BSc DEGREE (CBCS) EXAMINATION , MARCH 2020

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)

2018 ADMISSION ONWARDS

9F181EED

Time: 3 Hours

Marks: 80

Part A

Answer any ten questions.

Each question carries 2 marks.

1. List various methods to vary self Inductance.

2. Define Gauge factor.

3. What is a thermistor?

4. Why chopper amplifiers are used?

5. List the advantages of binary ladder network.

6. List the advantages of counter type ADC.

7. List some advantages of DMM over AMM.

8. What is the use of timebase generator in a CRO?

9. What is a heterodyne wave analyzer?

10. What is a PLC?

11. What is the use of a pulse meter?

12. What is the principle behind MRI scanning?

(10×2=20)

Part B

13. Briefly explain the static characteristics of instruments.

14. What are the factors to be considered while selecting a transducer?

15. Explain with necessary diagram the operation of a wheatstone's bridge.

16. Explain the operation of a single slope ADC in a brief manner.

17. Explain how an unknown frequency can be measured.

18. Briefly explain the working principle of an Electromagnrtic flowmeter.

19. Explain the working principle of a spectrum analyzer.

20. Give a brief description of an open loop control systems.

21. Briefly explain the operation of Electroencephalograph (EEG).

(6×5=30)

Part C

22. Discuss in detail the three types of resistive transducers. Give out their advantages and disadvantages too.

23. Explain the method of measuring displacement using LVDT. State its advantages and disadvantages too.

24. Explain with necessary diagrams the principle,advantages,and disadvantages of a weighted resistor network type of DAC.

25. Describe the working principle of X-Y recorder. What are its applications?

(2×15=30)