Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S7 (S, FE) (FT/WP/S5PT) Examinations May 2026 (2019 Scheme)

Course Code: EET463
Course Name: ILLUMINATION TECHNOLOGY

Max. Marks: 100 **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks. Marks

1		Explain different types of glare and methods to reduce glare in lighting.	(3)
2		Describe the significance of colour temperature in lighting design.	(3)
3		Explain the principle of lux meter and its applications.	(3)
4		Define luminous flux and luminous intensity with their units.	(3)
5		Write a short note on coefficient of utilization and its influencing factors.	(3)
6		Explain the principles of interior lighting design considering illumination and uniformity.	(3)
7		What are the types of flood lighting projectors and their beam angle classifications?	(3)
8		Discuss the main objectives of street lighting design.	(3)
9		State the specific lighting needs for monument and statue illumination.	(3)
10		What are the important considerations in auditorium lighting?	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	a)	Discuss the concept of luminous efficacy and compare it across different artificial light sources.	(7)
	b)	Describe the stroboscopic effect and its impact on lighting applications.	(7)

OR

12	a)	Explain the working and construction of a fluorescent lamp.	(7)
	b)	Discuss supplementary lighting and its uses in modern lighting systems.	(7)

Module II

13	a)	Describe the Inverse Square Law and Lambert's Cosine Law with examples.	(7)
	b)	Explain the use of photometric bench in measuring luminous intensity.	(7)

OR

14 a) Draw and explain Rousseau's Diagram for illumination calculations. (7)

b) Explain the calculation of illumination at a point due to two light sources of given intensity separated by a given distance. (7)

Module III

15 a) Explain DLOR, ULOR, and LOR and how they influence lighting design. (7)

b) Explain how to calculate the number of lamps required to illuminate a hall with given dimensions and lighting parameters. (7)

OR

16 a) Discuss four common luminaire types used in interiors. (7)

b) Explain the Lamp Lumen Method of interior lighting design with an example. (7)

Module IV

17 a) What are the principles and parameters for designing efficient street lighting? (7)

b) Discuss the types and classification of floodlights. (7)

OR

18 a) Explain how to design a flood lighting scheme for a building façade with given dimensions and illumination levels. (7)

b) Describe the zones and corresponding illuminance levels in tunnel lighting. (7)

Module V

19 a) Discuss lighting requirements in hospitals, including wards and operating theatres. (7)

b) Explain the key principles behind aesthetic and accent lighting techniques. (7)

OR

20 a) Describe important considerations for auditorium lighting design. (7)

b) Explain factors to be considered in monument lighting design. (7)

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