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CHAPTER 10

10. Miscellaneous

Modern physics

1. NOT Gate can be operated by-

- (A) Single diode (B) Two diodes
(C) Single Resistor (D) Single Transistor

2. Silicon is a-

- (A) Semiconductor (B) Insulator
(C) Conductor (D) Electric Resistor

3. What will be the effect on the resistance of a semiconductor on increasing its temperature?

- (A) Increase (B) Decrease
(C) Unchanged (D) Increase-decrease

4. For which one of the following, 'Diodes' are generally used for?

- (A) Rectification (B) Amplification
(C) Modulation (D) Filtration

5. What is the unit of the physical quantity, (Radioactive) Activity?

- (A) Radian (B) Becquerel
(C) Steradian (D) Kelvin

6. Which of the following is used for regulated electric supply?

- (A) Zener diode (B) Junction diode
(C) Gunn diode (D) Tunnel diode

Exp: Zener diode is a silicon semiconductor which is used to regulate the electric supply. It allows current to flow in forward direction.

7. Radio activity is due to (

- (A) Unstable nucleus
(B) Stable nucleus
(C) Stable electronic configuration
(D) On Stable electronic configuration

8. The width of depletion layer of a p-n junction

- (A) Decreases with light doping
(B) Increases with heavy doping
(C) Is independent of applied voltage
(D) Is increased under reverse bias

9. Curie is an unit of

- (A) Radioactivity
(B) Energy of Gamma rays
(C) Intensity of Gamma rays
(D) Work function

10. Which one among the following components is used as an amplifying device?

- (A) Transformer (B) Diode
(C) Capacitor (D) Transistor

11. Where is a transistor most likely to be found?

- (A) Wrist watch (B) Fuse
(C) Hearing aid (D) Fluorescent lamp

12. Which of the following is widely used in making semiconductor chips?

- (A) Radium (B) Sodium
(C) Germanium (D) Sulphur

13. Instrument used to measure the wind speed is:

- (A) Altimeter (B) Anemometer
(C) Chronometer (D) Dogometer

14. Anemometer is used to measure :

- (A) Direction of wind
(B) Speed of wind
(C) Pressure
(D) Speed of wind and time

15. An instrument used to measure the density of milk is :

- (A) Galactometer (B) Lactometer
(C) Calciometer (D) Polarimeter

16. Purity of Milk is measured by :

- (A) Hydrometer (B) Lactometer
(C) Thermometer (D) Polarimeter

17. The instrument for measuring intensity of earthquakes is called

- (A) Ediograph (B) Pantagraph
(C) Ergograph (D) Seismograph

18. Bolometer is used to measure.

- (A) Frequency (B) Temperature
(C) Velocity (D) Wavelength





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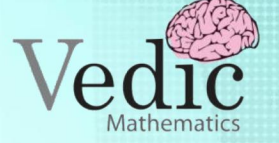
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19.The instrument used to see the distant objects on the Earth is

- (A) Terrestrial telescope
- (B) Astronomical telescope
- (C) compound microscope
- (D) Simple microscope

20.An instrument used to measure humidity is :

- (A) Anemometer
- (B) Hygrometer
- (C) Thermometer
- (D) Pyrheliometer

21.An instrument that records earthquakes is

- (A) Ergograph
- (B) Ediograph
- (C) Thermograph
- (D) Seismograph

22.Hydroscope is an instrument that shows changes in :

- (A) Sound under water
- (B) Atmospheric humidity
- (C) Density of liquid
- (D) Elevation of land

23.Sextant is an instrument used in which of the following?

- (A) Gynaecology
- (B) Navigation
- (C) Birth control
- (D) Medical treatment

24.Device used for the detection and measurement of all types of radiation (Alpha, Beta and Gamma)

- (A) Geiger counter
- (B) Polarimeter
- (C) Calorimeter
- (D) Radiometer

25.Instrument for measuring time is called ____ .

- (A) Diagonometer
- (B) Anemometer
- (C) Durometer
- (D) Chronometer

26. Meter in a vehicle that calculates distance covered by the vehicle is called ____.

- (A) Speedometer
- (B) Odometer
- (C) Thermometer
- (D) Kilometre

27.Who Invented Neon Lamp?

- (A) Vint Cerf
- (B) David Chaum
- (C) Georges Claude
- (D) Josephine Cochrane

28.Who Invented water turbine?

- (A) Enrico Fermi

(B) Adolf Gaston Eugen Fick

(C) Sandford Fleming

(D) Benoit Fourneyron

29.Who Invented Electric Stove?

- (A) Lloyd Groff Copeman
- (B) Bartolomeo Cristofori
- (C) Leonardo da Vinci
- (D) Philip Diehl

30.Electric tram was invented by?

