## Online Assessment (Even Sem/Part-I/Part-II Examinations 2019 - 2020

Course Name - Physical Optics Course Code - BOPTO 204

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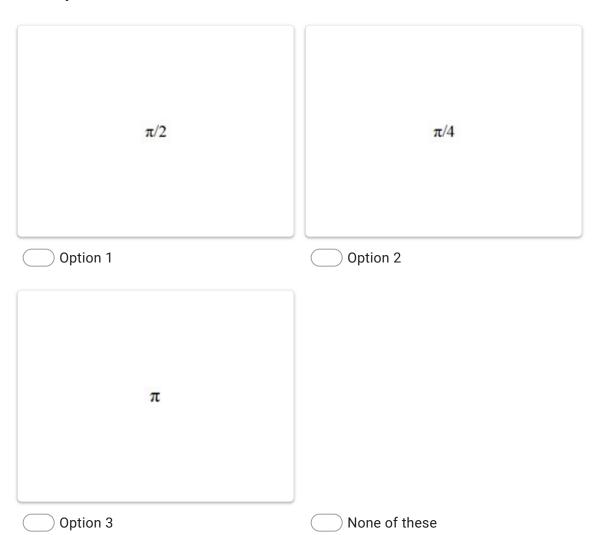
8.	Select Your Programme *
	Mark only one oval.
	Diploma in Pharmacy
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	LLM
	M.A.(JMC)
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	M.SC.(MATH)
	M.SC.(MB)
Α	nswer all the questions. Each question carry one mark.
9.	1. The phenomenon of separation of white light into its component colours is called
	3
	Mark only one oval.
	Mark only one oval.
	Mark only one oval.  dispersion
	Mark only one oval.  dispersion refraction
	Mark only one oval.  dispersion refraction reflection
	Mark only one oval.  dispersion refraction reflection radiation
10.	Mark only one oval.  dispersion refraction reflection radiation  2. According to Huygens' principle, light is a form of
	Mark only one oval.  dispersion refraction reflection radiation
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	Mark only one oval.  dispersion refraction reflection radiation  2. According to Huygens' principle, light is a form of Mark only one oval.
	Mark only one oval.  dispersion refraction reflection radiation  2. According to Huygens' principle, light is a form of  Mark only one oval.  particle
	Mark only one oval.  dispersion refraction reflection radiation  2. According to Huygens' principle, light is a form of  Mark only one oval.  particle rays

11.	3. Plane polarized light can be produced by
	Mark only one oval.
	reflection at polarizing angle
	Nicol prism
	Piles of plates
	All of these
12.	4. From the polarization of light, one can conclude that
	Mark only one oval.
	light is a transverse wave
	light is a longitudinal wave
	light can bend while facing a sharp edge of an object
	None of these
13.	5. The optic axis is a direction along which
	Mark only one oval.
	the O-ray travels faster than the E-ray
	the E-ray travels faster than the O-ray
	both O-ray and E-ray travel with the same velocity
	None of these

14.	6. A Nicol prism can act as a
	Mark only one oval.
	polarizer
	analyzer
	both polarizer and analyzerpiness
	None of these
15.	7.
	A ray of light in a dense medium of refractive index 1.4 approaches the boundary between the given medium and air at an angle of $\theta = \sin^{-1}(0.8)$ , then the ray will be
	Mark only one oval.
	totally absorbed
	internally reflected
	emerging at an angle greater than sin-1(0.8)
	showing an arbitrary behaviour
16.	8. Polaroid sunglasses decrease glare on a sunny day because
	Mark only one oval.
	block a portion of light
	refract the light
	have a special colour
	completely absorb the light

17. 9. For constructive interference, the phase difference is an even multiple of *Mark only one oval.* 



18. 10. Two waves having intensities in the ratio of 9:1 produce interference. The ratio of maximum to minimum intensity is equal to

Mark only one oval.

