Q. 1 When light of suitable frequency is incident on metallic surface, the electrons are emitted from metal surface, this effect is _____.

(a) Photoelectric effect

(b) Thermoelectric effect

(c) Heating effect of electric current

(d) Seebeck effect

Ans. : (a)

Q. 2 According to Planck's theory, Energy is not emitted or absorbed continuously, but in discrete packets. These energy packets are called as_____.

(a) Electrons

(b) Protons

(c) Photons

(d) Neutrons

Ans. : (c)

Q. 3 Light can behave_____.

(a) like a wave

(b) Like a particle

(c) both wave & particle

(d) None of these

Ans. : (c)

Q. 4 Photons are electrically_____.

(a) Positive

(b) Negative

(c) Neutral

(d) None of these

Ans. : (c)

Q. 5 Photons travel with a speed_____.

(a) Positive

(b) Less than speed of light

(c) More than speed of light

(d) Equal to that of light.

Ans. : (d)

Q. 6 Energy of photon is given by, _____.

(a) $E = h/v$ (b) $h = E/v$

(c) $E = h + v$ (d) $E = hv$

Ans. : (d)

Q. 7 Which of the following is a correct relation between v and λ?

(a) $c = v + \lambda$

(b) $v = c\lambda$

(c) $c = v\lambda$

(d) $\lambda = cv$

Ans. : (c)

Q. 8 Which of the following is a correct relation between v and c?

(a) $c = v + \lambda$

(b) $v = c/\lambda$

(c) $v = c\lambda$

(d) $\lambda = cv$

Ans. : (b)

Q. 9 The energy of photon of wavelength λ is _____.

(a) $E = h\lambda / c$

(b) $E = h / c\lambda$

(c) $E = hc + \lambda$

(d) $E = hc / \lambda$

Ans. : (d)

Q. 10 The ratio of photon energy to its frequency is, _____.

(a) Planck's constant

(b) Poisson's ratio

(c) Joule's constant

(d) Stoke's constant

Ans. : (a)

Q. 11 The value of h is, _____.

(a) 3.36×10^{-34} Js

(b) 6.63×10^{-34} Js

(c) 6.63×10^{-27} Js

(d) None of these

Ans. : (b)

Q. 12 Photon is_____.

(a) Indivisible entity

(b) Divisible entity

(c) Electrically positive

(d) Electrically negative

Ans. : (a)

Q. 13 Photons are, _____.

(a) Deflected by magnetic field

(b) Deflected by electric field

(c) Do not ionize

(d) Ionize

Ans. : (b)

Q. 14 As per Einstein's theory of relativity, _____.

(a) $E = m/c^2$

(b) $E = mc^2$

(c) $E = mc$

(d) $E = m/c$

Ans. : (b)

Q. 15 The emission of Photoelectron takes place is_____.

(a) $v < v_0$

(b) $v > v_0$

(c) $v_0 > v$

(d) v not equal to v_0

Ans. : (b)

Q. 16 The amount of energy required to separate the electron from atom is called as_____.

(a) Kinetic energy

(b) Potential energy

(c) Photoelectric work function

(d) Light energy

Ans. : (c)

Q. 17 The value of Photoelectric work function depends on, _____.

(a) Nature of metal

(b) Speed of photons

(c) Medium

(d) Area of metal plate

Ans. : (a)

Q. 18 Threshold frequency of a metal is the frequency of incident light at which_____.

(a) minimum, emission does not take place

(b) Maximum, emission not take place

(c) minimum, emission just begin

(d) maximum, emission just begin

Ans. : (c)

Q. 19 The value of photoelectric work function & threshold frequency changes from_____.

(a) Place to place
(b) Time to time
(c) One point to other
(d) Metal to metal

Ans. : (d)

Q. 20 The negative potential given to cell at which photoelectric current becomes zero is_____.

(a) Photopotential
(b) Stopping potential
(c) Light potential
(d) zero potential

Ans. : (b)

Q. 21 Photoelectric current is directly proportional to_____.

(a) Speed of photon
(b) Energy of photon
(c) Frequency of light
(d) Intensity of incident light

Ans. : (d)

