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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Electrical & Electronics) (OE 2013 Onwards Batch)
(Sem.-6)

TRANSDUCERS AND SIGNAL CONDITIONING

Subject Code : BTEEE-OPD

M.Code : 72841

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

Answer briefly :

1. What is the basic operating principle of digital tape recording?
2. Give the principle of capacitive transducers.
3. What is thermistor? State the advantage and disadvantages.
4. What are the advantages of LCD over LED?
5. Write down the potentials for pre-accelerating and accelerating electrodes?
6. Define transducer and inverse transducer.
7. Draw the diagram of integrator and differentiator using OP-Amp.
8. List the types of ADC and DAC?
9. What are the two physical parameters in strain gauge?
10. Differentiate between modulator and demodulator.

SECTION-B

11. What are the selection criteria for the transducer? Explain the working principle of LVDT with neat sketch and characteristics. Give advantages, disadvantages and applications of LVDT.
12. Classify the different types of telemetering systems? Explain the landline telemetering system and describe its advantages and disadvantages.
13. Derive the expression for closed loop gain of an operational amplifier used in non-inverting mode. Describe the assumption made.
14. What is an XY recorder? How do you distinguish it from Xt and Yt recorders?
15. Draw and explain current to voltage Converter with neat diagram.

SECTION-C

16. Describe the basic principle of strain gauge, its types, advantages and disadvantages. Also explain how strain gauge is used for pressure and torque measurements?
17.
 - a) Describe the working of Time division multiplexing with neat sketch.
 - b) Explain the internal structure of CRT and describe the principle of electrostatic focusing.
18. Write short notes on following :
 - a) Analog modulator and demodulator
 - b) Capacitive Transducers

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.