1.When light beam incident on an interface seperating two optical media the light is partly reflected into the first medium and partly transmitted into the second mediu
a)reflection of light
b)refraction of light
c)transmission of light
d)scattering of light

2. By considering the average region of wavelength 5500 $\mathring{A}$, the film of thickness of the order 1 $\mu m$ is called_____
a)thin film
b)thick film
c)rigid film
Dark film

3.Optical path=
a)= $\mu\times$ Geometrical path
b)= Geometrical path
c) $\mu/(Geometrical\ pa$

d)None of above

4. A drop of liquid of volume 0.2cc spreads over the whole surface of a tank of water of area 1 sq.m forming a thin film.When white light is incident normally on the film
a)1.375
b)1.399
c)1.49
d)1.29

5.Two optically plane glass strips of lengths 10cm are placed one over the other. A thin foil of thickness 0.01mm is introducced between them at one end to form an air
a)2.95nm
b)2.59nm
c)2.95 $\mu m$
d)2.95mm

6.In a Newton's rings experiment the diameter of $5^{th}$ ring is 0.336cm and diameter of $[15]^{th}$ ring is 0.590cm .Find the radius of curvature of the planoconvex lens if the w
a)99.83cm

b)99.83 $\mu m$
c)99.84nm
d)99.87cm

7.The concept of wave front is_____
a)real
b)imaginary
c)visual
d)none of above

8.In which the source of light and the screen are placed at an infinite distance from the obstacle.
a)Fraunhoffer
b)Fresnel
c)Huygen -Fresnel principle
d)none of above

9.If the width of each rulling is 'a' and the width of each slit is 'b' the length (a+b) is called the _____
a)gratting
b)gratting element
c)absent spectra
d)none of above

10.In a plane transmission gratting the angle of diffraction for second order principle maximum for the wavelength $5\times[10]^{\wedge}(-5)$ [35] culate the number of lin
a)5737
b)5437
c)5787
d)5720

11.Calculate the maximum order of diffraction maxima seen from plane transmission gratting with 2500 lines per inch if light of wavelength 6900 [10] fa[15] ormally o
a)2
b)3
c)4
d)1

12.Which of the following is not a characteristics of laser
a) monochromaticity
b)coherence
c)high intensity
d)scattered

13. Which type of emission process is used in laser production?
a)absorption
b)spontaneous
c)stimulated
d)none of above

14. In three energy level, laser can producced when laser atoms transition takes place from
a) $E\_3\ toE$
b) $E\_2\ toE$
c) $E\_3\ toE$
d) $E\_3\ toE$

15.Proportion of He:Ne gases in laser production
a)10:1
b)1:10
c)9:1
d)1:9

16.Which part is act as active medium in semiconductor laser
a)P type
b)N type
c)depletion region
d)both P and N materials

17. Refractive index of core is _____ than cladding.
a)equal

b)greater
c)shorter
d)none of above

18. A fibre cable has an acceptance angle of $(30)^{\circ}$ and core refractive index of 1.4 calculate the refractive index of cladding.
a)1.71
b)1.75
c)1.69
d)1.77

19. Calculate the V number of an optical fibre having numerical aperture 0.25 and core diameter 20 $\mu m$ if it is operated at 1.55 $\mu m$
a)10.5
b)10.125
c)10.75
d)10.52

20. The core diameter of a multimode step index fibre is 50 $\mu m$. The numerical aperture is 0.25. Calculate the number of guidedmodes at an operating wavelength of 0.
a)1370
b)1375
c)1385
d)1470

21.Dimension of nanomaterial in order of
a)1nm to 100nm
b)1nm to 10nm
c)$1\mu m\ to\ 100\mu m$
d)1mm to 100mm

22.scalar quantity has _____and vector quantity has _____
a)magnitude and direction , magnitude and direction
b)magnitude only , magnitude and direction
magnitude , magnitude only
direction , magnitude

23.Find the divergence of the vector $x\hat{}2\ y\hat{\imath}-(z\hat{}3-3x)\ \hat{\jmath}+4y\hat{}2$
a)2xy
b)xy
c)2x
d)2y

24.The trajectory of an electron under the influence of a uniform magnetic field, when it is injected in the perpendicular direction to the magnetic field is
a)circular
b)helix
c)linear
d)parabolic

25.Which of the following approaches is used in ball milling method to prepare nanomaterial?
a)both top ddown and bottom up
b)neither top down nor bottom up
c)top down
d)bottom up

26.In graded index optical fibre , the refractive index of core is
a)same as cladding
b)same at core cladding interface
c)decreasing withincreasing radial distance from the fiber axis
d)uniform

ım this phenomenon is called _____

ıa dark band corresponding to the wavelength 5500 is seen in the spectrum . Find the refractive index of liquid.

ilm . If the light used has wavelength 5900 .Find the seperation between consecutive bright fringes.

ıvelength of light used is 5890

es/cm on the gratting surface.

n it.

).75