

Total No. of Printed Pages:2

**SUBJECT CODE NO:- 2149**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. S.Y Sem. III**  
**Examination March/April-2022 (To Be Held In June/July-2022)**  
**Electronics Paper-VII**  
**Linear Integrated Circuits**

[Time: 1:53 Hours]

[Max. Marks:50]

Please check whether you have got the right question paper.

- N.B
- 1) attempt all questions
  - 2) Illustrate your answer with suitable labeled diagram
- Q.1 Explain the circuit diagram and necessary wave forms how time IC555- is used in monostable multivibrator mode 20
- OR
- What is comparator? Explain with neat –circuit diagram and wave forms working of Schmitt trigger
- Q.2 Draw the block diagram of an op. Amp and explain the function of each block 20
- OR
- Write short notes on any four of the following (5 marks each )
- a) Ideal op Amp
  - b) Op- Amp summing and scaling amplifier
  - c) Inverting adder
  - d) Oscillator principle
  - e) Virtual ground concept
  - f) Triangular wave generator
- Q.3 Attempt the following multiple choice question 10
- 1) The Op. amp can amplify
    - a) A.C signals only
    - b) D.C signals only
    - c) Both a and b
    - d) block D.C allow A.C
  - 2) Slew rate of ideal op – amp is
    - a)  $\infty$
    - b) zero
    - c) 20
    - d) 500
  - 3) Wien bridge oscillator is a
    - a) LC oscillator
    - b) RC oscillator
    - c) crystal oscillator
    - d) none of the above
  - 4) What is the slew rate of an op Amp if its output voltage changes from 2 V to 3V in 0.2 ms.
    - a) 5 v/ms
    - b) 3 v/ms
    - c) 2v/ms
    - d) 1v/ms
  - 5) The tank circuit of phase shift oscillator using op. Amp consist ---- ladder network
    - a) 2 section
    - b) 3 section
    - c) 4 section
    - d) 1 section
  - 6) First block of an op- Amp is
    - a) Dual input –unbalanced output differential amplifier
    - b) Dual input –balanced output –differential amplifier
    - c) Single input –balanced output differential amplifier
    - d) Single input –unbalanced output differential amplifier
  - 7) Standard supply voltage for ordinary op.Amp is
    - a)  $\pm 12V$
    - b)  $\pm 11V$
    - c)  $\pm 13V$
    - d)  $\pm 7V$

- 8) What is input voltage of an ideal op.Amp if output voltage is 12V and its one of the inputs is 2V and gain 3
  - a) 8V
  - b) 4 V
  - c) -4V
  - d) -2V
- 9) Offset null pins a for an op Amp 741 are
  - a) Pins 2 & 3
  - b) pins 1 & 5
  - c) pins 1 & 4
  - d) pins 1 & 7
- 10) An astable multivibrator requires
  - a) A balanced time constant circuit
  - b) Two input signals
  - c) One input signals
  - d) No input signal