

Model Question Paper (Guess Question) for all section
Sub:-FUNDAMENTAL ELECTRICAL ENGINEERING (BEE-101)

2022-2023

UNIT-I

- 1. Define the following terms**
 - (a) Bilateral and unilateral Network.**
 - (b) Linear and Non-linear Network.**
 - (c) Active and passive Network.**
- 2. Explain Kirchhoff's law**

UNIT-II

- 3. Explain series resonance in R-L-C circuit. What are band width and quality factor (Numerical)**
- 4. Explain parallel resonance in R-L-C circuit. Derive the resonant frequency (Numerical)**
- 5. For star-connected system in 3-ø circuit prove that $V_L = \sqrt{3} V_{ph}$ and $I_L = I_{ph}$.**
- 6. For delta-connected system in 3-ø circuit prove that $V_L = V_{ph}$ and $I_L = \sqrt{3} I_{ph}$**
- 7. Derive expressions for lower & upper half power frequencies for a series RLC Circuit.**
- 8. Define power factor. Discuss reasons for poor power factor. How can power factor be improved?**

UNIT-III

- 9. Working principle of single phase Transformer.**
- 10. Derive E.M.F equation of the single phase transformer.**
- 11. Draw the equivalent circuit diagram of single phase transformer and refer to primary and secondary parameters and also draw the equivalent circuit .**
- 12. List various losses occurring in a Transformer and maintain the condition for maximum efficiency (Numerical on Efficiency).**
- 13. Explain analogy between electric and magnetic circuits.**

UNIT-IV

- 14. Discuss why single phase induction motors do not have starting torque. Explain principle of operation and list various methods of starting.**
- 15. Draw torque- speed or slip characteristics of three phase Induction motor. Show the different operating regions.**
- 16. Explain the working principle of synchronous motor. Draw V-curve and give its applications.**
- 17. Explain principle of operation of three phase Induction motor and numerical only for the slip.**
- 18. Derive EMF equation of DC generator and numerical.**
- 19. Derive the Torque equation of DC machine and Numerical.**
- 20. Draw the characteristics of DC motor and application (series motor, shunt motor**

Unit- V

- 21. Explain various components of LT switch gear i.e. SFU, MCB, MCCB, ELCB**
- 22. Describe the various types of wires or cables used in internal wiring of buildings.**
- 23. Describe the importance of earthing.**
- 24. What are the various types of batteries.**
- 25. Discuss the important characteristics of batteries.**