

## EVERYDAY SCIENCE : PHYSICS - NO.5

Time: 30 minutes

Marks: 100

1. LASER is
  - A. Light amplification by stimulated emission of radiation.
  - B. Light amplified by simultaneous emission of radiation
  - C. Light amplification by super emission of radiation.
  - D. None of the above.
2. The energy possessed by the water collected in the reservoir of a dam
  - A. Kinetic energy
  - B. Mechanical energy
  - C. Electric energy
  - D. Potential energy
3. Laws of electrolysis was given by
  - A. Arrhenius
  - B. Bronsted – Lowery
  - C. Faraday
  - D. Ostwald
4. The unit of electric charge is
  - A. Ampere
  - B. Ohm
  - C. Volt
  - D. Coulomb
5. In an electrochemical cell, electrons flow from
  - A. Cathode to anode
  - B. Anode to cathode
  - C. Either cathode or anode
  - D. None of the above
6. The correct form of Einsteins mass-energy equation is \_\_\_\_\_
  - A.  $E = mc$
  - B.  $E = mc^2$
  - C.  $M = ec$
  - D.  $m = Ec^2$
7. Acceleration due to gravity on the moon is the acceleration  $1/6^{\text{th}}$  due to gravity on earth. If a balloon filled with the hydrogen is released on the moon
  - A. falls with acceleration  $g/6$
  - B. falls with acceleration less than  $g/6$
  - C. rises with uniform velocity
  - D. rises with acceleration less than  $g/6$
8. Which mirror is used as rear view mirror in vehicles
  - A. convex mirror
  - B. Concave mirror
  - C. plane mirror
  - D. metallic mirror
9. Optical fibres are related with
  - A. communication
  - B. light
  - C. computer
  - D. None of these
10. Brilliance of diamond is due to
  - A. shape
  - B. Cutting
  - C. reflection
  - D. total internal refecton
11. One can not see through fog because
  - A. fog absorbs light
  - B. the refractive index of fog is infinity
  - C. light suffers total reflection at the droplet in a fog
  - D. light is scattered by droplets in fog.
12. Golden view of sea shell is due to
  - A. diffraction
  - B. dispersion
  - C. polarization
  - D. reflection
13. Cyclotron is a device to
  - A. Accelerate neutrons
  - B. Accelerate electrons
  - C. Both (A) and (B)
  - D. None of these
14. If a stationary charge is put inside a magnetic field, then the charge will
  - A. move in straight line
  - B. move in circle
  - C. more in helix
  - D. remain stationary

15. At the magnetic poles of the earth, a compass needle will be  
A. Bent slightly vertical    B. Vertical    C. Horizontal    D. Inclined at  $45^\circ$  to the horizontal
16. When sugar is added to water, the surface tension of sugar solution is  
A. More than that of water    B. The same as that of water  
C. Less than that of water    D. Uncertain
17. An astronaut can't hear his companion at the surface of the moon because :  
A. Produced frequencies are above the audio frequencies  
B. There is no medium for sound propagation  
C. Temperature is too during night and too high during day  
D. There are too many craters on the surface of the moon
18. The ear phone of a telephone converts  
A. Mechanical energy into electrical energy  
B. Sound energy into electrical energy  
C. Electrical energy into sound energy    D. Electrical energy into mechanical energy
19. Earthquake is measured by  
A. Seismograph    B. Electroscope    C. Barometer    D. None of these
20. Pitch of a sound depends upon its  
A. wave length    B. Frequency    C. Amplitude    D. Overtones
21. Thermopile is used to  
A. Measure electric current    B. Measure potential difference  
C. Detect the pressure of heat radiation    D. None of the above
22. Rectifier is used for  
A. Giving constant current    B. Giving constant voltage    C. Converting DC to AC  
D. Converting AC to DC
23. Most of the light rays inside a tube-light is in the form of \_\_\_\_  
A. infrared light    B. visible light    C. ultra-violet light    D. Bright light
24. The triode was designed by  
A. Edison    B. Le.De.Forest    C. Flemming    D. Richardson
25. Electromagnetic waves transport  
A. Electric charge    B. Alternating current    C. Energy    D. Wave length
26. The back side of the stage of an auditorium should be  
A. straight    B. elliptic    C. parabolic    D. None of the above
27. Which of the following pairs are not inter-related to each other ?  
A. Carat-gold    B. Decibel-sound    C. Horse power-power    D. Ohm-acceleration
28. Thermal state of a body is defined by  
A. Temperature    B. Heat    C. Cold    D. None of the above
29. The temperature of the sun can be calculated from  
A. Newton's law of motion    B. Einstein's law of relativity  
C. Wein's law of displacement    D. Cannot be calculated
30. The  $\alpha$ - ray and  $\beta$ - ray in radioactivity was found by  
A. Madam Curie    B. Rutherford    C. Becquerel    D. Kaufmann

