# SCIENCE

1) for the hydrogen atom, which series describs electron transist-ion to the N=1 orbit, the lowest energy electron orbit?

a)lyman series

b)balmer series

c)paschen series

d)non

2)electric current may be expredssed in which one of the following units?

a) coulombs/volt

b) joules

c) coulombs/second

d) a and b both

3) a newton is equal to which of the following?

a) kg meter persecond

b) meter

c) kg meter persecond squared

d) non

4) the work done by a friction force is...

a) always positive

b) always negative

c) always zero

d) a,b both

5) as defined in physics,work is...

a) a scalar quantity

b) always zero

c) a&b both

d) non

6) two forces have magnitades of 11 newtons and 5 newtons.the magnitade of their sum could NOT be equal to which of the following values?

a)16 newtons

b)5 newtons

c)9 newtons

d)7 newtons

7) a block of metal which weighs 60 newton in air and 40 'newtons under water has a density, in kg per meter cubed,of

a) 1000

b) 3000

c) 5000

d) 7000

8) if the distance between two objects each of mass 'M',is triped,the force of attractionn between the two objects is...

a)1/2 the original force

b)1/3 the original ferce

c)1/9 the original force

d) non

9) in physics a radian per second is a unit of..

a) angular displacement

b) angular velocity

c)a&b both

d)non

10) if the resultant force acting on a body of constant mass is zero the body's momentam is...

a) increasing

b) decreasing

c)a&b both

d) constant

11) what is the name of the 1st american physicist to win two nobel prizes?

a) (JOHN) Bardeen

b) Robart

c) Newton

d) Non

12) which of the following scientists is responsible for the exctusion principle which states that two objects may NOT occupy the same space at the same time? was it?

a) Heisenberg

b) Bohr

c) Teller

d) Payli

13) who shared the nobal prize in physics in 1909 with guglielmo marconi for his contribution to the development of wireless telegraphy?

a) DIRAC

b) (CARL FERDINAND) BRAUN

c) a&b both

d) non

14) name the female physicist who receivedthe nobel prize in 1963 for her discovery concerning the shell structure of the nucleus

a) Mariska

b) Karli

c) ( Maria goeppert ) Mayer

d) non

15) the force acting between two point charges can be computed using which of the following laws?

a) Ohm's law

b) Ampere's law

c) Coulomb's law

d) b&c both

16) induced electric currrents can be explained using which of the following laws?

a) Gauss's law

b) Faradgy's law

c)Ohm's law

d) non

17) for a negative point charge the electric field vectors

a) cricle the charge

b)cross at infinity

c) point radially in toward the charge

d) non

18) a two farad and a four farad capacitor are connectet in series what single capacitance is 'equivalent' to this combination?

a)4/3 farads

b)3/4 farads

c)a&b both

d) non

19) an infinitely long wire carrics a current of 3 amps.the magnetic field outside the wire?

a)point inward

b)is zero

c)cricles the wire

d)non

20) two steel balls another as the mass of 1 of the ball is /doubled, the gravitational force of attraction between them is..

a) quartered

b) doubled

c) haved

d) b&c both

21) as a pendulum is raised to higher altitudes its period

a) increases

b) remains the same

c) decreases

d) non

22) two vibrating particles that are "out of phase" differ

in the phase of their vibration by..

a)1/4 cycle

b)3/4 cycle

c)1/2 cycle

d) non

23) the SI unit of pressure is the

a)Torr

b)Atmosphere

c)Pascal

d)Dyne

24) an electroscope charged without contacting a charged body is charged by..

a) induction

b) convection

c) condecting

d) insulation

25) to convert a galvanometer to a voltmenter you should add a..

a) high resistance in series

b) low resistance in series

c) non

d) a&b both

1)a 2)c 3)c 4)a 5)a 6)b 7)b 8)c 9)b 10)d 11)a 12)d 13)b 14)c 15)c 16)b 17)c 18)a 19)c 20)b 21)a 22)c 23)c 24)a 25)a

26)the michelson interferometer was designed to study the nature of..

a) water waves

b) an 'ether'

c) sound waves

d) non

27) the millikan experiment showed the electric charge was..

a) negative

b) positive

c) quantized

d) non

28) when a metal becomes a superconductor, there is a tremendous decrease in its..

a) total volume

b) length

c) electrical resist

d) non

29) in the sun, helium is produced from hydrogen by..

a) radioactive decay

b) fission

c) a&b both

d) fusion

30) the idea that electrons revolved in orbits around the nucles of an atom without radiating energy away from the atom was postalated by..

a) Tompson

b) Ruther ford

c) Bohr

d) Einstein

31) alpha particles are nuclei of..

a) hydrogen

b) oxygen

c) helium

d) nitrogen

32) the 1st instrument for measuring tempreture was the gas thermoscope invented by.

a) Celsius

b) Centigrade

c) cralileo

d) Fahrenheit

33) if viewed on an oscilloscope the loudness of a sound wave would be associated with the wave's..

