

V.P. & R.P.T.P SCIENCE COLLEGE – VALLABH VIDYANAGAR
S.Y.B.Sc (SEMESTER-3rd) - INTERANAL EXAMINATION
INSRUMENTATION (VOC.)
OPERATIONAL AMPLIFIER & INTERMEDIATE ELEMENT - US03CINV02
DATE : - 05/10/2017 (THURSDAY)

TIME : 3.00 P.M. TO 4.30 P.M.

TOTAL MARKS-25

- Q-1 Choose correct answer. [3]**
- Operational amplifier has _____ input terminals.
(A) 8 (C) 4
(B) 2 (D) None of above
 - In DC voltage follower, output voltage is _____ with input voltage.
(A) Unequal & in phase (C) Unequal & out of phase
(B) Equal & out of phase (D) None of above
 - _____ circuit is used to measure the phase difference between two signals.
(A) Time mark generator (C) PWM
(B) Square wave generator (D) Integrator
- Q-2 Short answer type question. (attempt any two) [4]**
- Enlist the characteristics of Operational amplifier.
 - Explain A.C. Voltage follower.
 - Draw the circuit diagram of Time Mark Generator and explain its working.
- Q-3 Explain Inverting Amplifier with neat circuit diagram and derive its equation for gain (A). [6]**
- OR**
- Q-3 List different D.C. parameters of operational amplifier and explain each. [6]**
- Q-4 Discuss Voltage to Current converter with and without load with necessary diagrams. [6]**
- OR**
- Q-4 Explain Integrator operational amplifier circuit with necessary waveforms and derive its output equation. [6]**
- Q-5 Draw the circuit diagram of Astable Multivibrator and explain working of it with necessary waveforms. Also derive the equation for total time period (T). [6]**
- OR**
- Q-5 Explain in detail the working of Schmitt Trigger with necessary diagrams. [6]**



***** BEST OF LUCK *****