



TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VIII Semester Supplementary Examinations, April 2024
Utilization of Electric Energy
(Electrical and Electronics Engineering)

Maximum Marks: 70

Date: 27.04.2024 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 State any four advantages of an electric drive.
- 2 Define Electric Drive.
- 3 State the requirements for good welding.
- 4 What are the different types of electric welding?
- 5 Define M.H.C.P and M.S.C.P.
- 6 Define reflection factor.
- 7 State the advantages of electric traction.
- 8 List out systems of Railway Electrification.
- 9 What is meant by tractive effort?
- 10 Define accelerating weight.

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 Deduce the necessary expression for the temperature rise of an electric machine. [10]

OR

- 12 Explain about load equalization with derivation. [10]
- 13 Explain about seam welding and projection welding methods. [10]

OR

- 14 What are the types of electrodes used for welding operation? Give the advantages of coated electrodes. [10]
- 15 Explain the construction and working of Sodium vapor lamp. [10]

OR

- 16 Explain briefly about types of lamps for different lightning schemes. [10]
- 17 For a quadrilateral speed-time curve of an electric train, derive expression for the distance between stops and speed at the end of the coasting period. [10]

OR

- 18 Derive the expression for Trapezoidal speed-time curve. [10]

19 explain about factors which effects the specific energy consumption. [10]

OR

20 Deduce the necessary expression to calculate total tractive effort required to run a train on track. [10]