



R17 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

Subject code: 1E7BH

B.Tech IV Year I Semester Regular Examinations, February 2021

UTILIZATION OF ELECTRIC POWER

(Electrical and Electronics Engineering)

Maximum Marks: 70

Date: 02.03.2021 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 What is an electrical drive?
- 2 List the basic elements of electrical drives
- 3 What are the advantages of electric heating?
- 4 List out the difference between AC and DC welding
- 5 Why tungsten is selected as a filament material?
- 6 Why sodium vapour lamps are not used in indoor lighting?
- 7 What is meant by track electrification?
- 8 Draw the quadrilateral speed time curves.
- 9 What are the factors affecting the specific energy consumption
- 10 What is meant by tractive effort?

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 Describe the factors influencing the choice of electrical drives. (10M)
OR
- 12 Explain the different types of electrical drives and List out the applications. (10M)
- 13 Explain the working of dielectric heating in detail with neat diagram.(10M)
OR
- 14 Describe the working of resistance welding and arc welding in detail with neat diagram. (10M)
- 15 Describe and prove the laws of illumination.(10M)
OR
- 16 Explain the construction and working of mercury vapour lamp in detail with neat diagram.(10M)
- 17 Explain rheostat braking and regenerative braking in detail with neat diagram.(10M)
OR
- 18 Describe the mechanism of train movement in detail with neat diagram.(10M)
- 19 Explain the effect of varying acceleration and braking retardation.(10M)
OR
- 20 Discuss in detail about adhesive weight and coefficient of adhesion.(10M)