

R20

Code No: R20A0213

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, July/August 2021

Industrial and Allied Electrical Systems

(EEE)

Roll No									
----------------	--	--	--	--	--	--	--	--	--

Time: 3 hours

Max. Marks: 70

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 a) Discuss in detail the steps to followed lighting design. [7M]
1 b) Give the advantages & disadvantages of high pressure mercury vapor lamps over filament lamps. [7M]
- 2 a) What will be the number of lamps, each having 300 lumens, required to obtain an average luminance of 50 lux on a 4m × 3m rectangular room? [7M]
2 b) Explain polar curves with a neat labelled sketch. [7M]
- 3 What are the three types of wiring connection in commercial wiring? [14M]
- 4 a) How will you determine the number of circuit required in a house wiring installation ? [7M]
4 b) Enumerate the guidelines for Installation . [7M]
- 5 a) Discuss with neat sketch Arc welding. [5M]
5 b) What are advantages of electric heating? [4M]
5 c) Compare different methods of electric heating. [5M]
- 6 What are the characteristics of heating? What are the elements used in electric heating devices? [14M]
- 7 Explain the starting methods of induction motors. [14M]
- 8 Explain trapezoidal speed-time curves with neat sketch. [14M]

R20

Code No: R20A0213

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, February 2021

Industrial and Allied Electrical Systems

(EEE)

Roll No										
----------------	--	--	--	--	--	--	--	--	--	--

Time: 2 hours 30 min

Max. Marks: 70

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 a)** Explain with sketch the principle and operation of incandescent lamp and enumerates its advantages and disadvantages. **[7M]**
- 1 b)** Explain with sketch the principle and operation of fluorescent lamp . **[7M]**
- 2 a)** Draw and explain the operation of sodium vapour lamp with neat diagram and enumerate its advantages and disadvantages. **[7M]**
- 2 b)** State the laws of illumination. Explain the laws with the help of suitable diagrams and derive an equation of the same. **[7M]**
- 3 a)** Explain selection and sizing of components in wiring system. **[7M]**
- 3 b)** How do you measure earth wire and explain in detail? **[7M]**
- 4 a)** What are the general I.E rules for wiring Installation? **[10M]**
- 4 b)** How do you decide lighting scheme and number of lamps? **[4M]**
- 5** Discuss briefly about induction and dielectric heating process. **[14M]**
- 6 a)** Compare A.C and D.C welding **[4M]**
- 6 b)** Discuss in detail with neat sketch resistance heating? **[5M]**
- 6 c)** Discuss in brief about electric welding equipment. **[5M]**
- 7** Explain the different types of Industrial loads with their applications. **[14M]**
- 8 a)** Compare A.C traction with D.C traction **[4M]**
- 8 b)** Discuss the speed-time curves for main line services. **[10M]**

Code No: R20A0213

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22

Industrial and Allied Electrical Systems

(EEE)

Roll No									
---------	--	--	--	--	--	--	--	--	--

Time: 3 hours

Max. Marks: 70

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

1 Describe the construction and working of fluorescent lamp with a neat circuit diagram. [14M]

OR

2 (a) State and explain laws of illumination. [8M]

(b) A lamp of 250 candle of power is mounted at a height of 2.5 meters from the centre of a table 6Mx 3M. Find the maximum and minimum illumination. [6M]

SECTION-II

3 Explain the general rules and guidelines for installation. [14M]

OR

4 (a) Explain selection and sizing of components. [7M]

(b) Explain types of residential and commercial wiring systems. [7M]

SECTION-III

5 Explain the different welding process under resistance welding. [14M]

OR

6 Why electric heating is preferred over other forms of heating? Explain the principle of operation of dielectric heating. what are the applications of dielectric heating. [14M]

SECTION-IV

7 What are different classifications of loads? Explain in detail. [14M]

OR

8 (a) Explain electrical Systems for the elevators. [7M]

(b) Explain the lightning Protection. [7M]

SECTION-V

9 An electric train has an average speed of 40km ph on a level track between stops 2.2 Km apart. It is accelerated at 2.1Kmphps and braked at 2.9 Kmphps . Draw the speed time curve for the run Estimate the energy consumption at the train per tonne -Km. Take tractive resistance constant at 40 Nw per tonne and allow 8% for rotational inertia. [14M]

OR

10 What types of train services correspond to trapezoidal and quadrilateral speed time curves? Explain them with suitable graphs. [14M]

Code No: R20A0213

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22

Industrial and Allied Electrical Systems

(EEE)

Roll No									
---------	--	--	--	--	--	--	--	--	--

Time: 3 hours

Max. Marks: 70

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

1 Describe the construction and working of fluorescent lamp with a neat circuit diagram. [14M]

OR

2 (a) State and explain laws of illumination. [8M]

(b) A lamp of 250 candle of power is mounted at a height of 2.5 meters from the centre of a table 6Mx 3M. Find the maximum and minimum illumination. [6M]

SECTION-II

3 Explain the general rules and guidelines for installation. [14M]

OR

4 (a) Explain selection and sizing of components. [7M]

(b) Explain types of residential and commercial wiring systems. [7M]

SECTION-III

5 Explain the different welding process under resistance welding. [14M]

OR

6 Why electric heating is preferred over other forms of heating? Explain the principle of operation of dielectric heating. what are the applications of dielectric heating. [14M]

SECTION-IV

7 What are different classifications of loads? Explain in detail. [14M]

OR

8 (a) Explain electrical Systems for the elevators. [7M]

(b) Explain the lightning Protection. [7M]

SECTION-V

9 An electric train has an average speed of 40km ph on a level track between stops 2.2 Km apart. It is accelerated at 2.1Kmphps and braked at 2.9 Kmphps . Draw the speed time curve for the run Estimate the energy consumption at the train per tonne -Km. Take tractive resistance constant at 40 Nw per tonne and allow 8% for rotational inertia. [14M]

OR

10 What types of train services correspond to trapezoidal and quadrilateral speed time curves? Explain them with suitable graphs. [14M]
