

NAME:		ROLL NO:		TIME:	15: MIN
SUB:	Physics	Date:		CLASS:	1 st Year
SYLLABUS	Chp. 8 (Physical Optics and Gravitational Waves)	T. MARKS	13	OBT. M	

Q. 1 Choose the Correct Answer. Cutting, Erasing, Double Selection is Strictly Prohibited. (1x13=13)

1. The phenomenon of polarization of light is:

- (A) The process of scattering of light
- (B) The property of light vibrate in a specific plane
- (C) The ability of light to travel in a straight line
- (D) The phenomenon of light changing colour

2. Malus's law states that:

- (A) The intensity of light is directly proportional to the square of the cosine of the angle between the light wave and the analyzer
- (B) The intensity of light is directly proportional to the square of the sin of the angle between the light wave and the analyzer
- (C) The intensity of light is directly proportional to the angle between the light wave and the analyzer
- (D) The intensity of light is inversely proportional to the angle between the light wave and the analyzer

3. The intensity of light when it passes through a polarizer:

- (A) Increases (B) Decreases (C) Remain the same (D) Becomes zero

4. The angle between the light wave and the analyzer is called:

- (A) Polarization angle (B) Refraction angle (C) Reflection angle (D) Azimuth angle

5. The key purpose of an analyzer in a polarization experiment is:

- (A) To polarize the light (B) To measure the intensity
- (C) To change the direction of light (D) To filter out unwanted light

6. The mathematical represented of Malus's law is:

- (A) $I = I_0 \cos^2 \theta$ (B) $I = I_0 \sin^2 \theta$ (C) $I = I_0 \tan^2 \theta$ (D) $I = I_0 \cot^2 \theta$

7. The effect of increasing the angle between the light wave and the analyzer on the intensity of light is:

- (A) The intensity increases (B) The intensity decreases
- (C) The intensity remains the same (D) The intensity becomes zero

8. The condition for maximum intensity of light in a polarization experience when:

- (A) The light wave and analyzer are perpendicular
- (B) The light wave and analyzers are parallel
- (C) The light wave and analyzer are at angle of 45°
- (D) The light wave and analyzer are an angle of 60°

9. The unwanted light that interferes with vision is termed as:

- (A) Haze (B) Glare (C) Contrast (D) Flare

10. Who predicted the existence of gravitational waves?

- (A) Galileo Galilei (B) Albert Einstein (C) Issac Newton (D) Leonardo da Vinci

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11. What are gravitational waves?

- (A) Electromagnetic waves (B) Mechanical waves
(C) Ocean waves (D) Ripples in the fabric of spacetime

12. Which is the primary method used to detect gravitational waves:

- (A) Optical telescopes (B) Radio telescopes
(C) LASER interferometry (D) Gravitational lensing

13. Which of the following is a primary source of gravitational wave:

- (A) Binary black hole merger (B) Solar flares
(C) Earthquack (D) Supernovae

Answer Key

1	B	2	A	3	B	4	A
5	B	6	A	7	B	8	B
9	B	10	B	11	D	12	C
13	A						