NAT IIP Physical Science Physics Easy Test

Sr	Questions	Answers Choice
1	The fundamental unit has same power in the ddimensional formula of surface tension and viscosity is:	A. Mass B. Length C. Time D. None
2	The velocity v of a particle at time t is given by: v = at + b/t+c The dimensional formula of a,b and c care respectively:	A. L²;T and LT² B. LT²;LT and L C. LT²;L and T D. L;LT and T⁻²
3	Plank's constant has the dimensions of:	A. Energy B. Momentum C. Frequency D. Angular momentum
4	The dimensional formula of torque is:	A. [ML²T²] B. [MLT⁻²] C. [ML⁻¹T⁻²] D. [ML⁻²T⁻²]
5	The percentage errors in the measurements of mass and speed are 2% and 3% respectively. How much will be the maximum error in the estimate of the kinetic energy obtained by measuring mass and speed:	A. 11% B. 8% C. 5% D. 1%
6	Which of the following is equal to joule x ohm / volt x second ?	A. Ampere B. Volt C. Watt D. Tesla
7	Which of the following is equal to joule x ohm / volt x second ?	A. Ampere B. Volt C. Watt D. Tesla
8	The unit of inductance is equivalent to:	A. V x s/A B. V x A/s C. A x s/v D. V/A x s
9	The motion without consideration of its cause is studied in the :	A. Kinematics B. Mechanics C. Statics D. Modern Physics
10	The sieman is the SI unit of:	A. Resistance B. Specific Resistance C. Conductance D. Inductance
11	The volt/meter is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
12	Which of the following is a scalar quantity?	A. Density B. Displacement C. Torque D. Weight
13	Which of the following is the only vector quantity?	A. Temperature B. Energy C. Power D. Momentum
14	Which of the following lists of physical quantities consists only of vectors:	A. Time , temperature, velocity B. Force , volume, momentum C. Velocity , acceleration , mass D. Force, acceleration , velocity
		A. 0<span style="color: rgb(84, 84,

15	The angle between rectangular components of a vector is:	84); font-family: arial, sans-serif; font-size: small;">° B. 60° C. 90° D. 120°
16	The force of 10 N is acting along y-axis. Its components along x-axis is:	A. 10N B. 20N C. 100N D. Zero N
17	Two forces are acting together on an object. The magnitude of their resultant is minimum when the angle between the force is:	A. 0° B. 60° C. 120° D. 180°
18	Two forces of 10N and 15N are acting simultanously on an object in the same direction. Their resultant is:	A. Zero B. 5N C. 25N D. 150N
19	If the dot product of two non-zero vectors vanishes, the vectors will be:	A. In the same direction B. Opposite to each other C. Perpendicular to each other D. Zero
20	If two non-zero vector Ā andB are perpendicular to each other , then a.B is equal to :	A. Zero B. AB C. A + B D. A - B
21	The product of two vectors is nagative when:	A. They are parallel vectors B. They are anti-parallel vectors C. They are perpendicular vectors D. None of the above is correct
22	The dot product of two vectors is negative when:	A. They are parallel vectors B. They are anti-parallel vectors C. They are perpendicular vectors D. None of the is correct
23	To get a resultant displacement of 10m, two displacement vectors of magnitude 6 m and 8m should be combined	A. Parallel B. Antiparallel C. At angle 60° D. Perpendicular to each other
24	The velocity of a particle at an instant is 01 m/s and after 5s the velocity of the particle is 20 m/s. The velocity 3s before in m/s is:	A. 8 B. 4 C. 6 D. 7
25	A motorist travels A to B at a speed at 40 km/h returns at speed of 60 km/h. His average speed will be:	A. 40 km/h B. 48 km/h C. 50 km/h D. 60 km/h
26	The sum of the magnitude of two forces acting at a point is 18 and the magnitude of their resultant is 12. If the resultant is at 90° with the force of the smaller magnitude , then their magnitudes are:	A. 3, 15 B. 4, 14 C. 5, 13 D. 6, 12
27	A train of 150 m length is going towards north direction at a speed of 10 ms^{-1}.A parrot flies at a speed of 5 ms-2 towards south direction parallel to the railway track. The time taken by the parrot to cross the train is equal to:	A. 12 s B. 8 s C. 15s D. 10 s
28	What will be ratio of the distance moved by a freely falling body from rest in 4^{th} and 5^{th} seconds of journey?	A. 4:5 B. 7:9 C. 16:25 D. 1:1
