

Question Bank (G scheme)

Name of subject: Electrical & Electronics  
Subject code: 17424  
Semester: IV

Unit Test : I  
Course : SYCH

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**Section I Electrical**

**CHAPTER 1 Basic Fundamental (10 marks)**

**3marks Questions:**

1. Differentiate AC and DC power supply.
2. Define power factor and state its importance.
3. State ohm's law and faraday's law of electromagnetic induction.
4. Define electrical energy and electrical power and write their unit.

**4 marks Questions:**

5. Write advantages of three phase over single phase ac supply.
6. A furnace takes a current of 10 Amp from a 230V, dc supply for 8 hours. Calculate the energy consumed in KWh.

**CHAPTER 2 DC Motor(10 marks)**

**3marks Questions:**

7. State working principle of D.C. motor.
8. What is the necessity of starter in DC motor. Write its principle.

**4 marks Questions:**

9. Give methods for speed control of DC motor and explain any one.
10. Draw different types of DC motors. Give application of each type.

**CHAPTER 4 Transformer (10 marks)**

**3marks Questions:**

11. Why transformer core is laminated? Define voltage ratio and transformation ratio of a single phase transformer.
12. Describe the working principle of single phase transformer.

**4 marks Questions:**

13. Comparison between core type and shell type transformer.
14. A single phase transformer of 50Hz has maximum flux in core as 0.021Wb, the number of turns of primary being 460 and that on secondary is 52. The cross-sectional area of the core is 20cm<sup>2</sup>. Calculate maximum flux density, emf induced in the primary and secondary windings

of the transformer.

15. 3300/1100 volt, 50 Hz, 60 KVA single phase transformer has 300 turns in primary winding .  
Find turns in secondary winding and full load current in Primary and Secondary winding .
16. Draw auto transformer and write its two advantages, disadvantages and two applications.

### Section II Electronics

#### CHAPTER 1 Semiconductor Electronic devices(20marks )

##### 3marks Questions:

17. Draw and explain SCR with neat diagram .
18. Draw symbol of any six components :resistor, inductor, capacitor, P-N junction diode, LED, Zener diode, SCR and Triac.
19. Write two applications of any three devices:P-N junction diode, Zener diode, LED, SCR and Triac.
20. Draw energy band diagram of conductor, insulator and semiconductor and write the values of band gap.
21. Define intrinsic semiconductor, extrinsic semiconductor, P-type and N-type semiconductor.

##### 4 marks Questions:

22. Draw and explain forward and reverse biased characteristics of P-N junction diode.
23. Describe working of triac with the help of constructional diagram.
24. Describe reverse biased characteristics of zener diode.
25. Describe working of LED with diagram.

