

Code No: 157FB**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, February/March - 2022****UTILIZATION OF ELECTRICAL ENERGY****(Computer Science and Engineering)****Time: 3 Hours****Max. Marks: 75****Answer any five questions
All questions carry equal marks**

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- 1.a) State various methods of Electric heating and explain dielectric heating.
- b) Discuss essential requirements of good heating element. [8+7]
2. Discuss the principle of working of resistance heating and induction heating with neat sketches. [15]
3. Explain the principle of electrolysis and electroplating. [15]
4. Discuss the procedure of metal extraction, metal processing and electromagnetic stirs. [15]
- 5.a) A room with an area of 6×9 m is illuminated by ten 80-W lamps. The luminous efficiency of the lamp is 80 lumens/W and the coefficient of utilization is 0.65. Find the average illumination.
- b) Explain the working of S.V lamp with a neat sketch. [6+9]
- 6.a) The flux emitted by 100-W lamp is 1,400 lumens placed in a frosted globe of 40 cm diameter and gives uniform brightness of 250 milli-lumens/m² in all directions. Calculate the candle power of the globe and the percentage of light absorbed by the globe.
- b) Explain the concept of flood lighting. [8+7]
7. Explain different methods of electric traction. [15]
8. Explain double battery parallel block system and coach wiring. [15]

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