29	A body is dropped from a tower with zero velocity, reaches ground in 4s. The height of the tower is about	A. 80 m B. 20 m C. 160 m D. 40 m

		D. 40 m
30	The acceleration 'a' in m/s^2 of a particle is given by a =3t^2 + 2t +2,where 't' is the time. If the particle starts out with a velocity v=2 m/s at t=0, then the velocity at the end of 2 second is:	A. 12 m/s B. 24 m/s C. 18 m/s D. 36 m/s
31	The initial velocity of a body moving along a straight line in 7 m/s. It has a uniform accleration of 4 m/s^2. The distance covered by the body in the 5th second of its motion is:	A. 25 m B. 35 m C. 50 m D. 85 m
32	Which of the following statements is false?	A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a body can change when its acceleration is constant
33	Two masses of 1 g are 4 g are moving with equal kinetic enrgies. The ratio of the magnitudes of their linear momenta is:	A. 4:1 B. √2:1 C. 1:2D D. 16
34	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newton's. If the work done is 25 joules, the angle which the force takes with the direction of motion of the body is:	A. 0° B. 30° C. 60° D. 90°
35	A body of mass 2 kg us thrown up vertically with K.E. of 490 joules. If the acceleration due to gravity is 9.8 m/s^2, the height at which the K.E. of the body becomes half its original value is given by:	A. 50 m B. 12.5 m C. 25 m D. 10 m
36	Two bodies of masses m_1 and m_2 have equal momentum their kinetic energies E1 and E2 are in the ratio:	A. √m₁:√m₂ B. m₁: m₂ C. m_{2:}m₁ D. m₁ ²:m₂ ²
37	Two bodies with masses M_A and M_B are moving with equal kinetic energy. Their linear momenta are numerically in a ratio $\|P_A\| : \|P_B\|$ will be :	A. M_B : M_A B. M_A : M_B C. √M_A :√M_B D. M_A² : M_B²
38	How much water a [ump of 2kW can raise in one minute to a height of 10m, take g=10 m/s^2?	A. 1000 liters B. 1200 liters C. 100liters D. 2000liters
39	A bullet is shot a rifle. As a result the rifle recoils. The kinetic enrgy of rifle as conmpared to	A. Less B. Greater

	that of bullet is:	C. Equal D. Cannot be concluded
40	A man pushes a wall but fails to displace it. He does:	A. Nagtive work B. Maximum positive work C. Positive work but not maximum D. No work
41	A particle moves al;ong a circular path under the action of a force. The work done by the force is:	A. Zero B. Positive and non-zero C. Nagative and non zero D. None of the above
42	A body moving in circular motion with constant speed has	A. Constant velocity B. Constant acceleration C. Constant kinetic energy D. Constant displacement
43	Angular momentum is:	A. Vector (axial) B. Vector (Polar) C. Scalar D. None of these
44	What remains constant in the field of central force?	A. Potential energy B. kinetic energy C. Angular momentum D. Linear momentum
45	What remains constant when the earth revolves around the sun?	A. Angular momentum B. kinetic energy C. Potential energy D. Linear momentum
46	If the earth were to rotate faster, than its present speed the weight of an object will:	A. Increase at the equator but remain unchanged at the poles B. Decrease at the equator but remainat the poles C. Remain unchaged at the decrease but decrease at the poles D. Remain unchaged at the equator but increase at the poles
47	Centre of mass is a point:	A. Which is geometric centre of a body B. From which distance of particles are same C. Where the whole mass of the body is supposed to be centered D. Which is the origin of reference frame
48	A couple produces:	A. Purely linear motion B. Purely rotational motion C. Linear and rotational motion D. No motion
49	In which case application of angular velocity, is useful?	A. When a body is rotating B. When velocity of body is in a straight line C. When velocity is in a straight line D. None of these
50	What will be the duration of the day and night (in hour) if the diameter of the earth is suddenly reduced to half its original value, the mass remaining constant?	A. 12 B. 6 C. 3 D. 2
51	A person standing on a rotating platform has his hands lowered . he suddenly outstretches his arms. The angular momentum	A. Becomes zero B. Increases C. Decreases D. Remains the same
