

**3351**

**B. Tech. (EE) 6th Semester (G Scheme)**

**Examination, July-2022**

**ELECTRONICS DESIGN LABORATORY**

**Paper-LC-EE-310-G**

*Time allowed : 3 hours]*

*[Maximum marks : 50*

**Note :** *Attempt any five question in all. Question No. 1 is compulsory.*

1. (a) Discuss the analog and digital mode of operation of instrument.
- (b) List the advantage of electronic instruments over electrical and mechanical instruments.
- (c) Enlist the various parts of CRO.
- (d) Describe the function of transducer.  $4 \times 2.5 = 10$

**Section-A**

2. (a) Discuss the basic measurement system. Also describe the direct and indirect method of measurement. 4
- (b) Classify the noise in an electronic system. 6
3. Explain with suitable diagrams how does an OP-AMP function as (i) an integrator and (ii) a differentiator. 10

**Section-B**

4. Discuss the function of each component of digital data acquisition system. 10
5. Explain in detail the functional block diagram of an instrumentation system. 10

**Section-C**

6. Explain the working of blocks of CPLDs and FPGAs. 10
7. Discuss the characteristics of ideal operational amplifier. 10

**Section-D**

8. What do you mean by A/D converter ? Explain the performance and characteristics of A/D converter. 10
9. Write a short note on PCB design and layout. 10