

[LB 0212]

AUGUST 2012

Sub. Code: 6008

B.Sc. OPTOMETRY

FIRST YEAR

PAPER VI – PRINCIPLES OF LIGHTING

*Q.P. Code : 806008*

**Time : Three hours**

**Maximum : 100 marks**

**(180 Mins) Answer ALL questions in the same order.**

**I. Elaborate on:**

**Pages Time Marks  
(Max.)(Max.)(Max.)**

1. Theories on light.	7	20	10
2. Fibre Optics.	7	20	10
3. Illumination with regard to ophthalmology.	7	20	10

**II. Write notes on:**

1. Sources of light.	4	10	5
2. Basic aspects of lighting designs.	4	10	5
3. Goethe's theory.	4	10	5
4. Factors affecting visual task.	4	10	5
5. Ultraviolet spectrum.	4	10	5
6. Colour rendering.	4	10	5
7. Discuss the applications of fibre optics in medicine.	4	10	5
8. Types of lighting systems and designs.	4	10	5

**III. Short answers on:**

1. Inverse square law.	2	4	3
2. Define lux.	2	4	3
3. Subtractive synthesis of colours.	2	4	3
4. Define colour temperature.	2	4	3
5. Define luminous efficiency.	2	4	3
6. Visual ability.	2	4	3
7. Visual performance.	2	4	3
8. Define utilization factor.	2	4	3
9. Disability glare.	2	4	3
10. Concept of lighting design.	2	4	3

\*\*\*\*\*

[LC 0212]

FEBRUARY 2013  
B.Sc. OPTOMETRY  
FIRST YEAR

Sub. Code: 6008

PAPER VI – PRINCIPLES OF LIGHTING

*Q.P. Code : 806008*

**Time : Three hours**

**Maximum : 100 marks**

**Answer ALL questions**

**I. Elaborate on :**

**(3X10=30)**

1. Photometry and eye.
2. Optical fibre communication.
3. Computer vision syndrome.

**II. Write notes on:**

**(8X5=40)**

1. Discuss the recommended illuminations at different work places.
2. Laws of illumination.
3. Filters.
4. Coefficient utilization of light sources.
5. Flicker photometer.
6. Measurement of luminance.
7. Infrared spectrum.
8. Electric powered light sources.

**III. Short answers on:**

**(10X3=30)**

1. Contrast sensitivity.
2. Additive synthesis of colour.
3. Fraunhofer lines.
4. Define corpuscular theory.
5. Luminous flux.
6. Applications of ultraviolet radiations.
7. Disability glare.
8. Fibre optics.
9. Secondary colours.
10. Mention the attributes of colour.

\*\*\*\*\*

[LD 0212]

**AUGUST 2013**  
**B.SC. OPTOMETRY**  
**FIRST YEAR**  
**PAPER VII – PRINCIPLES OF LIGHTING**  
**Q.P. Code: 806008**

**Sub.Code :6008**

**Time: Three hours**

**Maximum : 100 marks**

**Answer ALL questions.**

**I. Elaborate on:**

**(3X10=30)**

1. Light and Vision.
2. Effects of glare and how to prevent it.
3. Colour theory.

**II. Write notes on:**

**(8X5=40)**

1. Modern light sources.
2. Colour rendering.
3. Photometry and the eye.
4. Physical consideration of lighting design.
5. Solid angle.
6. Explain different units of lighting.
7. Lummer- Brodhun photometer.
8. Fibre optical description.

**III. Short answers on:**

**(10X3=30)**

1. Define luminous flux.
2. Types of artificial light sources.
3. Solar constant.
4. Applications of ultra violet radiations.
5. Fraunhofer lines.
6. Filters.
7. Give some good practices in lighting.
8. Mention the attributes of colour.
9. Photometric quantities.
10. What is a fibre optic cable?

\*\*\*

[LE 0212]

FEBRUARY 2014

Sub.Code :6008

**B.SC. OPTOMETRY  
FIRST YEAR  
PAPER VII – PRINCIPLES OF LIGHTING  
Q.P. Code: 806008**

**Time: Three hours**

**Maximum : 100 marks**

**Answer ALL questions.**

**I. Elaborate on:**

**(3X10=30)**

1. How does illumination affect the eye?
2. What is computer vision syndrome?
3. Explain in detail about Goethe's theory

**II. Write notes on:**

**(8X5=40)**

1. Explain about the relationship between visibility and task performance
2. Write about the measurement of luminance
3. Write about the concepts of lighting design
4. Explain luminous efficacy
5. Explain about photometry and the eye
6. Coefficient utilization of light sources.
7. Explain about optical fibre communication.
8. Explain about the modern light sources