52	The velocity of falling raindrops attains limited value because of:	A. Upthrust of air B. Viscous force exerted by air C. Surface tension effect D. Air currents atmosphere
53	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as:	A. R B. R² C. 1/R D. (1/R)²
54	Bernoulli's equation is based upon law of conservation	A. Mass B. Momentum C. Energy D. None of these
55	Surface tension of water is due to:	A. Inter molecular attractions B. Intermolecular spaces

		C. Intermolecular repulsion D. None of these
56	The person standing near the track of a fast moving train has tedancy to fall towards it because of:	A. Viberation due to motion of train B. Gravitaional force of attraction between person and trains C. The high speed of train D. Some other effect
57	Ball pen functions on the principle of	A. Viscosity B. Boyle's law C. Gravitational force D. Surface Tension
58	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. Doubles
59	According to Stoke's law, drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
60	The smooth or steady stream-line flow is know as:	A. Laminar flow B. Turbulent flow C. Both A and B D. None of the above
61	Blood has a density:	A. Equal to water B. Greater then water C. Lesser then water D. None of these
62	Which one of the following is a simple harmonic motion?	A. Wave moving through a string fixed at both ends B. Earth spinning about its own axis C. Ball bouncing between two rigid vertical walls D. Particle moving in a circle with uniform speed
63	In which case does the potential energy decreases?	A. On compressing a spring B. On stretching a spring C. One moving a body against gravitional force D. One the rising of an air bubble in water
64	If the metal bob is a simple pendulum is replaced by a wooden bob, then its time period will:	A. Increase B. Decreases C. Remain the same D. First 'A' then 'B'
65	If the period of oscillation of mass (M) suspended from a spring is 2s, then the period of mass 4 M will be:	A. 1s B. 2 s C. 3 s D. 4s
66	The time period of a simple pendulum is 2 seconds. If its length is increased by 4 times , then its period becomes	A. 16 s B. 12 s C. 8 s D. 4 s
67	When the displacement is half of the amplitude, the ratio of potential energy to the energy is:	A. 1/2 B. 1/4 C. 1 D. 1/8
68	To make the frequency double of an oscillator, we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth
69	In a simple hormonic motion (SHM), which of the following does not hold?	A. The force on the particle is maximum at the ends B. The acceleration in minimum at the mean position C. The potential energy is maximum at the mean position D. The kinetic energy is maximum at the mean position
70	A pendulum clock set to give correct time in Karachi is taken to Quetta . It would give correct time if	A. The mass of the pendulum is increased B. The mass of the pendulum is decreased C. The length of the pendulum is increased

		D. The length of the pendulum is decreased
71	In a simple harmonic motion the kinetic energy (KE) and the potential energy (PE), are such that throughout the motion	A. KE remains constant B. PE remains constant C. KE/PE is constant D. KE + PE remains constant
72	When sound waves travel from air to water which of these remains constant?	A. Velocity B. Frequency C. Wavelength D. All of these above
73	Two sources of sound are said to be coherent if:	A. They produce sounds of equal intensity B. They produce sounds of equal frequency C. They produce sounds waves viberating with the same phase D. They produce sound waves with zero or constant phase difference all instant of time
74	The temperature at which the speed of sound becomes double as was at 27°C is:	A. 273°C B. 0°C C. 927°C D. 1027°C
75	For production of beats the two sources must have	A. Different frequencies and same amplitude B. Different frequencies C. Different frequencies, same amplitude and same phase D. Different frequencies and same phase
76	If the amplitude of sound is doubled and the frequency reduced to one-fourth, the intensity of sound at the same point will be:	A. Increasing by a factor of 2 B. Decreasing by a factor of 2 C. Decreasing by a factor of 4 D. Unchanged
