Reg No.: _____ Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SIXTH SEMESTER B. TECH DEGREE (HONS.) EXAMINATION, MAY 2019

Course Code: EE 366

Course Name: ILLUMINATION TECHNOLOGY

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks. Marks

1. Differentiate Day lighting and Artificial Lighting. (5)
2. A room 8m × 12m is lighted by 15 lamps to a uniform illumination of 100 lm/m^2. Calculate the Utilization Coefficient of the room given that the output of each lamp is 1600 lumens. (5)
3. Define ULOR and DLOR. Explain the factors affecting these. (5)
4. How does the space to height ratio affect illumation design? (5)
5. What are the types of fixtures used in floodlighting? (5)
6. How are the projectors classified according to the beam type? What are the applications of each type? (5)
7. Write the features of auditorium lighting. (5)
8. Describe the features of statue lighting. (5)

PART B

Answer any two full questions, each carries 10 marks.

9. Explain the different schemes used in artificial lighting. (10)
10. Define, (i) luminous flux, (ii) luminous flux intensity, (iii) Candle Power, (iv) MHSCP, (v) lamp Efficiency (10)
11. a) Define Polar Curve for candle power distribution? (5)
    b) Explain in detail, the methods of determining MSCP using Polar curve. (5)

PART C

Answer any two full questions, each carries 10 marks.

12. a) Define i) Maintenance factor, ii) Uniformity ratio, iii) Direct ratio, (iv) Coefficient of Utilization. (4)
    b) What are the characteristics of Staircase and corridor lighting? (6)

13. a) Describe the features of entrance lighting and industrial lighting. (5)

b) What are the various street lighting arrangements? (5)

14. a) Describe the various pole arrangement scheme in Road Lighting Design. (5)

b) Calculate the average luminance on the road having 30m width and having street light span of 30m. The luminary is a sodium vapour lamp luminary and is arranged in a single side layout. The total light output of the luminaries is 5000 lumens. (5)

PART D

Answer any two full questions, each carries 10 marks.

15. a) Explain the steps involved in calculating the number of lamps in flood lighting. (4)

b) Explain Depreciation Factor and Waste Light factor w.r.t. flood lighting. (6)

16. Describe any five features of monument lighting. (10)

17. The Jawaharlal Nehru Stadium, Kochi, needs a lighting renovation, list any five features. (10)

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