Q. 22 The velocity of photoelectron is directly proportional to_____.

(a) Speed of photon
(b) Temperature of metal
(c) Frequency of light
(d) Intensity of incident light

Ans. : (c)

Q. 23 The maximum K.E of photoelectrons depends on_____.

(a) Intensity & Frequency both
(b) Stopping potential
(c) Frequency of light
(d) Intensity of incident light

Ans. : (c)

Q. 24 Which of the following is not application of photocell_____.

(a) Burglar alarm
(b) Lux meter
(c) Automatic street light controller
(d) Cancer cure

Ans. : (d)

Q. 25 The principle of LDR is_____.

(a) resistance decreases as intensity of light increases
(b) resistance increases as intensity of light increases
(c) resistance increases as frequency of light increases
(d) Number of photoelectrons increases with intensity

Ans. : (a)

Q. 26 Which of the following is not application of LDR?

(a) Security alarm
(b) smoke detector
(c) dental surgery
(d) street light control

Ans. : (c)

Q. 27 Stopping potential for photoelectrons _____.

(a) Does not depend on frequency of incident light
(b) does not depend on nature of cathode material
(c) Depends on both frequency of incident light and nature of cathode material
(d) depends on intensity of incident light

Ans. : (c)

Q. 28 Photons of frequency υ fall on metal surface for which threshold frequency υo , then _____.

(a) All ejected electrons have the same kinetic energy h ($\upsilon - \upsilon_o$)
(b) The ejected electron have a distribution of kinetic energy from zero to ($\upsilon - \upsilon_o$)
(c) The most kinetic energetic electron have KE = hυ
(d) The average kinetic energy of electrons is huo

Ans. : (a)

Q. 29 The photoelectric work function of photosensitive metal depends on _____.

(a) the frequency of incident light
(b) Threshold frequency
(c) Threshold wavelength
(d) Both (b) and (c)

Ans. : (d)

Q. 30 The energy of photon is 6 x 10^-19 J, its wavelength will be _____.

(a) 3.3×19^{-9} m (b) 3.3×10^{-8} m
(c) 3.3×10^{-6} m (d) 3.3×10^{-7} m

Ans. : (d)

Q. 31 The photoelectric work function of photosensitive material is 4.8×10^{-19} J. maximum wavelength is _____.

(a) 4144 A (b) 4.144 A

(c) 414.4 A (d) 0.4441 A

Ans. : (a)

Q. 32 The approximate wavelength of a photon energy 2.48 eV is _____.

(a) 500 angstrom

(b) 1000 angstrom

(c) 2000 angstrom

(d) 5000 angstrom

Ans. : (d)

Q. 33 If the photoelectric work function of certain metal is 2×10^{-19} J, the its threshold frequency will be _____.

(a) 3×10^{12} Hz

(b) 3×10^{13} Hz

(c) 3×10^{14} Hz

(d) 2×10^{15} Hz

Ans. : (c)

Q. 34 The radiation of suitable frequency and intensity when incident on metal surface result in emission of photoelectrons. If the photoelectric work function of the metal surface is 1.32×10^{-12} J, Calculate the threshold frequency of the metal surface (Given: Planck's constant, $h = 6.625 \times 10^{-34}$ Js). _____.

(a) 0.199×10^{22} Hz

(b) 199×10^{19} Hz

(c) Both (a) and (b)

(d) 1999×10^{22} Hz

Ans. : (c)

Q. 35 The maximum kinetic energy of emitted photoelectrons is _____.

(a) Dependant upon the frequency of incident radiations

(b) independent of intensity of incident radiation

(c) Dependant upon the wavelength of incident radiations

(d) All of the above

Ans. : (d)

Q. 36 The stopping potential of photosensitive materials is a functions of _____.

(a) the frequency of incident radiations

(b) The intensity of incident radiations

(c) The angle of incidence of incident radiations

(d) None of the above

Ans. : (a)

Q. 37 Threshold wavelength of certain metal is 2750 Angstrom, minimum energy of photon producing photoelectric effect is _____.

