



R17 Regulation

**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code:1P3DC

**B.Tech III Semester Supplementary Examinations, July 2022**  
**ELECTRICAL TECHNOLOGY**

(ECE)

Maximum Marks: 70

Date:23.07.2022 Duration: 3 hours

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Classification of dc generator
- 2 Application of different generator
- 3 Draw the phasor diagram of single-phase transformer with a no-load condition
- 4 A 20kva,2000/200 Volts single phase transformer. Determine K
- 5 Define the slip and synchronous speed.
- 6 6-pole,50hz,3-phase induction motor runs at 800rpm.calucalte the slip
- 7 Define the  $K_p, K_D$ .
- 8 Calculate the number of slot/ pole and distribution factor for a 36-slots,4-pole machine.
- 9 Define the deflection torque and controlling torque
- 10 Advantages of PMMC

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 Explain the Principle operation of DC machine.[10]  
OR
- 12 Explain the characteristics of DC Generator. [10]
- 13 Explain the Principle operation of single phase transformer. [10]  
OR
- 14 Derive the EMF equation of single-phase transformer. [10]
- 15 explain the Principle operation of induction motor. [10]  
OR
- 16 Construction details of 3 Phase induction motor. [10]
- 17 Explain the Principle operation of alternator. [10]  
OR
- 18 Principle operation of 3-phase alternator. [10]
- 19 explain the classification of instrument. [10]  
OR
- 20 What are the different types of errors in PMMI INSTRUMENT explain their errors? [10]