General Science Model Test Questions 22 With Answers [Physics - 7]

1.   Raman spectra is due to

(A) Absorption of light   (B) Diffraction of light

(C) Refraction of light   **(D) Scattering of light**

2.   In 1.2 years half of 64 mg. of radioactive isotopes decays the amount present after 6 years is

(A) 0 mg   (B) 8 mg   (C) 6 mg   **(D) 2 mg**

3.   The length of a simple pendulum is increased 4 times its time period

(A) Remains unchanged   **(B) Is doubled**

(C) Is increased 8 times   (D) Is increased 16 times

4.   Match list-I with list-II correctly and select your answer using the codes given below:

	List-I	List-II
(a)	Mass Energy relation	1. Hund
(b)	Energy of a photon	2. Einsten
(c)	Uncertainity principle	3. planck
(d)	Spin Multiplicity	4. Pauli
		5. Heisenberg

Codes:

	a	b	c	d
(A)	**2**	**3**	**5**	**4**
(B)	3	2	5	4
(C)	2	3	5	1
(D)	3	2	5	1

5.   The weight of an object would be minimum when it is placed

(A) At the Centre of the earth   (B) At the Equator

(C) At the North pole   (D) At the South pole

6.   The apparent change in frequency due to a relative motion between the source and the observes is known as

(A) Resonance   **(B) Doppler's principle**   (C) Beats   (D) None of these

7.   Instrument used to see objects when they are hidden from direct view is known as

(A) Periscope   (B) Telescope   (C) Microscope   (D) Spectrometer

8.   In traffic signals, red light is used to caution against danger ahead. This is because,

      (A) Blood is red in colour

      (B) Eye has maximum sensitivity for red

      (C) The amount of scattering is maximum for red

      (D) The amount of scattering is minimum of red

9.   The rate of evaporation depends upon

      (A) The nature of the liquid   (B) Temperature of the liquid and air

      (C) Area of the exposed surface of liquid   **(D) All of these**

10.   The flame of a candle is always upwards irrespective of its position. This is because

      (A) Of convection current of air   **(B) Of the reaction of gravitational force**

      (C) Air is a good conductor of heat   (D) Of the law viscosity of air

11.   A transformer works on

      (A) A.C. only   (B) D.C. only   (C) Both A.C. and D.C.   (D) High voltage only

12.   A remote control gadget (for T.V. etc) has in it

      (A) A small electromagnet, that emits electromagnetic waves

      (B) A small oscillator that emits electric pulses

      (C) A small transmitter that emits infrared signals

      (D) Non of these

13.   In a nuclear reactor the function of an arrestor is to

      (A) Aid in the fast multiplication of fast moving neutrons

      (B) Slow down the fast moving neutrons

      (C) Absorb the neutrons

      (D) Decrease the fission cross-section of the neutrons

14.   An electron microscope is superiod to an optical microscope because

      (A) It has better resolving power   (B) It is easy to handle

(C) Of its low cost   (D) Of its quickness of observation

15.   A particular star has mass twice that of sun. This star will end up eventually as a

       (A) Black hole   (B) Black dwarf   (C) White dwarf   (D) Red giant

16.   Planets do not twinkle because,

       (A) They emit light continuously

       (B) They are luminous sources of light

       (C) They are nearer to us and so their light does not pass through the atmosphere

       (D) They are nearer to us and so the minor variations in their intensity are not noticeable

17.   The ozone layer in atmosphere helps in the

       (A) Increases of oxygen   (B) Increases of temperature

       (C) Acceleration of photo synthesis   **(D) Prevents penetration of ultraviolet rays**

18.   If a body is to escape from the earth's gravitational force, it must be given a minimum velocity of

       (A) 8.2 metre/sec   (B) 11.2 metre/sec

       (C) 8.2 kilometre/sec   **(D) 11.2 kilometre/sec**

19.   Consider the following statements:

       Assertion (A):   A solid iron piece floats in mercury but sinks in water

       Reason (R):   Density of iron is less than that of water and mercury

       Now select your answer according to the coding scheme given below:

       (A) Both (A) and (R) are true, and (R) is the correct explanation of (A)

       (B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)

       (C) (A) is true, but (R) is false

       (D) (A) is false, but (R) is true

20.   Match list-I with list-II correctly and select your answer using the codes given below:

	List-I	List-II
(a)	Moment of a force	1. Joule
(b)	Energy	2. F x S
(c)	Power	3. N-m
(d)	Work	4. Watt