a) frequency

b) velocity

c) wavelength

d) amplitude

34) in radioactive decay , the emission of an electron is characteristic of..

a) alphadecay

b) gamma decay

c) beta decay

d) x-rays

35) kinetic energy is energy of..

a) position

b) motion

c) radiation

d) non

36) what is the SI unit of pressure?

a) pascal

b) dyne

c) torr

d) kelvin

37) whose principle or law states that each point on a wave front may be considered a new wave source? is it.

a) snell's law

b) young's law

c) huygen's law

d) non

38) the collision between a photon and a free electron was first exaplained by which of the following scientists?

a) Elnestein

b) Compton

c) a&b both

d) non

39) which of the following colors of visible light has the longest wavelength? is it...

a) violet

b) yellow

c) green

d) red

40) the value of G, the universal gravitational constant , was measured exaperimentally by..

a) newton

b) copernicus

c) cavendish

d) non

26)a 27)c 28)c 29)d 30)c 31)c 32)c 33)d 34)c 35)b 36)a 37)c 38)b 39)d 40)c

(41) Velocity of sound depends upon following characteristic of medium:

(a)temperature

(b)length

(c)mass

(d)none of the above

(42) frequency of the following is less than audible waves:

(a)Intrasonic

(b)ultrasonic

(c)supersonic

(d)none of the above

(43) If ‘s’ is loudness and intensity is dinoted by ‘I’ then as represents.

( a)arbitrariness

(b)sensitiveness

(c)Roughness

(d)Bel

(44)Threshold of hearing has its intensity level:

(a)10 db

(b)50 db

(c)100 db

(d)0 db

(45)sound level with its intensity level greater than 120 db is due to

(a)Normal conversation

(b)whisper

(c)Guitar

(d)painful sound

(46)If the intensity level of sound changes by 100 times its original the increase in db is:

(a)10 db

(b)100 db

(c)20 db

(d)40 db

(47)the ideal absorber of the sound :

(a)open window

(b)Heavy curtain

(c)carpet

(d)perforated

(48)Reverberation time is:

(a)Directly proportional to volume

(b)Inversely proportional to volume

(c)Equal to volume

(d)None of this

(49)The preferred one for acoustically correct auditorium

(a)parallel walls

(b)splayed walls

(c)curved walls

(d)white wall

(50)Following is merely a sensation

(a)Loudness

(b)Intensity

(c)Reverberation

(d)Bel

(51)Frequency of ultrasonic wave is :

(a)Less than 20 HZ

(b)More than 20 KHZ

(c)a and b both

(d)None of this

(52)The audible limit of sound lies in between :

(a)20 HZ to 2 KHZ

(b)20 HZ to 20 KHZ

(c)20 HZ to 20 MHZ

(d)None of this

(53)The frequency ultrasonic ultrasonic waves can be calculated using the formulal given by :

(a)n=1/2√y/p

(b)f-1/2r , 1/√2c

(c)n=1/2t√y/p

(d)None of this

(54)Velocity of ultrasonic is solid medium can be calculated using the formula :

(a)u=√rp/p

(b)u=√k/p

(c)u=√y/p

(d)none of this

(55)Depth of seep is determined by the formula :

(a)d=v*t/2

(b)b=2v/t

(c)d=2t/v

(d)none of this

(56)Velocity of ultrasonic in water medium is of the

order of :

(a)340 m/s

(b)1700 m/s

(c)5500 m/s

(d)none of this above

(57)SONAR is used to detect the position of :

(a)Icebergs, Submarines in water

(b)Mountain

(c)Airplane in air

(d)None of this

(58)Ultrasonic wave can be produced by using :

(a)Electric oscillator

(b)Margnetortriction oscillator

(c)piero-electril oscillator

(d)none of this

(59)piezoelectric effect is observed in the material like :

(a)Iron

(b)lead

(c)Quartz

(d)Nac 1

(60)Ultrasonic wave can travel long distances due to its :

(a) High frequency

(b)High intensity

(c)High wavelength

(d)None of this

(61)Types of basic crystal system are :

(a)seven

(b)four

(c)Fourteen

(d)ten

(62)Based an bonding types of solids are :

(a)seven

(b)four

(c)Fourteen

(d)ten

(63)Atomic radius of FCC crystal is given by :

(a)$\sqrt{2}/4a$

(b)$a\sqrt{2}/4$

(c)$a/4\sqrt{2}$

(d)none

(64)Atomic radius of BCC crystal is given by the formula:

(a)$\sqrt{3}/4a$

(b)$a/4\sqrt{3}$

(c)a√3/4

(d)none

(65)Atomic packing efficiency for SC crystal is :

(a)52%

(b)25%

(c)68%

(d)none

Ans.

