135 Register No.: [ ]

April 2018

Time - Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART - A and Q.No. 16 in PART - B are compulsory. Answer any FOUR questions from the remaining in each PART - A and PART - B

(2) Answer division (a) or division (b) of each question in PART - C.

(3) Each question carries 2 marks in PART - A, 3 marks in Part - B and 10 marks in PART - C.]

PART - A

1. Define transducer.
2. Define thermistor.
3. What is strain gauge?
4. State the principle of solar cell.
5. Define slew rate.
6. Mention any two applications of Op. Amp.
7. What is a clipper?
8. What is the use of Geiger -Muller tube.

PART - B

9. Define primary and secondary transducer.
10. State the uses of LVDT.
11. State the basic principle of capacitive transducer.
12. Draw the diagram of photo electric transducer.
13. Define signal conditioning.
14. Mention any three ideal characteristics of Op. Amp.
15. Define clipper and clamper.
16. Define Hall effect.

PART – C

17. (a) With a neat sketch explain the working of strain gauge type load cell.

(Or)

(b) State the advantages of electrical transducers.

18. (a) Explain the construction and working of proximity sensor.

(Or)

(b) Explain how displacement can be measured using strain gauge.

19. (a) Explain the construction and working of thermo couple with neat sketch.

(Or)

(b) With a neat sketch explain the working of Hall effect transducer.

20. (a) Explain with a neat sketch, Op. Amp. as an integrator.

(Or)

(b) Draw the block diagram of AC signal conditioning system and explain.

21. (a) With a neat diagram explain the operation of instrumentation amplifier using Op. Amp.

(Or)

(b) With a neat diagram explain, Op. Amp. as zero crossing detector.