Codes:

	a	b	c	d
(A)	**3**	**1**	**4**	**2**
(B)	2	3	4	1
(C)	3	4	1	2
(D)	2	4	3	1

21.   Mirage is due to

(A) Reflection of light   **(B) Total internal reflection of light**

(C) Diffraction of light   (D) Refraction of light

22.   An aneroid barometer used

(A) Mercury   (B) Alcohol   (C) Distilled water   **(D) No liquid at all**

23.   Light of which colour has the longest wavelength?

(A) Violet   (B) Alcohol   (C) Yellow   **(D) Red**

24.   Review the following statements:

I. Boiling takes place at all temperature

II. Evaporation takes place at a particular temperature

III. Boiling takes place at the surface of the liquid

IV. Evaporation takes place throughout the liquid

Of the statements:

(A) All are correct   **(B) All are wrong**

(C) I and II are correct, III and IV are wrong   (D) I and III are correct, II and IV are wrong

25.   Instruments used for measuring high temperature is known as

(A) Hygrometer   **(B) Pyrometer**   (C) Photometer   (D) Sonometer

26.   Sound does not travel in

(A) Gases   (B) Solids   (C) Water   **(D) Vacuum**

27.   Reed instrument with pipe is

(A) Flute   **(B) Harmonium**   (C) Trumpet   (D) Nathaswaram

28.   A 100 watt, 220 volt lamp takes a current of

(A) 2.2 amps   **(B) 5/11 amps**   (C) 22000 amps   (D) 1.1 amps

29.   The material used for magnetic shielding is

(A) Wood   **(B) Soft iron**   (C) Glass   (D) Paper

30.   X-rays do not penetrate through

(A) Glass   **(B) Bone**   (C) Wood   (D) Skin

31.   If the mass of an electron is 9.11×10^{-28} gm., the number of electron in 1 gm. Is

(A) 1.09×10^{27}   (B) 2.56×10^{24} (C) 2.18×10^{27} (D) 3.27×10^{27}

32.   Which one of the following is correctly matched?

(A) Moment of a force   - Watt   (B) Work   - Joule-sec

(C) Power   - Newton-meter   **(D) Unit of force   - Newton**

33.   A car is moving on a road when rain is falling vertically downwards. Rain will strike

(A) The front screen only   (B) The reas screen only

(C) Both the screen   (D) None of these screens

34.   A body when immersed in a liquid, experiences an upward thrust equal to the weight of the liquid displayed by it. This is

(A) Newton's law of motion   (B) Dulong and petti's law

(C) Law of floatation   **(D) Archimedes principle**

35.   Hydraulic brakes in automobiles work on

(A) Bernoulli's principle   (B) Roiseuille's principle

(C) Pascal's principle   (D) Acrimede's principle

36.   A lens with power +1 dioptre must have its focal length equal to

(A) 10 m   (B) 10 cm   **(C) 100 cm**   (D) 1000 cm

37.   The velocity of light in air is 3×10^{10} cm/sec. Its velocity in glass whose $\mu=1.5$ will be

(A) 4.5×10^{10} cm/sec   (B) 3×10^{10} cm/sec

(C) 2 x 10^{10}cm/sec   (D) 9 x 10^{10}cm/sec

38.   The density of water is maximum at

(A) 0°C   **(B) 40°C**   (C) 100°C   (D) -10°C

39.   During change of state, the temperature

(A) Rises   (B) Falls   **(C) Remains constant**   (D) May rise or may fall

40.   Consider the following statements:

Assertion (A):   Thunder and lightning happen in the sky at the same time. But lightning reaches us earlier and thunder late

Reason (R):   Since light travels faster than sound. Lightning reaches us earlier and thunder later

Now select your answer according to the coding scheme given below:

(A) (A) is correct, but (R) is wrong   (B) (A) is wrong, but (R) is correct

(C) (A) and (R) both are correct   (D) (A) and (R) both are wrong

41.   The device that is used to determine the depth of the sea is

(A) Radar   **(B) Fathometer**   (C) Sonar   (D) Hydrometer

42.   Match list-I with list-II correctly and select your answer using the codes given below:

List-I	**List-II**
(a) Electric potential	1. watt
(b) Electrical resistance	2. ampere
(c) Electric current	3. ohm
(d) Electrical power	4. volt