(a) 0.0045 eV

(b) 4.5 eV

(c) 0.045 eV

(d) 0.0045 eV

Ans. : (b)

Q. 38 The wavelength of 1 keV photon is 1.24×10^{-9} m. The frequency of 1 MeV photon is _____.

(a) 1.24×10^{15} Hz

(b) 2.4×10^{15} Hz

(c) 1.24×10^{20} Hz

(d) 2.4×10^{20} Hz

Ans. : (d)

Q. 39 The threshold wavelength of photoelectric emission of a metal is 4000 A. Then the minimum energy required for photoelectric effect is _____.

(a) 4.96 eV (b) 3.1 eV

(c) 49.6 eV (d) 31 eV

Ans. : (b)

Q. 40 The threshold wavelength of silver is 4000 A when ultraviolet wavelength 2000 A is incident on it, the energy of photoelectron will be_____.

(a) 1.23×10^{-19} J

(b) 4.97×10^{-19} J

(c) 8.23×10^{-19} J

(d) 9.23×10^{-19} J

Ans. : (b)

Q. 41 Light of wavelength 400 nanometer and 800 nanometer produces photoemission in photo emitters. The respective ratio of the work function of two emitters is _____.

(a) 1 : 2 (b) 1 : 4

(c) 2 : 1 (d) 4 : 1

Ans. : (c)

Q. 42 The frequency of incident light below which no photoelectric emission takes place is called _____.

(a) Threshold frequency
(b) Source frequency
(c) Both (a) and (b)
(d) None of the above

Ans. : (a)

Q. 43 In photoelectric emission, energy of emitted electrons is _____.

(a) Same as that of incident photon
(b) Greater than that of incident photon
(c) Less than that of incident photon
(d) Independent of intensity of incident radiation

Ans. : (c)

Q. 44 In Coolidge X-ray tube, electrons are produced due to process known as_____.

(a) Photoelectric emission
(b) Thermionic emission
(c) Ultrasonic emission
(d) Hydraulic emission

Ans. : (b)

Q. 45 When fast moving electrons are suddenly stopped then are produced_____.

(a) Laser
(b) Current
(c) X-rays
(d) None of these

Ans. : (c)

Q. 46 Out of the following, choose incorrect statement for X-rays_____.

(a) X rays are used to detects fractures of bone
(b) X-rays can be deflected by electric and magnetic field
(c) X-rays can be used to detects flaws in metal casting
(d) X-ray travel with speed of light

Ans. : (b)

Q. 47 Which of the following is/are applications of X-rays?

(a) Used in treatment of Cancer
(b) Used to study crystal Structure
(c) Used in chemical analysis
(d) All of above

Ans. : (d)

Q. 48 In the process of X-ray production, the intensity of X-rays can be controlled by _____.

(a) Adjusting filament current
(b) Adjusting P.D. between cathode and anode
(c) Adjusting angle of target
(d) Adjusting cooling rate

Ans. : (b)

Q. 49 Which of the following is not a property of X-ray?

(a) Have high penetrating power
(b) Produce photoelectric effect
(c) Affect photographic plates
(d) Get deflected by magnetic or electric fields

Ans. : (d)

Q. 50 X-rays travel with the speed of light. X-rays produces ionization in the gases_____.

(a) True, True
(b) True, False
(c) False, True
(d) False, False

Ans. : (b)

Q. 51 Which of the following is not an application of X-Ray?

(a) To detect crack in body of aero plane
(b) To detect smuggling gold at airport
(c) Used as sensor in automation industry
(d) To detect crack in bridge

Ans. : (c)

Q. 52 X-rays are produced by X-ray tube working on 40 kV. The minimum wavelength of X-ray is_____.

(a) 310 A
(b) 0.310 A
(c) 3100 A
(d) 31.0 A

Ans. : (b)

Q. 53 The operating voltage of X-ray tube is 40 kV. The maximum speed of electrons striking the surface of anode is _____.

(a) 1.18×10^6 m/s
(b) 1.18×10^{12} m/s
(c) 1.18×10^8 m/s
(d) 1.18×10^6 m/s

Ans. : (c)

Q. 54 Which of the following is used for scanning of bones?

(a) X-rays
(b) Lasers
(c) Light coming from ordinary torch
(d) None of the above

Ans. : (a)

Q. 55 Calculate the operating voltage of X-ray tube which emits x-ray of wavelength 0.265 Ao. _____.

(a) 46,792.45 V
(b) 46.792 kV
(c) Both (a) and (b)
(d) 0.0000213 V

Ans. : (c)

Q. 56 which of the following is used to determine the crystal structure of an element?

(a) LASER
(b) Sodium source
(c) X-rays
(d) Mercury source

Ans. : (c)

Q. 57 Calculate the frequency of X-rays emitted from X-ray tube operating at 80 kV (Given velocity of light $c = 3 \times 10^8$ m/s). _____.

