

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – WINTER • 2014

Subject code: 1720711

Date: 08-12-2014

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.

- Q.1 (a) Explain various advantages of electric heating. Also describe various modes of heating. 07
- (b) Explain Ajax Wyatt type vertical furnace. 07
- Q.2 (a) Explain regenerative braking used in traction system. 07
- (b) Explain high frequency eddy current heating. 07
- OR
- (b) Explain different methods of induction heating. Give some applications of induction heating. 07
- Q.3 (a) Explain construction and working of vacuum cleaner. 07
- (b) Explain the general features of traction. 07
- OR
- Q.3 (a) Explain electro deposition processes and discuss various factors governing the electro deposition processes 07
- (b) Explain mercury vapour lamp with circuit diagram. 07
- Q.4 (a) Explain following terms. 07
- 1) Light 2) Candle Power 3) Luminous Flux 4) M.H.C.P
- (b) State and explain laws of Illumination. 07
- OR
- Q.4 (a) Derive the relevant formulas of Quadrilateral speed-time curve of a traction system. 07
- (b) Explain following terms. 07
- 1) Crest Speed 2) Average Speed 3) Scheduled Speed 4) Acceleration.
- Q.5 (a) State and explain faraday's law of electrolysis. 07
- (b) Explain air-conditioner with suitable circuit diagram. 07
- OR
- Q.5 (a) Explain briefly different applications of electrolysis. 07
- (b) Explain electric circuit of refrigerator. 07