- 10:8
- 9:1
- 4:1
- 2:1

19.	11. The centre of the Newton's rings for the transmitted system of a monochromatic source of light is
	Mark only one oval.
	dark
	partially dark
	bright
	None of these
20.	12. Fraunhofer diffraction arises when the source of light and screen is effectively at
	Mark only one oval.
	finite distance
	infinite distace
	semi-infinite
	None of these
21.	13. The resolving power of a grating, having N number of total rulings, in nth order is
	Mark only one oval.
	n/N
	nN
	◯ N/n
	None of these

22.	14. The nature of the wave front due to a point source of light is
	Mark only one oval.
	Spherical Plane cylindrical None of these
23.	15. Fluorescence is the
	Mark only one oval.
	emission of excited electrons that keep the original spin emission of excited electrons where the light lasts a long time absorption of excited electrons that change the spin emission of excited electrons that change the spin
24.	16. The wavelength of He-Ne laser is
	Mark only one oval.
	632.8 nm
	600 nm
	532.8 nm
	500 nm

25. 17. The fluorescence intensity increases with all of the following except

Mark only one oval.

Rigidity

Planarity

No. of rings

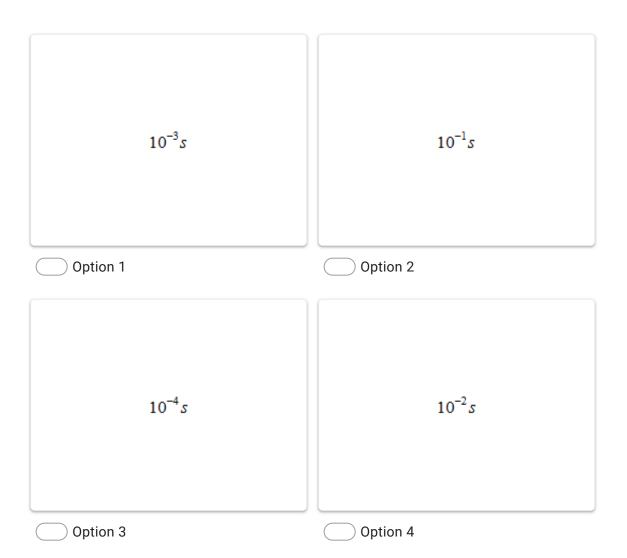
Dissolved oxygen

26. 18. The ratio of Einstein's A and B coefficient is proportional to *Mark only one oval.* 



 $v^3$   $\frac{1}{v^3}$  Option 3

27. 19. The metastable state has a mean life-time in the order of Mark only one oval.



28. 20. Solid angle is expressed in terms of

Mark only one oval.

- radians / meter
- \_\_\_\_ radians
- steredians
- degree

29.	21. A lamp of power 200 candle is hung 4 m above the centre of circular area (diameter=5 m). The illumination at centre of the area is
	Mark only one oval.
	13.5 lux
	12.5 lux
	17.5 lux
	10.5 lux
30.	22. The S.I unit of Luminance is
	Mark only one oval.
	Candela
	Lux
	Candela/m

Candela/meter<sup>2</sup>

31. 23. In a quarter-wave plate, the path difference between the O-ray and E-ray is *Mark only one oval.* 



32. 24. The number of optic axes in a uniaxial crystal is

Mark only one oval.

- \_\_\_\_1
- 3
- **4**

33.	25. Light interacts with matter as
	Mark only one oval.
	Wave
	Particle
	both wave and particle
	rays
34.	26. The least distance of distinct vision for a young adult with normal vision is
	Mark only one oval.
	25 m
	20 m
	25 cm
	20 cm
35.	27. The example of nearly monochromatic light is
	Mark only one oval.
	sodium vapour lamp
	GLS lamp
	tube light
	mercury vapour lamp

36.	28. Luminous efficiency of a fluorescent tube is
	Mark only one oval.
	5-10 lumens/watt
	15-20 lumens/watt
	30-40 lumens/watt
	60-65 lumens/watt
37.	29. Radiant efficiency of the luminous source depends on
	Mark only one oval.
	shape of the source
	temperature of the source
	wavelength of light rays
	all of these
38.	30. Inverse square law for illuminance is valid for
	Mark only one oval.
	isotropic point source
	cylindrical source
	search light
	all types of sources

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