(a) 19.35×10^{18} Hz.
(b) 1.935×10^{18} Hz
(c) 0.155 Hz
(d) None of the above

Ans. : (a)

Q. 58 In production of X rays by Coolidge tube, the intensity and quality of x-rays _____.

(a) can be controlled independently
(b) Cannot be controlled independently
(c) Can be controlled dependently
(d) None of the above

Ans. : (c)

Q. 59 The minimum wavelength of X-ray is given as _____

(a) $\lambda_{min} = 12400\ A/V$
(b) $\lambda_{min} = 12400\ A \times V$
(c) $\lambda_{min} = V/12400\ A$
(d) $\lambda_{min} = V^2/12400\ A$

Ans. : (a)

Q. 60 Calculate the operating voltage of X-ray tube which emits x-ray of wavelength 0.1 Angstrom _____.

(a) 124000 V
(b) 124 kV
(c) Both (a) and (b)
(d) 1240 kV

Ans. : (c)

Q. 61 In Coolidge tube, a suitable potential difference is maintained between the cathode and target using _____.

(a) Cooling system
(b) Transformer
(c) Filament
(d) Molybdenum Shield

Ans. : (b)

Q. 62 X-rays are also called as _____.

(a) Newton's ray
(b) Rontgen Ray's
(c) Reynolds ray
(d) Infrared rays

Ans. : (b)

Q. 63 Which of the following is a unique property of laser?

(a) Directional
(b) Single wavelength
(c) Coherence
(d) All of them.

Ans. : (d)

Q. 64 LASER stands for, _____.

(a) Light amplification by stimulated emission of radiation
(b) Light above stimulated emission of radiation
(c) Light amplification by stimulated electron refraction
(d) Light amplification by spontaneous emission of radiation

Ans. : (a)

Q. 65 In the process of spontaneous emission, atom makes transition from_____.

(a) Ground state to excited state
(b) Excited state to ground state
(c) Low energy level to high energy level
(d) None of these

Ans. : (b)

Q. 54 Which of the following is used for scanning of bones?

(a) X-rays
(b) Lasers
(c) Light coming from ordinary torch
(d) None of the above

Ans. : (a)

Q. 55 Calculate the operating voltage of X-ray tube which emits x-ray of wavelength 0.265 Ao. _____.

(a) 46,792.45 V
(b) 46.792 kV
(c) Both (a) and (b)
(d) 0.0000213 V

Ans. : (c)

Q. 56 which of the following is used to determine the crystal structure of an element?

(a) LASER
(b) Sodium source
(c) X-rays
(d) Mercury source

Ans. : (c)

Q. 57 Calculate the frequency of X-rays emitted from X-ray tube operating at 80 kV (Given velocity of light $c = 3 \times 10^8$ m/s). _____.

(a) 19.35×10^{18} Hz.
(b) 1.935×10^{18} Hz
(c) 0.155 Hz
(d) None of the above

Ans. : (a)

Q. 58 In production of X rays by Coolidge tube, the intensity and quality of x-rays _____.

(a) can be controlled independently
(b) Cannot be controlled independently
(c) Can be controlled dependently
(d) None of the above

Ans. : (c)

Q. 59 The minimum wavelength of X-ray is given as _____

(a) $\lambda_{min} = 12400\ A/V$
(b) $\lambda_{min} = 12400\ A \times V$
(c) $\lambda_{min} = V/12400\ A$
(d) $\lambda_{min} = V^2/12400\ A$

Ans. : (a)

Q. 60 Calculate the operating voltage of X-ray tube which emits x-ray of wavelength 0.1 Angstrom_____.

(a) 124000 V
(b) 124 kV
(c) Both (a) and (b)
(d) 1240 kV

Ans. : (c)

Q. 61 In Coolidge tube, a suitable potential difference is maintained between the cathode and target using _____.

(a) Cooling system
(b) Transformer
(c) Filament
(d) Molybdenum Shield

Ans. : (b)

Q. 62 X-rays are also called as _____.

(a) Newton's ray
(b) Rontgen Ray's
(c) Reynolds ray
(d) Infrared rays

Ans. : (b)

Q. 63 Which of the following is a unique property of laser?

(a) Directional
(b) Single wavelength
(c) Coherence
(d) All of them.