Codes:

	a	b	c	d
(A)	**4**	**3**	**2**	**1**
(B)	1	3	4	2
(C)	2	1	3	4
(D)	1	2	3	4

43.   In a step-down transformer

(A) Number of turns in primary is more than that in the secondary

(B) Number of turns in primary is less than that in the secondary

(C) Number of turns in primary & secondary are the same

(D) None of these

44.   Light from the sun reaches us in nearly

(A) 2 minutes   (B) 4 minutes   **(C) 8 minutes**   (D) 16 minutes

45.   X-rays cannot penetrate through

(A) Glass   **(B) Bone**   (C) Tree   (D) Human flesh

46.   In a dry cell the positive electrode is

(A) Zinc   **(B) Carbon**   (C) Copper   (D) PbO_2

47.   The colour which deviates maximum during the dispersion is

(A) Red   (B) Green   (C) Blue   **(D) Violet**

48.   In the freezing mixture, the ratio of ice and salt to lower the temperature to -13°C is

(A) 1 : 3   (B) 2 : 1   **(C) 3 : 1**   (D) 1 : 2

49.   Which of the following is not electromagnetic in nature?

(A) Alpha rays   (B) X-rays   (C) Gamma rays   (D) UV rays

50.   The molecular range is of the order of

(A) 10^8 cm   **(B) 10^{-8} cm**   (C) 10^8 m   (B) 10^{-8} m

51.   Calculate the amount of work done in drawing a bucket of water weighing 5 kg from a well of depth 10 metre. (g = 9.8 ms^{-2})