77	With the propagation of alongitudinal wave through a material medium, the quantities transmitted in the propagation direction are:	A. Energy, momentum and mass B. Energy C. Energy and mass D. Energy and linear momentum
78	At a certain instant a stationary transverse wave is found to have maximum kinetic energy. The appearance of string of that instant is:	A. Sinusoidal shape with amplitude A/3 B. Sinulsoidal shape with amplitude A/2 C. Sinulsoidal shape with amplitude A D. Straight line
79	Velocity of sound in a diameter as is 300 m/sec, what is its velocity?	A. 400 m/sec B. 40 m/sec C. 430 m/sec D. 300 m/sec
80	Mechanical waves on the surface of a liquid are:	A. Transverse B. Longitudinal C. Torsional D. Both Transverse and Longitudinal
81	The distance between node and anti-node is:	A. λ B. λ/2 C. λ/4 D. 2λ
82	One cannot see through fog because	A. Fog absorbs light B. The refractive indesx of fog is infinity C. Light suffers total reflection at the droplet in a fog D. Light is scattered by the droplets in fog
83	A suin rise ir sun set , the sun looks reddish because:	A. The sun is coldest at these times B. Of the effects of reflection and refraction C. The sun is hottest at these times D. Of the scattering the light
84	A prism splits a beam of white light into its seven constituent colors. This is so because:	A. Phase of different colors is different B. Amplitude of different colors is different C. Energy of different colors is different D. Velocity of different colors is different

85	The twinkling of stars is due to :	A. The fact that stars do not emit light continously B. The refrective index of the earth's atmosphere fluctuate C. Intermittent absorption of star light by its own atmosphere D. None of these
86	Light appears to travel in straight lines since:	A. It is not absorbed by the atmosphere B. It is reflected by the atmosphere C. Its wavelength is very small D. Its velocity is very large
87	Which of the following phenomena is not explained by Huygen's construction of wavefront?	A. Refraction B. Reflection C. Diffraction D. Origin of spectera
88	If yellow light emitted by sodium lamp in Young's double slit experiment is replaced by monochromatic blue light of the same intensity	A. Fringe width will decrease B. Fringe width will increase C. The fringe width will remain unchanged D. Fringes will become less intense
89	In Young's experiment, two coherent sources are placed 0.90mm aprart and the fringes are observed one meter away. If its produces the second dark fringe at a distance of 1mm form the central fringe, the wavelength of monochromatic light used would be	A. 60 x 10⁻⁴ cm B. 10 x 10⁻⁴ cm C. 10 x 10⁻⁵ cm D. 6 x 10⁻⁵ cm
90	The contrast in the fringes in any interference pattern depends on	A. Fringe width B. Intensity ratio of the sources C. Distance between the slits D. Wavelength
91	Huygen's wave theory of light cannot explain:	A. Differaction B. Interference C. Polarization D. Photoelectric effect
92	A fly is sitting on the objective of a telescope pointed towards the moon. What effect is expected on the photography of the moon taken through the telescope?	A. The entire field of view blocked B. There is an image of the fly on the photography C. There is no effect at all D. There is a reduction in the intensity of the image
93	A converging lens is used to form an image on a screen. When the upper half of the lens is covered by an opaque screen	A. Half the image will appear B. No chance either will increase C. Intensity of the image will increase D. Intensity of the image will decrease
94	When the length of the microscope tube increases , its magnifying power	A. Decreases B. Increases C. Do not change D. May increase or decrease depending on the observer and the place of observation
95	An object is placed at a distance of f/2 from a convex lens. The image will be	A. At one of the foci, virtual and double its size B. At, 3f/2, real and inverted C. At 2f, virtual and erect D. At f, real and inverted
96	A lenss behaves as a converging in air and a diverging lens in water. The refractive index of the material is:	A. Equal to unity B. Equal to 1.33 C. Between unity and 1.33 D. Greater than 1.33
