S.No. 1883 | 12UELS03

(For the candidates admitted from 2012–2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fifth Semester

Electronics and Communication

SBEC — ELECTRONIC INSTRUMENTATION

Time : Three hours   Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is the basic working principle of a dc voltmeter?

2. What is a series-type ohmmeter?

3. What is the use of Maxwell bridge?

4. How does a Hay bridge differ from Maxwell bridge?

5. List the major building blocks used in Cathode Ray oscilloscope.

6. Define the deflection sensitivity of a CRT.

7. What is a Q-meter?

8. What is meant by "Fluorescence"?

9. What is an active transducer?

10. What is the function of a Loudspeaker?

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the working of a DC ammeter.

Or

(b) Explain the working of a shunt type ohm meter.

12. (a) Draw the circuit of a wheatstone bridge and obtain the condition for balance.

Or

(b) Explain the operation of a Hey bridge.

13. (a) Discuss the materials used in CRT screen.

Or

(b) Explain the function of the delay line.

14. (a) Describe Sample and Hold circuit.

Or

(b) Explain the operation of a pulse generator.

15. (a) Explain the working of an inductive transducer.

Or

(b) Discuss the features of temperature sensors.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss in detail, the calibration of DC instruments.

17. Draw the circuit diagram of Schering bridge and explain the measurement of capacitance.

18. Draw the block diagram of a Cathode ray oscilloscope and describe each block.

19. Explain the functions of a function generator with a block diagram.

20. Explain the construction and working of a strain gauge.

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