R17 Regulation *Subject code:1P3DC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Year I Semester Supplementary Examinations, March/April 2023

ELECTRICAL TECHNOLOGY

(ECE)

Maximum Marks: 70 Date:01.04.2023 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Write the function of DC generator?
2 Mention the 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 Write down the advantages of PMMC?

Part-B

Answer All the following questions. (5X10M=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 Explain the construction details of 3 Phase induction motor. [10]
17 Explain the Principle operation of alternator. [10]

OR

18 Explain the principle operation of 3-phase alternator. [10]

19 Explain the construction detail and Principle operation of PMMC. [10]

OR

20 What are the different types of errors in PMMI INSTRUIMENT explain their errors. [10]