Ans. : (d)

Q. 64 LASER stands for, _____.

(a) Light amplification by stimulated emission of radiation
(b) Light above stimulated emission of radiation
(c) Light amplification by stimulated electron refraction
(d) Light amplification by spontaneous emission of radiation

Ans. : (a)

Q. 65 In the process of spontaneous emission, atom makes transition from_____.

(a) Ground state to excited state
(b) Excited state to ground state
(c) Low energy level to high energy level
(d) None of these

Ans. : (b)

Q. 66 In the process of stimulated absorption, atom makes transition from_____.

(a) Ground state to excited state
(b) Excited state to ground state
(c) Low energy level to high energy level
(d) None of these

Ans. : (c)

Q. 67 What is the need to achieve population inversion?

(a) To excite most of the atoms
(b) To bring most of the atoms to ground state
(c) To achieve stable condition
(d) To reduce the time of production of laser

Ans. : (a)

Q. 68 During pumping, the atoms are excited to_____.

(a) Higher Exited States
(b) Lower Energy states
(c) Meta Stable states
(d) Not Excited

Ans. : (a)

Q. 69 In computer printers laser is used. _____.

(a) He-Ne gas
(b) Ruby
(c) Semiconductor
(d) CO_2

Ans. : (c)

Q. 70 Making population of higher energy state more than ground state is_____.

(a) Population hiker
(b) Population inversion
(c) Crowd maker
(d) None of these

Ans. : (b)

Q. 71 Proper Lasing action can be produced using_____.

(a) One level laser system
(b) Two level laser system
(c) Three level laser system
(d) None of these

ns. : (c)

72 He-Ne laser is a type of_____.

(a) Solid laser (b) Liquid laser
(c) Gas laser (d) None of these

. : (c)

Q. 73 Which pumping method is used in He-Ne laser? _____.

(a) Optical Pumping
(b) Electrical Excitation
(c) Chemical Pumping
(d) Direct Conversion

Ans. : (b)

Q. 74 The relaxation time for metastable state is_____.

(a) 10 year
(b) 1year
(c) 100 to 10000 sec
(d) 10^{-6} to 10^{-3} sec

Ans. : (d)

Q. 75 For stimulated emission to occur, the atom must remain in _____.

(a) Ground state
(b) Excited state
(c) Metastable state
(d) None of these

Ans. : (b)

Q. 76 The lasing action, when an atom undergoes stimulated emission, the number of photon emitted _____.

(a) Increases with every stages
(b) Decreases with every stages
(c) Remains constant
(d) Changes randomly in every stage

Ans. : (c)

Q. 77 In He-Ne laser, the respective ratio of He and Ne atoms is _____.

(a) 1 : 1 (b) 1 : 10
(c) 10 : 1 (d) 100 : 1

Ans. : (c)

Q. 78 The atoms in the ground state absorbs energy of incident photon and get excited to the higher energy level. This process is known_____.

(a) Spontaneous emission
(b) Stimulated emission
(c) Stimulated absorption
(d) Spontaneous absorption

Ans. : (d)

Q. 79 The process of raising atoms from _____state to _____ state is called as population inversion

(a) Ground, excited
(b) Excited, ground
(c) Ground , metastable
(d) Excited, metastable

Ans. : (a)

Q. 80 The size of nanoparticles is between _____ nm

(a) 100 to 1000 (b) 0.1 to 10
(c) 1 to 100 (d) 0.001 to 1

Ans. : (c)

Q. 81 Nanomaterials are the materials with at least one dimension measuring less than _____.

(a) 1 nm
(b) 10 nm
(c) 100 nm
(d) 1000 nm

Ans. : (c)

