22102218

QP CODE: 22102218

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, JULY 2022

First Semester

B.Sc Physics Model II Applied Electronics

Vocational Course - AE1VOT02 - ELECTRONICS APPLICATION

2017 Admission Onwards

BB84F1D0

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Differentiate the basic types of oscilloscope.
2. What is active probe?
3. Explain coe. of coupling.
4. Sketch the ideal characteristics of LPF, HPF, BPF, and BSF.
5. Name any two methods of generating time base wave form.
6. Draw the circuit of a sweep circuit using a transistor switch.
7. Draw the characteristics of a photodiode.
8. State any two disadvantages of LVDT.
9. Write down the advantages of the compact disc.
10. What is EHT voltage?
11. What is need for a PCB?
12. What is Cold solder joint?

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. A 3 ½ digit voltmeter is used for measuring voltage: (i) Find the resolution of the instrument (ii) How would a voltage of 14.42 is displayed on 10 V range (iii) How would a voltage of 14.42 is displayed on 100 V range.

14. A series RLC circuit consist of a 60Ω resistance, 0.22H inductance and 10μ F capacitor with an applied voltage of 20V. Calculate the resonant frequency. Find the Q-factor of the circuit. Compute the lower and upper frequency limits and bandwidth of the circuit.

15. What is a tuned transformer? Give its applications.

16. Describe the construction, theory and working of thermocouples.

17. Discuss the principle and working of a piezo electric transducer.

18. With neat structural diagram explain the working principal of a moving coil microphone.

19. Explain how sound is recorded on a CD.

20. What are the different Tools used for soldering?

21. Write down the special precautions to be taken while soldering and desoldering.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. With the help of a neat diagrams, explain how a multimeter can be constructed using a PMMC.

23. Draw the circuits of (i) Miller; and (ii) Bootstrap sweep generators using BJT and explain how each one gives linear sweep voltages, with the help of relevant waveforms.

24. With neat block diagrams, explain the method of fabrication of PCB. Also explain the steps to make a multilayer PCB.

25. Distinguish between soldering and desoldering. What are the different tools used for desoldering?

(2×10=20)