

VITHALBHAI PATEL & RAJRATNA P.T. PATEL SCIENCE COLLEGE  
VALLABH VIDHYA NAGAR

SEM: III  
SUB: INSTRUMENTATION (VOC.)  
SUB CODE: US03CINV02

INTERNAL TEST

DATE: 03 Oct. 2015  
TIME: 3:00 pm to 4:30 pm  
TOTAL MARKS: 25

- Q-1 Choose the correct answer. [03]
- (1) In the block diagram of op-amp the second stage is \_\_\_\_\_.
- (a) Input stage (c) Intermediate stage  
(b) Output stage (d) Level shifting stage
- (2) The output of Schmitt trigger is \_\_\_\_\_ wave.
- (a) Sin (c) square  
(b) Triangle (d) none of above
- (3) Current to voltage converter op-amp is also known as \_\_\_\_\_ op-amp.
- (a) Trans-resistive (c) Trans-inductive  
(b) Trans - capacitive (d) None of this
- Q-2 Short questions, attempt any two (each two marks) [04]
- (1) Just draw pin diagram of IC 741 with name of pins, and draw symbol of op-amp.
- (2) Explain current to voltage converter in short.
- (3) Draw only circuit diagram of time mark generator.
- Q-3 List of different A.C. parameters of op-amp. And Derive complete equation for inverting op-amp in detail [06]
- OR
- Q-3 List of different D.C. parameters of op-amp and find, non-inverting op-amp have + 0.7 volt as input, feedback resistance ( $R_f$ ) = 420  $\Omega$ , input resistance ( $R_{in}$ ) = 70  $\Omega$ . Find out gain and output voltage of op-amp. [06]
- Q-4 Derive an equation for integrator and explain in detail. [06]
- OR
- Q-4 Derive an equation for Differentiator and explain in detail. [06]
- Q-5 Explain Astable multi vibrator [06]
- OR
- Q-5 Explain mono-stable multi vibrator [06]