- (A) Fyodor Pirotsky
- (B) Arthur Pitney
- (C) Firtz Pfleumer
- (D) Stephen Perry

31.Electric chair was invented by

- (A) Alfred P. Southwick
- (B) Isaac Singer
- (C) Murasaki Shikibu
- (D) Hanaoka Seish?

32.Who invented Rocket?

- (A) Rich K Goyle
- (B) E M Forster
- (C) Robert Goddard
- (D) James Anderson

33.Who invented the contact lens?

- (A) Enrico Fermi
- (B) Adolf Gaston Eugen Fick
- (C) Sandford Fleming
- (D) Benoit Fourneyron

34.Who established the foundations of the Quantum theory?

- (A) Max Planck
- (B) Mark Nicholas
- (C) Albert Einstein
- (D) Alfred Hitchcock

35.Who Invented the nuclear reactor?

- (A) Enrico Fermi
- (B) Adolf Gaston Eugen Fick
- (C) Sandford Fleming
- (D) Benoit Fourneyron

36.Who invented the Lightning Rod in 1749?

- (A) Benjamin Franklin
- (B) Nikola Tesla
- (C) Eli Whitney
- (D) George Washington

37.Who invented the vacuum pump?





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- (A) Otto von Guericke
(B) Cai Lun
(C) Melitta Bentz
(D) William Henry Fox Talbot

38. Who discovered television?

- (A) Michael Faraday (B) Joseph Henry
(C) Abbe Caselli (D) John Baird

39. Who invented Dynamite?

- (A) J B Dunlop (B) Alfred Nobel
(C) James Simons (D) Peter Hargreaves

40. Which of the following was invented by Sir Humphry Davy?

- (A) Safety Pin (B) Steam Engine
(C) Safety Lamp (D) X-Rays

41. Who invented Pentium Chip?

- (A) C. Kumar Patel (B) Tom Gunter
(C) Vince Emery (D) Vinod Dham

42. Who developed the theory of relativity?

- (A) Issac Newton (B) Charles Darwin
(C) Marie Curie (D) Albert Einstein

43. Who invented radar?

- (A) Fred Morrison
(B) A. H. Taylor and Leo C. Young
(C) Van Tassel
(D) W. K. Roentgen

44. Who discovered the colour photography?

- (A) Robert Noyce (B) Enrico Fermi
(C) John Logie Baird (D) James Clerk Maxwell

45. Who invented the electric tram?

- (A) James Cook (B) William Harvey
(C) Fyodor Pirotsky (D) Robert Boyles

46. Who discovered Uranus?

- (A) Sir Isaac Newton
(B) William Henry Fox Talbot
(C) William Herschel
(D) Nicolaus Copernicus

47. Who invented Space Pen?

- (A) Paul C. Fisher (B) Rudolf Diesel

- (C) Wright Brothers (D) Alexander Fleming

48. Who discovered Photon?

- (A) George Crum (B) Albert Einstein
(C) Henry Cavendish (D) Humphry Davy

49. Who invented Velcro?

- (A) Thomas Edison (B) William Harvey
(C) George de Mestral (D) Robert Boyles

50. Who invented the waterproof raincoat?

- (A) Robert Hooke (B) Cai Lun
(C) Charles Macintosh (D) William Harvey

51. Who discovered Neon?

- (A) Robert Noyce
(B) Enrico Fermi
(C) Morris W. Travers and William Ramsay
(D) Antonio de Ulloa and Charles Wood

52. Who discovered electricity and invented the lightning rod and bifocals?

- (A) Kirkpatrick Macmillan
(B) Benjamin Franklin
(C) William Henry Fox Talbot
(D) Sir Alexander Fleming

53. Who invented the hot air balloon?

- (A) Montgolfier brothers
(B) Wright brothers
(C) Lisitsyn brothers
(D) Walton brothers

54. Who invented the thermos flask?

- (A) Ray Tomlinson
(B) Tim Berners-Lee
(C) William Cullen
(D) James Dewar

55. Which of the following is used to measure the pressure?

- (A) Hydrometer (B) Aneroid Barometer
(C) Anemometer (D) Thermometer

56. If a barometer is placed in a ball jar and air from it removed slowly then

- (A) Level of Mercury increases
(B) Level of Mercury decreases





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- (C) Level of Mercury remains un changed
(D) Ball Jar burst

57. It is easy to burst a gas filed balloon with a needle than nail because-

- (A) Needle exerts more presure than nail on the balloon.
(B) Nail exert more pressure than needle on the balloon.
(C) Gas is reactive with needle.
(D) Nail is more longer than needle.

58. Cooking of Rice is Harder-

- (A) Top of Mountains (B) Bottom of sea
(C) Under the mine (D) Same at every where

59. Water boils at low temperature on mountains because-

- (A) There is cooling on Mountains.
(B) Amount of Carbon dioxide is less at mountaions.
(C) Atmospheric pressure is low at mountains.
(D) Deficiency of oxygen.

