

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Third Semester)

Branch- VISUAL COMMUNICATION (ELECTRONIC MEDIA)

DIGITAL SOUND, IMAGE AND LIGHT PROCESSING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which device is used to measure sound pressure levels? a) Oscilloscope b) Sound Level Meter c) Microphone d) Voltmeter	K1	CO3
	2	What is the Nyquist Frequency related to? a) Analog to Digital Conversion b) Minimum Sampling Rate c) Power Amplification d) Digital Filtering	K2	CO1
2	3	Name the basic law that governs illumination. a) Ohm's Law b) Inverse Square Law c) Kirchoff's Law d) Maxwell's Law	K1	CO1
	4	Which human system is responsible for sound perception? a) Circulatory System b) Auditory System c) Respiratory System d) Digestive System	K2	CO2
3	5	ADC stands for _____. a) Analog to Digital Converter b) Automated Data Correction c) Audio Digital Controller d) Advanced Data Communications	K1	CO1
	6	Which colour temperature is considered "daylight" in photography? a) 3200K b) 4000K c) 5600K d) 8500K	K2	CO3
4	7	What is the function of a sound level meter? a) To measure pitch of sound b) To record audio frequencies c) To measure sound pressure levels d) To amplify sound	K1	CO3
	8	Define CCD. a) Current Carrying Device b) Charge Coupled Device c) Central Control Dial d) Computer Calculated Diode	K2	CO2
5	9	State any one purpose of musical notes. a) To measure temperature b) To identify pitch and rhythm in music c) To calculate voltage d) To amplify sound	K1	CO2
	10	What does CRI stand for in lighting? a) Colour Rendering Index b) Current Rating Indicator c) Contrast Ratio Illumination d) Central Reflective Isoquant	K2	CO4

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the following terms i) Timbre ii) Harmonics iii) Rhythm iv) Fundamental and v) Octaves.	K2, K5	CO2
		(OR)		
	11.b.	Illustrate the psychoacoustic phenomenon of "Equal Loudness Contours".		
2	12.a.	Demonstrate how sound behaves in different spaces with suitable examples.	K2, K4	CO3
		(OR)		
	12.b.	Analyze the use of noise hazards in audio engineering.		
3	13.a.	Explain the anatomy of the human eye and its relation to light sensitivity.	K3, K5	CO3
		(OR)		
	13.b.	Apply the laws of reflection and refraction with examples from optics and lens operation.		
4	14.a.	Examine the measurement techniques for colour temperature, CRI and CCT.	K4	CO3
		(OR)		
	14.b.	Inspect the role of professional lighting devices in cinematography.		
5	15.a.	Assess the differences between LED, LCD, and DLP display technologies.	K5	CO3
		(OR)		
	15.b.	Evaluate the ANSI standards related to video signals and display resolution.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze the production system requirements for professional sound and light processing.	K4	CO3
2	17	Evaluate the importance and effectiveness of various display colour manipulations in video production.	K5	CO3
3	18	Develop an experiment to measure acoustic calibration in a studio environment.	K6	CO3
4	19	Justify the selection of accessories and controlling devices in light processing for critical workspaces, and events.	K5	CO3
5	20	Create a model comparing sound measurement devices: analog vs. digital, based on various professional scenarios.	K6	CO3