Optics

1. Optical active crystals rotates the
A. Vibrating plane
B. Polarization plane
C. Diffraction plane
D. Interference plane

2. Which is not optically active?
A. Sugar
B. Tartaric acid
C. Water
D. Sodium chlorate

3. In a double slit experiment, we observe
A. Interference fringes only
B. Diffraction fringes only
C. Both interference and diffraction fringes
D. Polarized fringes

4. When light incident normally on thin film the path difference depends upon
A. The thickness of the film only
B. Nature of the film only
C. The angle of incidence only
D. All thickness nature and angle of incidence

5. Which one of the following properties of light does not change with the nature of the medium?
A. Velocity
B. Wavelength
C. Amplitude
D. Frequency

6. Light reaches the earth from the sun in nearly
A. 15 minutes
B. 10 minutes
C. 8 minutes
D. 8 minutes 30 seconds

7. The photoelectric effect was given by
A. Hertz
B. Fresnel
C. Einstein
D. Plank

8. According to Einstein light travels from one place to another in the form of
A. Waves
B. Particles
C. Photons
D. It was not his discovery

9. Longitudinal waves do not exhibit
A. Reflection
B. Refraction
C. Diffraction
D. Polarization

10. Central spot of Newtons rings
A. Bright
B. Dark for large wavelength
C. Dark
D. Bright for large wavelength

11. A point source of light placed in a homogeneous medium gives rise to
A. A cylindrical wavefront
B. An elliptical wavefront
C. A spherical wavefront
D. A plane wavefront

12. The locus of all points in a medium having the same phase of vibration is called
A. Crest
B. Trough
C. Wavelength
D. Wavefront

13. Which one of the following is nearly monochromatic light?
A. Light form fluorescent tube
B. Light form neon lamp
C. Light form sodium lamp
D. Light form simple lamp

14. Two sources of light are coherent if they emit rays of
A. Same wavelength
B. The same amplitude of vibration
C. Same wavelength with a constant phase difference
D. Same amplitude and wavelength

15. When the crest of one wave falls over the trough of the other wave this phenomenon is known as
A. Polarization
B. Constructive interference
C. Destructive interference
D. Diffraction

16. In Young's double slit experiment the fringe spacing is equal to
A. $d\lambda D$
B. $2\lambda d/D$
C. $\lambda D/d$
D. $\lambda d/D$

17. In Young double slit experiment, if white light is used
A. Alternate dark and bright fringes will be seen
B. Coloured fringes will be seen
C. No interference fringes will be seen
D. Impossible to predict

18. The velocity of light was determined accurately by
A. Newton
B. Michelson
C. Huygen
D. Young

19. The condition for constructive interference of two coherent beams is that the path difference should be
A. Integral multiple of $\lambda/2$
B. Integral multiple of λ
C. Odd integral multiple of $\lambda/2$
D. Even integral multiple of λ

20. In an interference pattern
A. Bright fringes are wider than dark fringes
B. Dark fringes are wider than a bright fringe
C. Both dark and bright fringes are of equal width

D. Central fringes are brighter than the outer fringes

Answers key

1.(B) 2.(C) 3.(C) 4.(D) 5.(D) 6.(D) 7.(C) 8.(C) 9.(D) 10.(A)

11.(C) 12.(D) 13.(C) 14.(C) 15.(C) 16.(C) 17.(B) 18.(B) 19.(B) 20.(C)