60. Pressure cooker reduces the time required for the cooking because-

- (A) Boiling point of water increases inside cooker.
(B) Boiling point of water decreasees inside cooker.
(C) High pressure makes soft the food.
(D) Heat energy distributed equally.

61. Rice is cooked more quickly in a perssure cooker beacuse:

- (A) Water boils at Higher temperature
(B) Less quantity of water is used
(C) It is covered
(D) None of these

62. To calculate the pressure exerted by Liquid at the bottom of container, which of the following is not required?

- (A) Height of Liquid column
(B) Surface area of bottom of container
(C) Density of Liquid
(D) Acceleration due to gravity at the bottom of container

63. 1 Bar is equal to :

- (A) 103 pa (B) 100 pa
(C) 105 pa (D) 104 pa

64. A real gas can act as an ideal gas under

- (A) High pressure and low temperature

- (B) Low pressure and high temperature
(C) High pressure and high temperature
(D) Low pressure and low temperature

65. The boiling point of water depends upon the

- (A) Atmospheric pressure
(B) Volume
(C) Density
(D) Mass

66. At hill stations, the boiling point of water will be

- (A) Same as at sea level
(B) Less than that at sea level
(C) More than that at sea level
(D) Equal to the melting point of ice

67. Vegetables are cooked in lesser time by adding a pinch of salt while cooking beause

- (A) Boiling point of water increases
(B) Latent heat of vaporization of water decreases
(C) Latent heat of vaporization of water increases
(D) Boiling point of water decreases.

68. Hydraulic brakes used in automatic vehicles is direct virtual application of which law?

- (A) Pascal's law
(B) Archemedes' principle
(C) Newton's law
(D) Boyle's law

69. Which law/principle states that when a body is immersed fully or partially in a fluid, it experiences an upward force that is equal to the weight of the fluid displaced by it?

- (A) Boyle's law (B) Charles law
(C) Archimedes principle (D) Pascal's law

70. What is the SI unit of pressure?

- (A) Newton (B) Weber
(C) Pascal (D) Henry

71. On which principle does the hydraulic lift works?

- (A) Newton's law (B) Pascal's law
(C) Archimedes's law (D) Joule's law

72. For which of the following game, players must have the knowledge of Pascal's law?

- (A) Climbing (B) Paragliding





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(C) Rafting (D) Scuba diving

73. When the barometer reading dips suddenly, it is an indication of

- (A) Bad weather (B) Calm weather
(C) Storm (D) dry weather

74. The density of a gas is maximum at

- (A) Low temperature, low pressure
(B) Low temperature, high pressure
(C) High temperature, low pressure
(D) High temperature, high pressure

75. Specific gravity is defined as the ratio of

- (A) Density of the substance to the density of water
(B) Density of the substance to the density of water at 0°C
(C) Density of water at 4°C to the density of the substance
(D) Density of the substance to the density of water at 4°C

76. The density of water is 1 g/cc. This is strictly valid at

- (A) 0°C (B) 4°C
(C) 25°C (D) 100°C

77. If ice floating on water in a vessel melts, the water level in the vessel ____.

- (A) Increases
(B) Does not change
(C) First increases before decreasing
(D) Decreases

Exp: When ice floating on water melts, the water level does not increase or decrease, it remains the same

78. What is the unit of relative density?

- (A) Kg/m (B) Kg/m²
(C) Kg/m³ (D) It has no unit

79. Which among the following has the maximum density?

- (A) Water (B) Ice
(C) Ethylene (D) Acetone

80. Which of the following quantities does not have any unit?

- (A) Speed (B) Density
(C) Relative Density (D) Acceleration

81. Humidity is measured by

- (A) Hydrometer (B) Hygrometer
(C) Pyrometer (D) Lactometer

82. Amount of water vapour in the atmosphere is measured in terms of

- (A) Humidity (B) Droplets
(C) Smog (D) All of the above

83. A wheel barrow is an Example of :

- (A) 1st Class lever (B) 2nd class lever
(C) Pulley (D) 3rd class lever

84. Lubricant oil is used in vehicle to :

- (A) For combustion fuel
(B) To make flow streamline
(C) To increase the friction
(D) To decrease the friction

85. While ascending a hill, the driver of the vehicle keeps the gear ratio :

- (A) Equal to one
(B) Less than one
(C) Greater Than one
(D) Either Greater or equal to one

86. Flywheel is an important part of a steam engine because.

- (A) It gives strength to engine
(B) Accelerates the speed of engine
(C) Helps the engine in keeping speed uniform
(D) Decreases the moment of inertia