(41-a)(42-a)(43-b)(44-d)(45-d)(46-c)(47-a)(48-a)(49-b)(50-a)(51-b)(52-b)(53-a)(54-c)(55-a)(56-b)(57-a)(58-c)(59-c)(60-a)(61-a)(62-c)(63-b)(64-c)(65-a)

(66)Atomic packing efficiency for FCC crystal is :

(a)47%

(b)68%

(c)74%

(d)none

(67) Types of main Bravais Latlice are:

(a)seven

(b)four

(c)three

(d)ten

(68)The fill factor of a solar cell:

(a)always greater than one

(b)always less than one

(c)lies between one and two

(d)none

(69)Resistivity of metal various with temperature in the following way:

(a)$p \alpha 1/t^2$

(b)$P \alpha T$

(c)$p \alpha 1/T$

(d)$P \alpha t^2$

(70) In a metal conduction band and valence band:

(a)separated by very small band gap

(b)separated by large band gap

(c)overlap each other

(d)none

(71) Energy band gap for Si is :

(a)0.7 EV

(b)1.12 EV

(c)0.3 EV

(d)1.5 EV

(72)Photodiode operators in :

(a)forward based condition

(b)Reversed based condition

(c)forward and reverse based condition

(d)none of this

(73)Zener diod is used as a :

(a)Voltage amplifier

(b)Voltage divider

(c)Voltage regulator

(d)none of this

(74)LDR is used as:

(a0Display devices

(b)Voltages regulator

(c)Counting devices

(d)None of this

(75)The mathematic expression of Hall Voltage is :

(a)BI

(b)BIW

(c)BW/nel

(D)IW/Neb

(76)In solar cell, at open circuit voltage condition the resistance in the circuit is:

(a)minimum

(b)zero

(c)maximum

(d)medium

(77)A semiconductor behaves as a perfect insulator:

(a)at room temperature

(b)a high temperature

(c)at low temperature

(d)at 0°K

(78)The p-n junction is:

(a)solid state laser

(b)Lonic laser

(c)semiconductor laser

(d)gaseous laser

(79)which of the following semiconductor material can the semiconductor laser

(a)G a AS

(b)lnP

(c)G a lnp

(d)All Above

(80)Which of the following is the active medium in ND : YAG laser

(a)ND

(b)ND+3 lons

(c)YAG

(d)ND : YAG

(81)which of the following is the three level system:

(a)He – Ne – Laser

(b)ND : YAG Laser

(c)semiconductor laser

(d)Ruby Laser

(82)Laser Leam is highly coherent so it can be used in

(a)polarization

(b) interference

(c)diffraction

(d)none

(83)the population inversion in CO□ laser in producted by:

(a)Inelastic atom-atom collision

(b)optical pumping

(c)electric discharge

(d)chemical reaction

(84)the main reason behind popularity of optical fire is:

(a)loss free

(b)high resistance

(c)large diameter

(d)high density

(85)for short distance communication we prefer….

(a)single mode fiber

(b)multimode fiber

(c)none of this

(d)a & b both

(86)Electrical conductivity if metal is due to

(a)all the electron of metal

(b)free electron of metal

(c)proton of metal

(d)none of this

(87)flow of current through a metal is…

(a)Directly pro optional to charge on dectron

(b) Directly proportional to drift velocity

(c)a & b both

(d)none of the above

(88)Ratio of thermal and electrical conductivity is

(a)Negative

(b)Directly proportional temperature

(c)Inversely proportional temperature

(d)all this

(89)wavelength of matter waves is independent of…

(a)mass

(b)velocity

(c)Momentum

(d)charge

(90)A superconductor at super conducting state having…

(a)low resistance

(b)High resistance

(c)Zero resistance

(d)none of this

(91)Choose which is not a super conductor :

(a)A1

(b)Au

(c)FE

(d)Hg

(92)step index fiber offers…

(a)Low attenuation , high band width

(b)High attenuation , low band width

(c)low attenuation , low band width

(d)none of this

(93)Attantion is expressed in…

(a)watts

(b)watts / kilometer

(c)db

(d)db / kilometer

(94)Optical fibers are immune to…

(a)electro magnetic interference

(b)radio frequency interference

(c)a & b both

(d)none

(95)N.A. depends upon

(a)Density of material

(b)Refractive indicates of core and cladding

(c)a & b both

(d)Temperature of fiber

(96)To prevent optical fiber form contamination we have

(a)sheath

(b)cladding

(c)core

(d)all this

(97)N.A. for a fiber with ore index n1=1.61 and cladding index n2=1.55 is…

(a)1.435

(b)0.0435

(c)0.435

(d)2.435

Ans.

(66-c)(67-c)(68-b)(69-c)(70-c)(71-b)(72-b)(73-c)(74-c)(75-a)(76-c)(77-d)(78-c)(79-a)(80-b)(81-d)(82-b)(83-d)(84-a)(85-a)(86-b)(87-c)(88-b)(89-d)(90-c)(91-c)(92-a)(93-d)(94-c)(95-b)(96-a)(97-c)