97	A planet is observed by an astronomical refracting telescope having an objective of focal length 16 m and an eyepiece of focal length 2 cm	A. The distance between the objective and the eyepiece is 8m B. The angular magnification of the planet is 200 C. The image of the planet is inverted D. The objective is smaller than the eyepiece
98	If tube length of astronomical telescopeis 105 cm and magnifying power is 20 for normal setting, calculate the focal length of objective	A. 100 cm B. 10 cm C. 20 cm D. 25 cm
99	To increase the magnification of a telescope:	A. The objective lens should be of large focal length and eyepiece should be of short focal length B. The objective and eyepiece both should be of large focal lengths

99	To increase the magnification of a telescope:	C. Both the objective and eyepiece should be of smaller lengths D. The objective should be small focal length and eyepiece should be of large focal length
100	The length of a telescope is 36 cm. The focal lengths of its lenses can be:	A. 30 cm, 6 cm B. -30 cm, -6 cm C. 30cm, -6 cm D. -30cm, 6 cm
101	All of the following statements are correct except:	A. The total focal length of an astronomical telescope is the sum of the focal lengths of its two lenses B. The image formed by the astronomical telescope is always erect because the effect of the combination of the two lenses is divergent C. The magnification of an astronomical telescope can be increased by decreasing the focal length of the eyepiece D. The magnifying power of the refracting type of astronomical telescope is the ratio of the focal length of the objective to that of the eye piece
102	Relation between pressure (P) and enrgy (E) if a gas is:	A. P=2/3 E B. P=1/3 E C. P=3/2 E D. P=3 E
103	The number of translation degrees of freedom for a diatomic gas is:	A. 2 B. 3 C. 5 D. 6
104	At constant volume temperature is increased. Then:	A. Collision on walls will be less B. Collision on walls per unit time will increase C. Collision will be in straight lines D. Collisions will not change
105	Which of the following is not thermo dynamic function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy
106	Absolute temperature can be calculated by:	A. Mass square velocity B. Motion of the molecule C. Both A & B D. None of these
107	Boyle's law is applicable in:	A. Isochloric process B. Isothermal process C. Isobaric process D. Isotonic process
108	The product of the pressure and volume of an ideal gas is:	A. A constant B. Approximately equal to the universal gas constant C. Directly proportional to its temperature D. Inversely proportional to its temperature
109	At 0 which of the following properties of a gas will be zero?	A. Kinetic energy B. Potential energy C. Viberational energy D. Density
110	What is the ratio of r.m.s. velocity for O_2 to H_2?	A. 1/4 B. 4 C. √4 :1 D. 1 :√4
111	What is the average energy if N molecules of monoatomic gas?	A. 1/2 NkT B. NkT C. 3/2 NkT D. 5/2 NkT
		A. 7.20 N

112	The force between two charges 0.06 m apart is 5 N. If each is moved towards the other by 0.01 m, Then the force between them will become	A. 7.20 N B. 11.25 N C. 22.50 N D. 45.00
113	Two point charges +3μC and +8μC repel each other with a force of 40 N. If a charge of -5μC is added to each other of them, then the force between them will become	A. -10 N B. +10 N C. +20 N D. -20 N
114	In a Millikan's oil drop experiment the charge on an oil drop is calculated to be 6.35 x 10^{-19} C. The temperature of excess electrons on the drop is:	A. 3.9 B. 4 C. 4.2 D. 6
115	A point charge Q is placed at the midpoint of a line joining two charges, 4q and q. If the net force in charge q is zero, then then Q must be equal to:	A. -q B. +q C. -2q D. +4q
116	Two point charges is placed at distance of 20 cm in air repel each other with a certain force. When a dielectric slab of thickness 8 cm and dielectric constant K is introduced between these point charges , force of attraction becomes half of its previous value. Then K is approximately.	A. 2 B. 4 C. √2 D. 1
