

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022  
(Third Semester)

Branch – VISUAL COMMUNICATION

**BASIC OF SOUND OPTICS & ILLUMINATION ENGINEERING**

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 What is produced when an object vibrates, creating a pressure wave?  
(i) Light (ii) Fire  
(iii) Sound (iv) Wind
- 2 Identify the regular repeated pattern of sound or movement \_\_\_\_\_.  
(i) Rasa (ii) Noise  
(iii) Vibration (iv) Rhythm
- 3 What is used for acoustic measurements?  
(i) Anemometer (ii) porometer  
(iii) viscometer (iv) Sound level meter
- 4 Define the bouncing back of sound waves from the surface \_\_\_\_\_.  
(i) Reflection (ii) Refraction  
(iii) Absorption (iv) All of these.
- 5 Mention the science of the measurement of light, in terms of its perceived brightness to the human eye.  
(i) Geometry (ii) Photometry  
(iii) Trigonometry (iv) geometrics

**SECTION - B (15 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Sketch the anatomy of human ear and mark its parts.  
OR  
b Explain in brief about the hearing sensitivity of human ear.
- 7 a Describe the sound equalization.  
OR  
b State the differences between music and noise.
- 8 a How do you calibrate sound?  
OR  
b Summarize the uses of acoustic materials.
- 9 a State the spectrum and colour.  
OR  
b Discuss the characteristics of electromagnetic waves.
- 10 a Describe the colour temperature and colour index.  
OR  
b Explain the law of illumination.

Cont...

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Discuss the characteristics of sound waves and its functions.  
OR  
b Calculate the reverberation time using Sabine formula.
- 12 a Enumerate the sound equalization techniques.  
OR  
b Discuss about octave and musical notes.
- 13 a Elucidate the needs of room acoustics with examples.  
OR  
b Discuss the needs and features of sound enhancement system.
- 14 a Enumerate the anatomy of human eye and perception of light.  
OR  
b Illustrate the optical basics with examples.
- 15 a Outline the law of illumination and light wave theory.  
OR  
b Point out the natural and manmade light sources.

Z-Z-Z

END