| S | eat No | To.: Enrolment | |
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| S T | ubje `ime: nstr | OUJARAT TECHNOLOGICAL UNIVERSITY M. E SEMESTER – II • EXAMINATION – SUMMER • 2014 ect code: 1720711 Date: 25-06-2014 ect Name: Electrical Power Utilization : 02:30 pm - 05:00 pm Total Marks: 70 euctions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. | |
| Q.1 | (a) | Draw the typical speed-time curve for main line service and explain its different | 07 |
| | (b) | parts. The speed time curve of a train consists of: (i) Uniform acceleration of 6 Km/h/s for 21 s. (ii) Free running for 10 minutes. (iii) Uniform deceleration of 6 km/h/s to stop the train. (iv) A stop of 5 minutes. Find the distance between the stations, the average speed and the schedule speed. | 07 |
| Q.2 | (a) | Discuss track electrification in detail. | 07 |
| | (b) | Explain regenerative braking used in traction system. OR | 07 |
| | (b) | Explain the technology of Hybrid electric vehicles. | 07 |
| Q.3 | (a) (b) | What is resistance welding? Explain butt welding with necessary diagrams. What are the advantages of electrically produced heat? Explain working principle of dielectric heating. OR | 07 07 |
| Q.3 | (a) (b) | Explain indirect core type induction furnace. Comparison between Resistance welding and Arc welding. | 07 07 |
| Q.4 | (a) | The illumination of drawing office $30 \text{ m} \times 12 \text{ m}$ is to have a value of 50 meter candle. the utilization factor is 0.5 and depreciation factor is 1.3, Calculate space to height ra and the number of lamps and wattage of each lamp for uniform light distribution. Watts 100 200 300 500 1000 | |
| | (b) | Lumens 1615 3650 4700 9950 21500 What is flood lighting? Explain how it is provided and its design consideration. | |
| | (b) | OR | U / |
| Q.4 | (a) (b) | Explain the terms (A) Illumination (B) M.H.C.P. (C)Glare (D) Brightness Explain design consideration of heating element. | 07 07 |
| Q.5 | (a) | Explain electro deposition processes and discuss various factors governing the elect deposition processes. | tro 07 |
| | (b) | Explain construction and working of washing machine. OR | 07 |

What do you understand by refrigerator? Draw and explain the electric circuit used in

State and explain faradayøs law of electrolysis.

Q.5 (a)

(b)

a refrigerator.

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