117	When a Na ion and a Cl ion are placed in air, a force F acts between them when they are seperated by a distance of 1cm from each other. The permitivity of air and the dielectric constant of water are$\varepsilon_0$and K respectively. When a piece of salt usplaced in water, then the force between Na^+ and Cl^- ions seperated by a distance of 1 cm will be:	A. F B. FK/ε₀ C. F/Kε₀ D. F/K
118	The force of repulsion between two point charges is F, when these are at a distance 0.1 m apart. Now the point charges are replaced by spheres of radii 5 cm each having the same charge as that of the respective point charges. The distance between their centre is again kept 0.1 m; then the force of repulsion will:	A. Increase B. Decrease C. Remain F D. Become 10F/9
119	A charge Q is divided into two parts q and Q - q and seperated by a distance R. The force of repulsion between them will be maximum when:	A. q = Q/4 B. q = Q/2 C. q = Q D. None of these
120	Two point charges A and B seperated by a distance R attract each other with a force of 12 x 10^{-3} N. The force between A and B when the charges on them are doubled and distance is halved:	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
121	The excess (equal in number) of electrons that must be placed on each of two small spheres spaced 3 cm apart, with force of repulsion between the epheres to be 10^{-19} N, is:	A. 25 B. 225 C. 625 D. 1250
122	A ten-ohm electric heater operates on a 110 V line. Calculate the rate at which it develops heat in watts:	A. 1310 W B. 670 W C. 810 W D. 1210 W
123	Two electric bulbs of 200 W and 100 W have same voltage. If R_1 and R_2 be their resistance respectively then:	A. R₁ = 2R₂ B. R₂= 2R₁ C. R₂= 4R₁ D. R₁= 4R₂
124	A wire of radius R has resistance R. If it is stretched to a wire of r/2 redius, then the resistance becomes	A. 2R B. 4R C. 16R D. Zero
125	A (100W, 200V) bulb is connected to a 160 V power supply. The power consumption would be:	A. 64 W B. 80 W C. 100 W D. 125W
126	A 50-volt battery ius connected across 10-ohm resistor. The current is 4.5 A. The internal resistance of the battery is:	A. Zero B. 0.5Ω C. 1.1Ω D. 5.0Ω
		A. 0.1 Watt

127	If 2.2 kilowatt power is transmitted through a 10 ohm line at 22000 volt, the power loss in the form of heat will be:	A. 0.1 Watt B. 1 Watt C. 10 Watt D. 100 Watt
128	The conductivity of a superconductor is:	A. Infinite B. Very large C. Very small D. Zero
129	A piece of fuse wire melts when a current of 15 ampere flows through it.With this current, if it dissipates 22.5 W, the resistance of fuse wire will be:	A. Zero B. 10Ω C. 1Ω D. 0.10Ω
130	A conducting wire is drawn to double its length. Final resistivity of the material will be:	A. Double of the original one B. Half of the original one C. One-forth of the original one D. Same as the original one
131	In a voltmeter the conduction takes place due to:	A. Electrons only B. Holes only C. Electrons and Holes only D. Electrons and ions
132	A voltmeter has resistance of 2000 ohms and it can measure up to 2 V. If we want to increase its range to 10V then required resistance in series will be:	A. 2000Ω B. 4000Ω C. 6000Ω D. 8000Ω
133	If a diameter substance is brought near north or south pole of a bar magnet it is :	A. Attracted by the poles B. Repelled by the poles C. Repelled by the north pole and attracted by the south pole D. Attracted by the north pole and repelled by the south pole
134	A moving charge will gain energy due to the application of:	A. Electric field B. Magnetic field C. Both A & B D. None of these
135	The unit of electric current 'ampere' is the amount of current flowing through each of two parallel wires 1 m apart and of infinite length will give rise to a force between them equal to:	A. 1 N/m B. 2 x 10⁻⁷ N/m C. 1 x 10⁻² N/m D. 4πx 10⁻⁷N/m
136	The incorrect statement regarding the lines of force of the magnetic field B is A. Magnetic intensity is a measure of lines of force passing through unit area held normal to it	A. Magnetic lines of force form a close curve B. Inside a magnet, its magnetic lines of force move from north pole of a magnet towards its south pole C. Magnetic intensity is a measure of lines of force passing through D. Due to a magnet magnetic lines of force never cut each other
