

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER – V • EXAMINATION – WINTER 2012

Subject code: X 50901

Date: 11/01/2013

Subject Name: Electrical Power Utilization

Time: 02.30 pm - 05.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|------------|-----|---|-----------|
| Q.1 | (a) | Explain design considerations of heating element. | 07 |
| | (b) | Explain principle of arc welding with diagram. | 07 |
| Q.2 | (a) | Explain spot welding with diagram. | 07 |
| | (b) | Compare D.C. welding with A.C. welding. | 07 |
| OR | | | |
| | (b) | Explain dielectric heating with its principle. | 07 |
| Q.3 | (a) | State and explain law's of illumination. | 07 |
| | (b) | Explain Indirect core type Induction furnace. | 07 |
| OR | | | |
| Q.3 | (a) | Explain polar curve. Draw the polar curve for different type of light Fixture. | 07 |
| | (b) | Explain the working of Mercury vapour lamp with circuit diagram. | 07 |
| Q.4 | (a) | What is depreciation? Explain the method to find out the depreciation by sinking fund method. | 07 |
| | (b) | Explain methods to improve power factor. | 07 |
| OR | | | |
| Q.4 | (a) | Explain following terms :
1) Diversity factor 2) Load factor 3) Demand factor 4) Plant Utilization factor. | 07 |
| Q.4 | (b) | Explain two part tariff and power factor tariff. | 07 |
| Q.5 | (a) | Explain use of off peak loads. | 07 |
| | (b) | Explain economic choice of equipment with suitable example. | 07 |
| OR | | | |
| Q.5 | (a) | Explain eddy current heating with diagram. | 07 |
| | (b) | Explain Reflection and Refraction . | 07 |