31. The half life of  $^{14}\text{C}$  is  
A.  $5692 \times 10^{10}$  years    B. 5692 years    C. 6592 years    D.  $6592 \times 10^{10}$  years
32. A binary digit is called  
A. word    B. code    C. bit    D. Digit
33. The force keeping the planets in a regular orbit is  
A. Electrostatic    B. Magnetic    C. Gravitational    D. Nuclear
34. Venturi meter is used to measure  
A. The mass of the liquid    B. The density of the liquid  
C. the rate of flow of the liquid    D. None of the above
35. When a soap bubble is charged, it is found to be  
A. increased in size    B. Decreased in size    C. of the same size  
D. varying in the size depending on the amount of the charge
36. The scientist who was conferred with all the three national awards : Padma Bhushan, Padma Vibhushan and Bharat Ratna.  
A. Dr. Vikram Sarabhai    B. Dr. Raja Ramanna  
C. Dr. A.P.J. Abdul kalam    D. Dr. Homi.J.Bhabha
37. A cylindrical lens is required to correct  
A. Astigmatism    B. Myopia    C. Presbyopia    D. Hyper metropia
38. Skating on ice is possible because of  
A. friction    B. regulation    C. sublimation    D. Evaporation
39. Cathode rays consists of  
A. Positively charged particles    B. Negatively charged particles  
C. Neutral particles    D. None of the above
40. The number of neutrons in an Uranium atom,  $^{238}\text{U}_{92}$  is  
A. 92    B. 238    C. 330    D. 146
41. Germanium is  
A. conductor    B. Insulator    C. Semi-conductor    D. Metal
42. Electronics is the study of  
A. flow of electrons    B. flow of molecules    C. flow of photons  
D. flow of elements
43. The smallest particle of a substance that can exist in free state are  
A. Atoms    B. Ions    C. Molecules    D. Electrons
44. With rise in temperature, the resistance of metals  
A. Decreases    B. Increases    C. Remains same    D. None of the above
45. The resistance of mercury disappears at  
A.  $0^\circ\text{C}$     B. below  $4^\circ\text{K}$     C. Above  $4^\circ\text{C}$     D.  $100^\circ\text{C}$
46. Colour of thin films result from  
A. Scattering of light    B. Dispersion of light  
C. Interference of light    D. Absorption of light
47. The instrument used for electrolysis is  
A. Watt meter    B. Volta meter    C. Volt meter    D. Ammeter
48. Friction can be reduced by changing over from  
A. potential to kinetic energy    B. sliding to rolling  
C. dynamic to static    D. rolling to sliding

