



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107



AN AUTONOMOUS INSTITUTION

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai

III Semester

B.E- Mechanical and Mechatronics Engineering (Additive Manufacturing)

19EC309 – Electrical Machines and Power Systems

Regulations 2019

- | Q.No | Question |
|------------------------|---|
| 1. | Define voltage regulation of a transformer? |
| 2. | Describe turns ratio of transformer. |
| 3. | Summarize why single phase induction motor is not self-starting. What are the various methods available for making a single-phase motor self-starting? |
| 4. | Identify the cheapest method of starting a three phase induction motor? |
| 5. | Describe why an induction motor is called a 'rotating transformer' |
| 6. | Define all day efficiency. Explain why all day efficiency is lower than commercial efficiency. |
| 7. | Give the principle of transformer. |
| 8. | List out four applications of single phase induction motor. |
| 9. | A 3-phase induction motor is wound for 4 poles and is supplied from 50 Hz system. Calculate the speed at which the magnetic field of the stator is rotating. |
| 10. | Generalize why an induction motor will never run at its synchronous speed? |
| PART –B & C | |
| 11. | With neat diagrams explain the working of any two types of starters used for squirrel cage type 3 phase induction motor. |
| 12. | Generalize the different types of Speed control techniques employed in induction motor. |
| 13. | Describe the various three phase transformer connection with neat diagram. |
| 14. | Develop the equivalent circuit of a single phase transformer referred to primary and secondary. |
| 15. | Describe the construction and working principle of 3 phase induction motor with neat sketch.
(i) Illustrate the operation of single phase induction motor. |
| 16. | (ii) Give the classification of single phase induction motors. Explain capacitor start and run induction motor with neat diagram. |
| 17. | Sketch and Explain the torque- speed characteristics of 3 phase induction motors. Show the stable region in the graph. |
| 18. | Explain how the efficiency of a single phase transformer may be found from the load test. |
| 19. | Describe why starters are necessary for starting 3-phase induction motors? Name the different types of starters and explain DOL Starter. |
| 20. | Give the classification of single phase induction motors. Explain any two types of single phase induction motors. |