

**SUBJECT : ELECTRICAL ENGINEERING & ELECTRONICS**  
CH-4G1 PAPER CODE-17424

**Section 1**

Chapter 1-

- 1) Define the following terms with respect to a.c. waveform :-
  - a) Time period.
  - b) Amplitude 3M
- 2) Define power factor. 3M
- 3) State ohm's law and give e.m.f. equation of transformer. 3M
- 4) State principle of electromagnetic induction. 4M
- 5) Comparison between single phase and three phase ac supply. 4m

Chapter 2-

- 6) State working and principle of D.C. motor. 3M
- 7) Draw electrical circuit series and shunt D.C. motor and give application of each. 4M

Chapter 3-

- 8) Define turns ratio and voltage ratio of transformer. 3M
- 9) Explain construction detail of core type transformer. 4M
- 10) Derive e.m.f. equation of single phase transformer. 4M
- 11) State principle of transformer. 3M
- 12) 3300/110 volt, 50 Hz, 60 KVA Single Phase Transformer Find Primary And Secondary winding Of Current? 4M

**Section 2**

Chapter 1-

1. Draw characteristics of PN diode And Explain ? 4M
2. List the passive component write their symbol and uses? 4M
3. Draw the symbol Of Zener Diode And give One Application ? 4M
4. Draw energy level diagram of conductor & semiconductor explain the terms forbidden energy level? 4M
5. Explain working principle of LED with neat diagram. 4M
6. Draw and explain SCR with neat diagram. 4M
7. Draw symbol of SCR and TRIAC and give application of each 3M

Chapter 2-

8. Explain working of half wave rectifier with neat circuit diagram? 4M
9. Draw circuit diagram of full wave rectifier with input and output wave form? 4M
10. Draw block diagram of power supply give its function of in power supply? 3M
11. Explain Working of Centre Tapped Full Wave Rectifier with circuit Diagram? 4M
12. Give need of filter and types filter. 3M
13. Explain circuit diagram of  $\pi$  filter . 4M

Question bank EEN ME4G (17404 )

1. Explain construction and principle of operation of single phase transformers 4M
2. Define transformation ratio and voltage ratio 3M
3. Define efficiency and regulation of transformer 3M
4. Compare auto transformer and single phase transformer 4M
5. Explain briefly the construction of a three phase I.M. 4M
6. State the types of three phase induction motor and give its applications 3M
7. A 4-pole and 3-phase I.M. operates from a supply whose frequency is 50 Hz. Calculate
  - a) the speed at which magnetic field of the stator is rotating
  - b) Determine the percentage slip if rotor is rotating at 1200 r.p.m. 4M
8. A two –pole and three phase induction motor operates from a supply whose frequency is 50 Hz. Calculate
  - a) Synchronous speed
  - b) Determine the percentage slip if rotor is rotating at 2800 rpm 4M
9. Draw and explain speed –torque characteristics of 3-phase I.M 4M
10. Explain the working of a single phase capacitor start induction motor 4M
11. Explain shaded pole induction motor with sketch. 3M
12. Explain the working of universal motor and state its application. 4M
13. What is stepper motor and give two applications of it ? 3M
14. Explain construction and application of servomotor. 4M
15. Explain the construction of alternator with neat diagram 4M
16. What are the factors for selection of motor for different drives 4M
17. List the types of enclosures 3M
18. State any two applications of dielectric heating, resistance indirect 4M
19. Explain the principle of electroplating and its applications 4M
20. List various types of water pumps used in irrigation sectors 3M
21. Draw neat wiring diagram to control two sockets, two fans and two lamps 3M
22. Write the full form of MCCB and ELCB. Explain their working. 4M
23. Explain the necessity of earthing briefly. 4M
24. What is tariff? State any four types of it. 3M
25. State applications of any four safety tools used in electrical workshop 3M