49. If the earth is assumed to be a homogenous sphere and if, some how, it contracts to half its present size, the duration of the day will be  
A. 6 hours                      B. 12 hours                      C. 24 hours                      D. 48 hours
50. Which of following statements is incorrect ?  
A. The mass of a body is not the same as its weight  
B. The mass is a measure of quantity of matter whereas weight is a force  
C. The mass of a body varies from place to place but its weight remains constant.  
D. In the MKS system, mass is expressed in kilogram and weight in Newton.
51. If a conductor is touched by hand, the charge would leak to  
A. body of man      B. only to the hand      C. Earth                      D. the charge will not leak
52. Diffusion of light in atmosphere takes place due to  
A. Carbondioxide      B. Dust particles                      C. Helium                      D. Water vapour
53. A plant with green leaves placed in red light will appear  
A. Black                      B. Green                      C. Red                      D. Violet
54. A tennis ball will bounce  
A. higher on hills than on plains                      B. higher on plains than on hills  
C. equally on hills and plains  
D. higher either on hills or on plains depending upon the ground friction.
55. Name the first Indian Astronaut  
A. Kalpana Chawla      B. Rakesh Sharma      C. Kalpana Chaudhari      D. Chokila Iyer
56. The invisible water vapour in the atmosphere is termed as \_\_\_\_\_  
A. Smog                      B. Dewpoint                      C. Humidity                      D. Hoar frost
57. Meniscus of mercury in capillary is  
A. concave                      B. convex                      C. plane                      D. Cylindrical
58. When there are no external forces, the shape of a liquid drop is determined by  
A. surface tension of the liquid                      B. density of the liquid  
C. Viscosity of the liquid                      D. temperature of air only
59. A good lubricant should have  
A. high viscosity      B. low viscosity                      C. moderate viscosity      D. high density
60. A ring shaped piece of metal is heated. If the material expands, the hole will  
A. expand                      B. contract  
C. expand or contract depending on the width of the ring  
D. expand or contract depending on the value of the coefficient of expansion.
61. Solar energy is received by the earth through  
A. Radiation                      B. Conduction                      C. Convection                      D. Refraction
62. Water pipes burst in severe winter at hill stations because  
A. They contract on cooling                      B. Water in the pipe expands on freezing  
C. Water in the pipes contract                      D. Pipes expand on cooling.
63. Which waves are used in sonography ?  
A. microwaves      B. infra-red rays                      C. sound waves                      D. ultrasonic waves
64. Velocity of sound in vacuum (in m/s) is  
A. 0                      B. 340                      C. 156                      D. 1000

65. Who said, 'A body will remain at rest unless an external force acts on the body ?  
A. Newton                      B. Einstein                      C. Archimedes                      D. Galileo
66. An echo is heard when minimum distance of the reflecting surface is  
A. 10 cm                      B. 17 m                      C. 34 m                      D. 340 m
67. When ice melts in a beaker of water, the level of water in the beaker will  
A. increase                      B. decrease                      C. remain the same                      D. first increase then decrease
68. Unit of power is  
A. watt                      B. Decibel                      C. Ampere                      D. Volt
69. Insulators are substances with  
A. free electrons                      B. Bound electrons                      C. (A) & (B)                      D. None of the above
70. Which of the following electro magnetic waves are used in telecommunication ?  
A. x-rays                      B. Infrared                      C. Microwaves                      D. Ultraviolet
71. The radioactive element which is used for finding the age of fossils is ———  
A.  ${}^{12}_6\text{C}$                       B.  ${}^{14}_6\text{C}$                       C. Radio active nitrogen                      D. Radio active oxygen
72. The Indira Gandhi Atomic Research Centre is located in ———  
A. Maharashtra                      B. Tamil Nadu                      C. Uttar Pradesh                      D. Karnataka
73. The velocity of light is maximum in  
A. diamond                      B. water                      C. vacuum                      D. glass
74. In radioactivity, the mass number and the atomic number of a radio active nucleus does not change when it emits  
A. An alpha particle                      B. A beta particle                      C. A gamma ray                      D. All the three
75. The unit of electric charge is  
A. ampere                      B. Ohm                      C. volt                      D. coulomb
76. The distance traveled by a body in unit time is termed as  
A. Velocity                      B. Acceleration                      C. Speed                      D. Displacement
77. ——— is used for measuring flow of liquids  
A. Ammeter                      B. Venturimeter                      C. Galvanometer                      D. Resonance column
78. Wave theory of light was discovered by ———  
A. Issac Newton                      B. Christian Huygens                      C. Maxwell                      D. Theodore Miaman
79. A modern digital computer consists of  
A. Hardware only                      B. Software only  
C. Hardware and software                      D. Hardware, software and firmware
80. The refractive index for air is  
A. 0                      B. 1                      C. 2                      D. 1.5
81. A red light is used in a traffic signal because  
A. It has the longest wavelength and can be easily noticed from a long distance  
B. It is beautiful  
C. It is visible to people even with bad eye sight                      D. None of these
82. Water cannot be used to extinguish fire caused by an electric current because  
A. It may cause another short circuit                      B. it may cause hydrolysis  
C. it may cause electroduction                      D. it will spoil the wiring
83. Colour of a light is determined by its  
A. intensity                      B. amplitude                      C. velocity                      D. frequency
84. Using a sextant, we can measure the  
A. thickness of a paper sheet                      B. brightness of a wall at a large distance  
C. depth of a mine                      D. altitude of the sun

