



QP CODE: 25020272

25020272

Reg No : .....

Name : .....

**B.Sc DEGREE (CBCS) ) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY  
CHANCE EXAMINATIONS, FEBRUARY 2025**

**Fourth Semester**

**Core Course - EL4CRT21 - INSTRUMENTATION ELECTRONICS(2018 ADMISSION  
ONWARDS)**

(Common for B.Sc Electronics and Computer Maintenance Model III, B.Sc Electronics Model III)

2017 Admission Onwards

B4DF0E66

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define sensitivity in instrument characteristics.
2. List the different types of strain gauges?
3. Define thermoelectric effect.
4. What is the criteria for balance of a wheatstones bridge?
5. List the applications of Instrumentation amplifier.
6. List the advantages of binary ladder network.
7. What is the use of a digital frequency counter?
8. What is the use of timebase generator in a CRO?
9. What are the types of signal generators?
10. What is a wave analyzer?
11. What are called bio electric signals?
12. What is the principle behind MRI scanning?

(10×2=20)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. Explain with the help of a diagram the operation of a resistive position transducer.
14. Describe the variation of self inductance due to the change in permeability in an inductor.
15. Briefly explain the operation of a weighted resistor network type DAC.
16. Briefly explain the operation of a counter type ADC.
17. What are the advantages of a DMM?
18. Briefly explain the working principle of an Electromagnetic flowmeter.
19. Compare open loop and closed loop control systems.
20. Explain the operation of a PLC.
21. Explain ECG telemetry system.

(6×5=30)

### **Part C**

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. With the help of a block diagram explain the different blocks of a generalised measurement system.
23. Explain the method of measuring displacement using LVDT. State its advantages and disadvantages too?
24. Explain the operation of a SAR type ADC.
25. Describe the working principle of X-Y recorder. What are its applications?

(2×15=30)

