

Roll No.

91531

B. Sc. (Hons.) Physics 2nd Sem. Latest
Examination – April, 2018

LINEAR & DIGITAL INTEGRATED CIRCUITS AND
INSTRUMENTATION - II

Paper : Phy-206

Time : Three Hours]

[Maximum Marks : 40

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all, selecting at least two questions from each Unit.

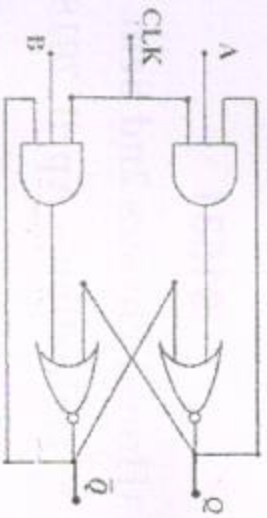
UNIT – I

1. Explain weight resistor type Digital to analog converter. Find the output voltage having digital input of 1110 at $V_R = 32$ V.

91531-500-(P-3)(Q-8)(18)

P. T. O

2. Find the output of a logic circuits and hence draw and explain the truth table : 8



3. Draw the circuit diagram of 4-bit serial in serial out shift register using 1001 as serial input and explain its operation. Also, show the preset and clear terminals and discuss their use. 8

4. Draw a block diagram of asynchronous decade counter and explain its operation. Sketch the waveform at the output of each flip-flop. 8

UNIT - II

5. Draw the circuit diagram of bridge rectifier with capacitor filter and explain its operation with relevant waveforms. 8

6. Draw the circuit of a full wave rectifier using two p-n junction diodes. Explain its working. Assuming zero cutin voltage draw wave form for output current and output voltage for a sinusoidal input voltage. 8

7. Describe the main applications of CRO. Explain each of them briefly. 8

8. Describe the use of IC 555 as astable multivibrator. Draw the output waveform. 8