85. If we go to the Himalayas, we feel breathless because
  - A. it is very cold there
  - B. the density of air is much less on the hills. So oxygen content is reduced
  - C. the density of air is high on the hills. This reduces the oxygen content
  - D. None of these
86. An echo is produced by the ——— of sound waves
  - A. refraction
  - B. reflection
  - C. absorption
  - D. diffraction
87. A p-type semi conductor crystal has an excess of
  - A. Electrons
  - B. Holes
  - C. protons
  - D. none of the above
88. The energy of sun is produced by :
  - A. oxidation
  - B. nuclear fission
  - C. Nuclear fusion
  - D. Some other source
89. Fish plates are used in railway tracks
  - A. To avoid tracks being distorted due to temperature fluctuation
  - B. To control speed of the train
  - C. to connect two rails
  - D. to keep the rails equidistant
90. The element used in an electric filament is
  - A. copper
  - B. Aluminium
  - C. iron
  - D. Tungsten
91. During rusting
  - A. iron gains weight
  - B. iron loses weight
  - C. The weight of iron remains unchanged
  - D. Iron volatilizes
92. The passenger in a boat are not allowed to stand because
  - A. this will raise the centre of gravity and the boat will be rocked
  - B. this will lower centre of gravity and the boat will be rocked
  - C. the effective weight of system increases
  - D. of surface tension effects.
93. A fresh egg sinks in pure water but floats in salt water. This is because
  - A. Saline water is denser than pure water
  - B. Saline water is lighter than pure water
  - C. The viscosity of saline water is higher than that of pure water
  - D. the surface tension of saline water is lower than that of pure water.
94. The planet that has prominent rings around it is
  - A. Venus
  - B. Jupiter
  - C. Mars
  - D. Saturn
95. For measuring temperature near absolute zero, thermometer used is ———
  - A. Thermo-electric thermometer
  - B. Radiation thermometer
  - C. Magnetic thermometer
  - D. Resistance thermometer
96. Light from the sun reaches us in nearly
  - A. 200 seconds
  - B. 300 seconds
  - C. 500 seconds
  - D. 400 seconds
97. Which of the following heavenly bodies do not belong to the solar system
  - A. planets
  - B. pulsars
  - C. Comets
  - D. Asteroids
98. The colour of the ocean appears to be blue because the sun-light falling on it is
  - A. reflected
  - B. refracted
  - C. absorbed
  - D. scattered
99. Alternating current is converted to direct current by a
  - A. rectifier
  - B. oscillator
  - C. transformer
  - D. motor
100. Which of the following is not a primary colour?
  - A. blue
  - B. green
  - C. red
  - D. black

## Answers

1 A	2 D	3 C	4 D	5 B	6 B	7 A	8 A
9 A	10 D	11 D	12 C	13 B	14 D	15 B	16 A
17 B	18 C	19 A	20 B	21 C	22 D	23 C	24 B
25 C	26 C	27 D	28 A	29 C	30 B	31 B	32 C
33 C	34 C	35 A	36 C	37 A	38 A	39 B	40 D
41 C	42 A	43 C	44 B	45 B	46 C	47 B	48 B
49 A	50 C	51 C	52 B	53 A	54 A	55 B	56 C
57 B	58 A	59 A	60 A	61 A	62 D	63 D	64 A
65 A	66 B	67 C	68 A	69 B	70 C	71 B	72 B
73 C	74 C	75 D	76 C	77 B	78 B	79 D	80 B
81 A	82 A	83 D	84 D	85 B	86 C	87 B	88 C
89 B	90 D	91 A	92 A	93 A	94 D	95 C	96 C
97 B	98 D	99 A	100 D				