv) Slew rate |
| v) CMRR | |
- State their values for IC741.

- b) Explain virtual ground concept in detail.
- c) Why active loads are used. Draw circuit diagram of differential amplifier with active load.

UNIT - II

2. Solve any two.

20

- a) For circuit shown in fig.1, show that $V_o = \frac{1}{RC} \int V_i \cdot dt$.

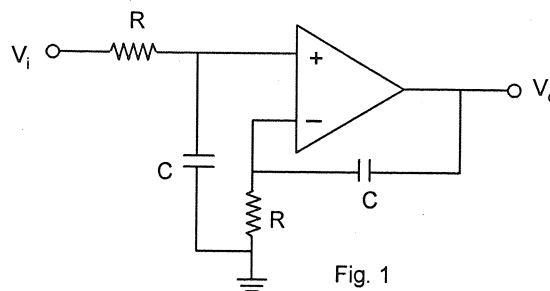


Fig. 1

- b) Explain the operation of sample and hold circuit. Draw typical connection diagram of LF 398.
- c) Draw a circuit diagram of log amplifier and derive expression for output voltage.

UNIT - III

3. Solve any two. 20

- a) Draw and explain the working of a Schmitt trigger with wave forms.
- b) Show that for RC phase shift oscillator $F_o = \frac{1}{2\pi \sqrt{6} RC}$ and $\frac{R_F}{R_1} = 29$.
- c) Design an astable multivibrator using IC 555 for a frequency of 1kHz and duty cycle of 70%. Assume $C = 0.1\mu F$.

UNIT - IV

4. Solve any two. 20

- a) Explain with neat sketch V to F converter.
- b) Show and explain how can you form intercom system using LM380.
- c) Draw block diagram of PLL IC565 and explain its operation in brief.

UNIT - V

5. Solve any two. 20

- a) Design a first order high pass filter at a cut-off frequency of 2kHz with pass band gain of '2'.
- b) Explain with neat diagram dual slope ADC.
- c) Draw circuit diagram of binary ladder DAC. Explain it in detail.
