

Bharati Vidyapeeth's College of Engineering for Women, Pune

Electronics and Telecommunication Department

Unit Test:II (Marks:30)

Subject: Integrated Circuit and Applications

Q.1a)With the help of neat circuit diagram and frequency response, explain the operation of practical differentiator?.....8 M

Q.1b) Draw and Explain the working of double integrator?.....8 M

Q.2a) Draw and explain the working of instrumentation amplifier using two op-amps? State advantages and limitations?.....8 M

Q.2b) Explain the various parameters of general purpose op-amp that lowers the performance of Comparator?Also discuss the method to improve performance of comparators?...6 M

Bharati Vidyapeeth's College Of Engineering for Women Pune-43

Department – E & TC

TE- Unit Test I

Subject-ICA

class: S.E.

Max

Marks:30

Instruction: All questions are compulsory

- 1] a) Draw the block diagram of op-amp and explain it. [4]
- b) Draw the circuit diagram of inverting voltage summing amplifier . [6]
Also derive an expression for adder. =
- 2] a) Compare ideal and practical opamp [4]
- b) Draw the circuit of practical integrator. And derive an expression [6]
for output voltage.
- 3] a) Explain current mirror circuit with neat diagram. [4]
- b) Draw the circuit of V to I converter with grounded load. And derive [6]
an expression for output current.

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Department – E & TC

TE- Unit Test II

Subject-ICA

class: S.E.

Max

Marks:30

Instruction: All questions are compulsory

- 1] a) Design inverting Schmitt trigger for $V_{ut}=4v$, $V_{lt}=-2v$. Assume supply voltage =12v [8]
- b) Design a second order high pass filter with $F_c=1$ kHz which gives Butterworth response .= [6]
- 2] a) Design triangular wave generator using op-amp for output frequency $F_0=4.5$ kHz , $V_{opp}=5$ v and op-amp supply is 12v [8]
- b) Write a short note on [8]
- i) Notch filter ii) Peak Detector