(A) 4.90 joule   (B) 49 joule   **(C) 190 joule**   (D) 98 joule

52.   Recording of sound on tapes was first invented by

(A) Fleming   (B) Ampere   **(C) Poulsen**   (D) Becquerel

53.   The scientist two first successfully converted magnetic energy into electric energy is

(A) Ampere   **(B) Faraday**   (C) Fleming   (D) Oersted

54.   The rays which are not deflected by electric fields are

(A) Alpha rays   (B) Beta rays   **(C) Gamma rays**   (D) Positive rays

55.   Radio cobalt is used

(A) To treat the cancer   (B) To produce nuclear fission

(C) To produce nuclear fusion   (D) To study the atomic structure

56.   Who discovered electrons?

(A) Rutherford   (B) Niels Bohr   **(C) J.J. Thomas**   (D) Dalton

57.   Grass looks green because

(A) It absorbs all colours in the spectrum except green

(B) It absorbs only green colour from grass

(C) The eye absorbs only green colour from grass

(D) None of these

58.   A girl is swinging on a swing in a sitting position. If she stands up and swings then the period of oscillation

(A) Will not be affected   **(B) Will increase**

(C) Will decrease   (D) Will become zero

59.   A hot body will radiate heat most rapidly if its surface is

(A) White and polished   (B) White and rough

(C) Black and polished   **(D) Black and rough**

60.   Pick out the wrong statement from the following:

(A) Heat can be reflected by a mirror   (B) Heat can be converted into work

(C) Heat rays cannot pass through vacuum   (D) Heat is a form of energy

61.   Milk inside a thermos flask is stirred vigorously by shaking

(A) Its temperature would further increase

(B) Its temperature would fall slightly

(C) Its temperature does not change

(D) Its temperature first increased and than decreases

62.   Which of the following has the highest electricity conductivity?

(A) Zn   (B) Fe   **(C) Ag**   (D) Cu

63.   Sound travels at maximum speed in

(A) Vacuum   (B) Water   (C) Air   **(D) Steel**

64.   A woman's voice is shriller than a man's voice due to

(A) Higher frequency   (B) Higher amplitude

(C) Lower frequency   (D) Weak vocal chords

65.   Which one of the following devices converts electrical energy into mechanical energy?

(A) Dynamo   (B) Transformer   **(C) Electric motor**   (D) Inductor

66.   The process of nuclear fission occurs mainly in

(A) Nuclear reactors   (B) Chemical reactions

(C) The hydrogen bomb   (D) The sun

67.   The process responsible for the enormous energy in the sun is

(A) Nuclear fission   **(B) Nuclear fusion**

(C) The burning of gases   (D) As yet unknown

68.   Which one of the following is neither an element nor a compound?

(A) Silver   (B) Water   **(C) Air**   (D) Surcose

69.   When a bus suddenly starts moving forward, passengers inside the bus experience a jerk backwards because of

(A) Friction   (B) Lack of friction   **(C) Inertia**   (D) Lack of balance

70.   Streamling principle is adopted in the design of automobiles to

(A) Reduce the body frame   (B) Reduce the tyre friction

(C) Reduce the air friction   (D) Reduce the glar

71.   The law which states that liquids transmit pressure equally in all directions is

(A) Boyle's law   (B) Charle's law

(C) Newton's third law   **(D) Pascal's law**

72.   The inter-molecular attraction in a liquid is

(A) Greater than that in a solid, but less than that in a gas

(B) Greater than that in a solid and a gas

(C) Less than that in a solid but greater than that in a gas

(D) Less than that in a solid and a gas

73.   The commonly used refrigerant for refrigerators is

(A) Ammonia gas   (B) Liquid oxygen   (C) Liquid nitrogen   **(D) Freon gas**

74.   The integral multiples of the fundamental vibrating frequency are called as

(A) Note   (B) Resonance   **(C) Harmonic**   (D) Pitch

75.   Nodes and antinodes are formed in the

(A) Longitudinal wave   (B) Transverse wave

(C) Stationary wave   (D) Progressive wave

76.   For a normal person, the least distance at which the objects are seen clearly is

(A) 0.025 m   (B) 0.05 m   **(C) 0.25 m**   (D) 0.5 m

77.   The radiations used to purify water by killing bacteria are

(A) Radio waves   (B) Electric waves   (C) Infrared rays   **(D) Ultraviolet rays**

78.   A TV camera

(A) Converts light impulses into sound

(B) Converts light impulses into electric impulses

(C) Converts electric impulses into light impulses

(D) Converts electrical impulses into sound

79.   Unit of work done is

(A) Metre   **(B) Joule**   (C) Watt   (D) Second

80.   Which ray has the shortest wavelength?

(A) Gamma rays   (B) X-rays   (C) α-rays   (D) β-rays

81.   The best conductor of heat among liquids is

(A) Water   **(B) Mercury**   (C) Ether   (D) Alcohol

82.   The emission of electrons from a metal by heating the metal to a higher temperature is called

(A) Thermoelectric effect   (B) Photoelectric effect

(C) Thermionic effect   (D) Joule effect

83.   Atomic number of an atom is

        (A) The number of electrons present in its nucleus

        (B) The number of neutrons present in its nucleus

        (C) The number of protons present in its nucleus

        (D) The number of neutrons and protons present in its nucleus

84.   X-rays

        (A) Do not affect photographic plates

        (B) Are not deflected by electric fields

        (C) Do not ionize the gas through which they pass

        (D) Cannot pass through glasses

85.   Nanosecond means

        (A) One-billionth of second   (B) One-millionth of second

        (C) One second   (D) None of these

86.   In a good transformer the iron core gets heated after constant use. This heating is most probably due to

        (A) Eddy current   **(B) Joule effect**   (C) Peltier effect   (D) Hysteresis

87.   The quantity which cannot be measured by P.O. Box is

        (A) Magnetic field intensity   (B) Resistance

        (C) Internal resistance   **(D) Resistance of a galvanometer**

88.   Highest energy electrons will be produced by

        (A) Visible light   (B) Ultraviolet light   **(C) X-rays**   (D) Gamma rays

89.   According to stefan's law the total energy emitted by a black body is proportional to

        (A) T (B) T^2 (C) T^3 **(D) T^4**

90.   The principle of meter-brige is based on

        (A) Newton's law   (B) Gauss's law

        (C) Wheatstone's law   (D) Ampere's law

91.   Semiconducting property of silicon is due to

    (A) Its positive temperature coefficient of resistance

    (B) Its negative temperature coefficient of resistance

    (C) Wide band gap

    (D) Narrow band gap

92.   Light from the sun reaches the earth in

    (A) 45 minutes   **(B) 8 minutes**   (C) 4 minutes   (D) 2 minutes

93.   Which of the following is used in electric heaters and irons?

    (A) Tungsten   (B) Steel   (C) Copper   **(D) Nichrome**

94.   Which one of the following instruments is used to measure the speed of water through a pipe?

    (A) McLeod gauge   (B) Pressure gauge

    (C) Screw gauge   **(D) Venturimeter**

95.   The distance of stars is measured by the unit

    (A) Kilometre (km)   (B) Angstrom (A) unit

    (C) Light year   (D) Giga metre

96.   Theory of relativity was proposed by which one of the following scientists in the year 1905?

    (A) Rutherford   (B) Thomson   (C) Bohr   **(D) Einstein**

97.   The moderator used in the nuclear reactor at Madras atomic power station in Kalpakkam is

    (A) Water (H_2O)   (B) Graphite

    (C) Heavy water (D_2O)   **(D) None of these**

98.   Radio carbon in nature is produced as a result of

    (A) The action of UV rays on ordinary carbon

    (B) The action of IR rays on ordinary carbon

    (C) The action of cosmic rays on earth's atmospheric nitrogen

    (D) The action of X-rays on ordinary carbon

99.   The speed of sound is higher in which one of the following mediums?

(A) Liquids   **(B) Solids**   (C) Gases   (D) Same in all

100.   The huge amount of energy released in nuclear fission and fusion reaction is due to the conversion of

(A) Chemical energy into heat energy

(B) Protons into neutrons

(C) Mass into energy, according to Einstein's equation

(D) Mechanical energy into heat energy