Q. 82 The four types of Artificial nanomaterials are _____.

(a) Carbon-based, non-metallic, composites and ceramics
(b) Carbon-based, metallic, composites and ceramics
(c) Carbon-based, non-metallic, composites and dendrimers
(d) Carbon-based, metallic, composites and dendrimers

Ans. : (d)

Q. 83 Which property of nanoparticles provides a driving force for diffusion?

(a) Optical Properties
(b) High surface area to volume ratio
(c) Sintering
(d) There is no such property

Ans. : (b)

Q. 84 The colour of the nano gold particles is _____.

(a) Yellow
(b) Orange
(c) Red
(d) Variable

Ans. : (d)

Q. 85 On both ends of the CNTs, which carbon nanostructure is placed?

(a) Graphite
(b) Diamond
(c) C_{60}
(d) Benzene

Ans. : (c)

Q. 86 The melting point of particles in nano form _____.

(a) Increases
(b) Decreases
(c) Remains same
(d) Increases then decreases

Ans. : (b)

Q. 87 The first talk about nano-technology was given by _____.

(a) Albert Einstein
(b) Newton
(c) Gordon E. Moore
(d) Richard Feynman

Ans. : (d)

Q. 88 Which of the processes of materials was not described as Nanotechnology?

(a) Separation
(b) Creation
(c) Processing
(d) Consolidation

Ans. : (b)

Q. 89 What's the procedure in Top-down fabrication method?

(a) Nano-particles → Powder → Bulk
(b) Powder → Bulk → Nano-particles
(c) Bulk → Powder → Nano-particles
(d) Nano-particle → Bulk → Powder

Ans. : (c)

Q. 90 Which of the following is an example of Bottom Up approach?

(a) Attrition
(b) Colloidal dispersion
(c) Milling
(d) Etching

Ans. : (b)

Q. 91 Which property of Nanomaterials make them suitable to be used for elimination of pollutants?

(a) High purity
(b) Better thermal conductivity
(c) Enhanced chemical activity
(d) Small size

Ans. : (c)

Q. 92 The nano particles from iron and palladium are used to produce _____.

(a) Magnets
(b) Magnetic lens
(c) Magneto meters
(d) Magnetic storage device

Ans. : (d)

Q. 93 Which nanomaterial is used for cutting tools?

(a) Fullerene
(b) Aerogel
(c) Tungsten Carbide
(d) Gold

Ans. : (c)

Q. 94 Nanoscale aluminium oxide increases the _____.

(a) Conductivity
(b) Resistance
(c) Ductility
(d) Stability

Ans. : (b)

Q. 95 _____ is the field in which the nano particles are used with silica coated iron oxide iron oxide.

(a) Magnetic applications
(b) Electronics
(c) Medical diagnosis
(d) Structural and mechanical materials

Ans. : (c)

Q. 96 Coating the nano crystals with the ceramics is carried that leads to _____.

(a) Corrosion
(b) Corrosion resistant
(c) Wear and tear
(d) Soft

Ans. : (b)

Q. 97 Due to _____ tensile strength some of the nano materials are used in air crafts.

(a) High (b) Low
(c) Moderate (d) No

Ans. : (a)

Q. 98 Compressive strength of nanotube _____ its tensile strength.

(a) is less than (b) is greater than
(c) is equal to (d) may be greater than

Ans. : (a)

Q. 99 The extensively used nano particles as catalyst is_____.

(a) Silver (b) Copper
(c) Gold (d) Cerium

Ans. : (c)

Q. 100 _____ contains nanoparticles prepared by using biologically processed metal ores.

(a) Homeopathic medicines
(b) Modern Antibiotics
(c) Ayurvedic Bhasmas
(d) Modern Cosmetics

Ans. : (c)

Q. 101 A material with all three dimension in Nano range is called _____.

(a) Micro-material
(b) Quantum wire
(c) Quantum well
(d) Quantum dot

Ans. : (d)

Q. 102 The melting point of particles in nano form _____.

(a) Increases
(b) Remains same
(c) Decreases
(d) Increases then decreases

Ans. : (c)

Q. 103 The word nano came from_____ .

(a) Greek word
(b) Italian word
(c) Latin word
(d) French word

Ans. : (a)

