



QP CODE: 23104720

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR/IMPROVEMENT/REAPPEARANCE
EXAMINATIONS, FEBRUARY 2023**

First Semester

Core Course - EL1CRT01 - BASIC ELECTRONICS

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

2017 Admission Onwards

B5990A56

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. Specify the colour code for the following resistor: 56Kohm $\pm$ 10 %.
2. Define one farad.
3. State ohm' s law.
4. Distinguish between resistance and impedance.
5. Graphically give the variation of the circuit current with respect to frequency of a series resonant circuit at around its resonant frequency.
6. Explain half-power bandwidth of a resonant-circuit.
7. What is the use of transformer?
8. In what bias condition is an LED normally operated? What happens to the light emission of an LED as the forward current increases?
9. Write any two applications of a transistor.
10. State the difference between bipolar and unipolar devices.
11. What is the purpose of triggering circuit ?
12. Explain holding current.

(10 $\times$ 2=20)





Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Derive an expression for the equivalent capacitance of a group of capacitors when they are connected in parallel.
14. State and explain laws of electromagnetic induction.
15. Obtain an expression for the resonant frequency of series RLC circuit.
16. Explain power factor.
17. With the help of circuit diagram and characteristic s graph, explain the working of zener diode.
18. Differentiate between avalanche and zener breakdown.
19. Explain the output characteristics of common base configuration of a transistor.
20. Explain the commutation process in SCR.
21. Explain the working of SCR with two transistor model.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. State and explain KCL and KVL with an example.
23. Draw the circuit diagram of a pn junction diode under forward and reverse bias and explain its operation. Discuss its V -I characteristics with necessary sketches.
24. Explain the VI characteristics of JFET.Hence explain about ohmic,satuartion and breakdown region formed.
25. Explain the construction and characteristics of UJT with neat diagrams.

(2×15=30)