**III. Short answers on:**

**(10X3=30)**

1. Explain about discomfort glare
2. Explain Subtractive synthesis of colours.
3. What are Fraunhofer lines?
4. Define utilization factor
5. Write briefly about filters
6. Explain about primary colours
7. Define Candela
8. Explain about ultraviolet spectrum
9. What is solar constant?
10. Explain about electromagnetic spectrum

\*\*\*

[LF 0212]

AUGUST 2014

Sub.Code :6008

**B.Sc. OPTOMETRY  
FIRST YEAR  
PAPER VI – PRINCIPLES OF LIGHTING**

*Q.P. Code: 806008*

**Time: Three hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Elaborate on:**

**(3x10=30)**

1. Goethe's theory.
2. Illumination with regard to Ophthalmology.
3. Write in detail about "Glare and Vision".

**II. Write notes on:**

**(8x5=40)**

1. Ultra Violet Spectrum.
2. Infrared Spectrum.
3. Filters used in Ophthalmology.
4. Factors affecting Visual task.
5. Fibre Optical description.
6. Photometry and the eye.
7. Define illuminations. Write about laws of illuminations.
8. Write about Primary Colours.

**III. Short answers on:**

**(10x3=30)**

1. Define light.
2. Define Luminous flux.
3. Discomfort glare.
4. Additive Colour Synthesis.
5. Draw the cross section of fibre Optic cable.
6. Contrast Sensitivity.
7. Secondary Colours.
8. Define Solar Constant.
9. Define Colour rendering.
10. What is Photometry?

\*\*\*\*\*

[LG 0215]

FEBRUARY 2015

Sub.Code :6008

**B.Sc. OPTOMETRY  
FIRST YEAR  
PAPER VI – PRINCIPLES OF LIGHTING**

*Q.P. Code: 806008*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Factors affecting visual tasks.
2. Photometers.
3. Optical fibre communication.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Modern theory of light.
2. Visibility and task performance.
3. Spectral energy distribution.
4. Concept of lighting design.
5. Luminous efficiency.
6. Colour temperature.
7. Laws of illumination.
8. Photometric quantities.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Goethe's theory.
2. Visual acuity.
3. Discomfort glare.
4. Primary colours.
5. Luminous flux.
6. Utilization factor.
7. Visible range of electromagnetic spectrum.
8. Contrast sensitivity.
9. What is direct glare?
10. Draw the cross section of fibre optic cable.

\*\*\*\*\*

[LH 0815]

AUGUST 2015

Sub. Code: 6008

**B.Sc. OPTOMETRY**

**FIRST YEAR**

**PAPER VI – PRINCIPLES OF LIGHTING**

*Q.P. Code: 806008*

**Time : Three Hours**

**Maximum : 100 marks**

**Answer ALL questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Write an essay about Photometers and Filters.
2. Write in detail about Additive and Subtractive synthesis of Colours.
3. Explain in detail about Computer Vision Syndrome.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Explain Inverse Square Law.
2. What are the modern Theories of Light?
3. What is Visual Performance?
4. Explain Colour Rendering Index.
5. What is Illumination Law?
6. What is the concept of Lighting Design?
7. Explain in brief the ranges of Electromagnetic Spectrum.
8. What are the factors affecting Visual task performance?

**III. Short Answers on:**

**(10 x 3 = 30)**

1. Define Lux.
2. What is disability Glare?
3. Define Contrast Sensitivity.
4. What is Solar Constant?
5. What do you mean by Luminous Flux?
6. What is Solid Angle?
7. Classify Light Sources.
8. Write a short note on Primary Colours.
9. Define Photometry.
10. What are the various attributes of Colours?

\*\*\*\*\*

[LI 0216]

FEBRUARY 2016

Sub.Code :6008

**B.Sc. OPTOMETRY**

**FIRST YEAR**

**PAPER VI – PRINCIPLES OF LIGHTING**

*Q.P. Code: 806008*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Write in detail the various proposed Colour Theories.
2. Write in detail the illumination in regards to Ophthalmology.
3. Write an essay on Optical Fibre Communication.

**II. Write notes on:**

**(8 x 5 = 40)**

1. What are the types of Glare?
2. Explain briefly the Fibre Optics.
3. What are Optical Fibre Cables?
4. Explain Luminous Efficacy.
5. Write in brief the range of Ultraviolet Spectrum.
6. Explain Goethe's Theory.
7. What are the various Sources of Light?
8. Explain Colour Rendering.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Define Utilization Factor.
2. Primary Colours.
3. Define Candella.
4. Define Electromagnetic Spectrum.
5. Discomfort Glare.
6. Define Illuminance.
7. What are Fraunhofer Lines?
8. Explain Solar Constant.
9. Contrast Sensitivity.
10. Attributes of Colour.

\*\*\*\*\*