87. Which of the following is an Example of cantilever beam?

- (A) Diving board (B) Bridge
(C) See-Saw (D) Common Balance

88. A simple Machine

- (A) Cannot increase the force
(B) Cannot increase the speed
(C) Cannot increase the work
(D) Cannot change the direction of applied force

89. The working principle of a beam balance is the principle of :

- (A) Mass (B) Momentum
(C) Couple (D) Moment

90. Electrostatic precipitator is used to control the pollution of :





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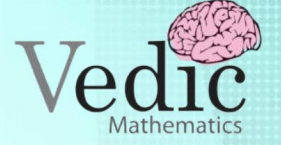
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- (A) Air (B) Water
(C) Noise (D) Thermal

91. Knot is a measure of

- (A) The speed of ship
(B) The curvature of spherical objects
(C) Solar radiation
(D) Intensity of earthquake shock

92. Vehicle tyres are inflated properly

- (A) To ensure smooth running.
(B) To allow the vehicle to take more load.
(C) To avoid skidding and to minimise friction
(D) To go fast and save fuel.

93. A photostat machine works on :

- (A) Electrostatic image making
(B) Magnetic image making
(C) Thermal image making
(D) Thermal image making

94. Flight Recorder is technically called:

- (A) Dark box (B) Blind box
(C) Black box (D) Altitude meter

95. Super conductors are substance that:

- (A) Offer minimal resistance to flow of electric current
(B) Conduct electricity at low temperature
(C) Conduct electricity at high temperature
(D) Offer high resistance to the flow of electric current

96. The abbreviation LHC stands for which machine?

- (A) Light Heat Collider
(B) Large Hadron Collider
(C) Long Heavy Collider
(D) Large High Collider

97. 'Parsec' is the unit measurement of

- (A) Density of stars
(B) Astronomical distance
(C) Brightness of heavenly bodies
(D) Orbital velocity of giant stars

98. Isaac Newton invented ____.

- (A) Thermometer
(B) Reflecting Telescope
(C) Hydraulic Accumulator
(D) Transistor

99. Name the first Indian who got Nobel Prize in physics.

- (A) CK Naidu
(B) Rangnath Mishra
(C) Amartya Sen
(D) CV Raman

100. Name the first Indian to go into Space.

- (A) Vidyut Mishra (B) Kaplish Tripathi
(C) Rakesh Sharma (D) Ish Kumar Vaidya

101. What is the unit of the physical quantity "Jerk"?

- (A) Meter second
(B) Meter per second cube
(C) Meter per second square
(D) Meter per second

102. The study of universe is known as ____.

- (A) Cosmology (B) Astrology
(C) Seismology (D) Limnology

103. What is the study of Moon called?

- (A) Selenology
(B) Cosmology
(C) Iridology
(D) Planetology

104. One nanometer is equal to ____ meters.

- (A) 10 raised to the power (-4)
(B) 10 raised to the power (-6)
(C) 10 raised to the power (-9)
(D) 10 raised to the power (-10)

105. First man to go into space was

- (A) Roald Amundsen (B) Reynalt Mayor
(C) Robert Peary (D) Major Yuri Gagarin

106. Mass of an object is a ____.

- (A) Physical Quantity
(B) Fundamental Quantity
(C) Scalar Quantity
(D) All options are correct

107. Match the following

- | Quantity | SI Unit |
|---------------|-----------|
| 1. Frequency | a. Ohm |
| 2. Force | b. Hertz |
| 3. Resistance | c. Newton |





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- (A) 1 - b, 2 - c, 3 - a (B) 1 - a, 2 - c, 3 - b
(C) 1 - c, 2 - b, 3 - a (D) 1 - b, 2 - a, 3 - c

108. Which is the most suitable unit for expressing nuclear radius?

- (A) Micron (B) Nanometer
(C) Fermi (D) Angstrom

109. Surface water of a lake is about to freeze. What will be the temperature (in °C) of water at the bottom of the lake?

- (A) 0 (B) -1
(C) 1 (D) 4

110. What is the process of conversion from solid to gas is known as?

- (A) Fusion (B) Solidification
(C) Sublimation (D) Condensation

111. Which of the following is not a vector quantity?

- (A) Momentum (B) Displacement
(C) Torque (D) Speed

112. Which of the following is not a vector quantity?

- (A) Acceleration (B) Electric current
(C) Force (D) Velocity

113. Which of the following pair is INCORRECT?

I. Parsec - Distance

II. Barrel - Liquid

III. Light year - Time

- (A) Only III (B) Only I and III
(C) Only II (D) All are correct

114. The substances which reduce friction are called _____.

- (A) Irregularities (B) Lubricants
(C) Adhesives (D) Viscous

115. The laws which govern the motion of planets are called _____.

- (A) Newton's Laws (B) Kepler's Laws
(C) Avogadro's Laws (D) De Morgan's Laws