Q. 104 Size range on a nanoscale usually ranges from _____.

(a) 1-10 nm
(b) 1-100 nm
(c) 100-200 nm
(d) 0-1 nm

Ans. : (b)

Q. 105 Nanorods are the example of _____.

(a) One dimension nanomaterial
(b) Two dimension nanomaterial
(c) Three dimension nanomaterial
(d) Four dimension nanomaterial

Ans. : (a)

Q. 106 What ratio decides the efficiency of nanomaterial's _____.

(a) Weight / Volume
(b) Surface area / Volume
(c) Volume / Weight
(d) Pressure / Volume

Ans. : (b)

Q. 107 Who first used the term nanotechnology and when?

(a) Richard Feynman, 1959
(b) Norio Taniguchi, 1974
(c) Eric Drexler, 1986
(d) Sumio Iijima, 1991

Ans. : (a)

Q. 108 Which of these historical works of art contain nanotechnology?

(a) Medieval stained glass windows in churches
(b) Damascus steel swords
(c) Lycurgus cup
(d) All of the above

Ans. : (c)

Q. 109 Which one of the following materials cannot be seen by simple microscope?

(a) Nanomaterials
(b) Bulk materials
(c) Both (a) and (b)
(d) None of the above

Ans. : (a)

Q. 110 The bulk nanomaterials come under _____ dimensional nanomaterials?

(a) Zero (b) One
(c) Two (d) Three

Ans. : (d)

Q. 111 Nanometer is equal to _____.

(a) 10^{-3} m (b) 10^{-6} m
(c) 10^{3} m (d) 10^{-9} m

Ans. : (d)

Q. 112 Nanomaterial is not visible through the microscope or with the unaided eyes?

(a) False
(b) True
(c) May be True
(d) May be False

Ans. : (b)

Q. 113 The absorption rate of molecules in manoscale is _____.

(a) Maximum (b) Minimum
(c) Constant (d) Equal to bulk

Ans. : (a)

Q. 114 Gold nanoparticles melt at a temperature of _____.

(a) 300 °C
(b) 500 °C
(c) 1064 °C
(d) None of the above

Ans. : (a)

Q. 115 When the size of the nanomaterial is below 20 nm, _____ take place.

(a) Scattering
(b) Absorption
(c) Reflation
(d) Refraction

Ans. : (b)

Q. 116 when the size of the nanomaterial is greater than100 nm, _____ take place.

(a) Scattering
(b) Absorption
(c) Reflation
(d) Refraction

Ans. : (a)

Q. 117 In metals, the electrical conductivity _____ as the nanoparticle size decreases.

(a) Decreases
(b) Constant
(c) Increases
(d) None of the above

Ans. : (a)

Q. 118 Solids that are not magnetic can still show _____ properties when reduced to the nanoscale.

(a) Electric
(b) Magnetic
(c) Optical
(d) Mechanical

Ans. : (b)

Q. 119 Nano particles target the rare _____ causing cells and remove them from blood.

(a) Tumour
(b) Fever
(c) Infection
(d) Cold

Ans. : (a)

Q. 120 What is the branch of science that deals with nanoparticles?

(a) Microbiology
(b) Nanotechnology
(c) Quantum mechanics
(d) Biotechnology

Ans. : (b)

Q. 121 The properties like melting point, solubility, color, etc changes on varying the _____.

(a) Size
(b) Composition
(c) Surface properties
(d) None of the above

Ans. : (a)

Q. 122 The melting point of particles in nanoscale _____.

(a) Increases
(b) Decreases
(c) Remain same
(d) Increase then decrease

Ans. : (b)

Q. 123 Bhasma is the traditional _____.

(a) Ayurveda incense
(b) Indian Ayurvedic medicine
(c) Chinese Ayurvedic medicine
(d) None of the above

Ans. : (b)

Q. 124 Application of Bhasma is _____.

(a) Maintain required alkaline for healthy body.
(b) Clean the kidney, live and intestine.
(c) Maintain bones stronger.
(d) All of the above

Ans. : (d)

Q. 125 Bhasma are produced _____.

(a) Botanically (b) Biologically
(c) Chemically (d) All of the above

Ans. : (d)