137	Choose the correct statement:	A. Both an ammeter and voltmeter should have small resistance B. Both an ammeter and voltmeter should have large resistance C. An ammeter should have large resistance and a voltmeter should have small resistance D. An ammeter should have small resistance and a voltmeter should have large resistance
138	The magnetic moment of a circular coil carrying current is:	A. Directly proportional to the length of the wire in the coil B. Inversely proportional to the length of the wire in the coil C. Directly proportional to the square of the length of the wire in the coil D. Inversely proportional to the square of the length of the wire in the coil
139	Shunt resistance is an ammeter of resistance R to decrease its deflection from 30 ampere to 10 ampere is:	A. R/4 B. R/3 C. R/2

		D. R
140	Which of the following particles would experience the largest magnetic force when projected with the same velocity perpendicular to a magnetic field?	A. Proton B. Electron C. He⁺ D. Li⁺
141	If in a moving coil galvanometer a current "I" produces a deflectionθ, then :	A. i∝tanθ B. i∝θ² C. i∝θ D. i∝√θ
142	In an ac circuit with voltage V and current 'I' the power dissipated is:	A. VI B. 1/2 VI C. 1/√2 VI D. Depends on the phase between V and I
143	The primary winding of transformer has 500 turns where as its secondary has 5000 turns. The primary is connected to an a.c. supply of 20 V, 50 Hz. The secondary will have an out put of:	A. 200V, 50Hz B. 2V, 50Hz C. 200 V, 500Hz D. 2V, 5Hz
144	The number of turns in the primary coil of a transformer is 200 and the number of turns in the secondary coil is 10. If 240 volts ac are applied to the primary, the output from the secondary will be:	A. 48 A B. 24V C. 12V D. 6V
145	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
146	The average power dissipation in a pure capacitor in AC circuit is :	A. 1/2 CV² B. CV² C. 2CV² D. Zero
147	In an L-R circuit, time constant is that time in which current grows from zero to the value:	A. 0.63 I₀ B. 0.50 I₀ C. 0.37 I₀ D. I₀
148	Quanity that remains unchaged in a transformer is:	A. Voltage B. Current C. Frequency D. None of these
149	The direction of induced current is such that it opposes the very cause that has produced it. This is the law of:	A. Lenz B. Faraday C. Kirchoff D. Fleming
150	A particle is moving in a uniform magnetic field, then:	A. Its momentum changes but total energy remains the same B. Both momentum and total energy remains the same C. Both changes D. Total energy change but momentum remains
151	A particle moving in a magnetic field has increase in its velocity, then its radius of the circle:	A. Decreases B. Increases C. Remains the same D. Becomes half

152	In L.C.R seires A.C. circuit, the phase angle between current and voltage is:	A. Any angle between 0 and±π/2 B. π/2 C. π D. Any angle between 0 andπ/2
153	In an A.C. circiut, a resistance of R ohm is connected in series with an inductance L. If phase angle between voltage and current be 45°, the value of inductance reactance will be:	A. R/4 B. R/2 C. R D. Cannot be found with given data.
154	A 220V, 50 Hz. A.C. source is connected to an inductance of 0.2 H and a resistance of 20 ohm in series. What is the current in the circuit?	A. 10 A B. 5A C. 33.3A D. 3.33V
155	A capacitor acts as an infintite resistance for:	A. AC B. DC C. Both AC and DC D. Neither AC not DC
156	An ideal choke (used along with fluoresent tube) would be:	A. A pure resistor B. A pure capacitor C. A pure inductor D. A combination of an inductor and a capacitor
157	A peak voltage in a 220 volt A.C. supply is nearly:	A. 220 Volt B. 253 Volt C. 311 Volt D. 440 Volt
158	In a capacitive circuit:	A. Current leads voltage by phase ofπ/2 B. Voltage leads voltage by phase ofπ/2 C. Current and voltage are in same phase D. Sometime current and sometime voltage leads
159	The reactance of a coil when used in the domestic A.C. power supply (220 volts, 50 cycles per second) is 50 ohms. The resistance of the coil is nearly.	A. 2.2 henry B. 1.6 henry C. 0.22 henry D. 0.16 henry
160	Energy is stored in the choke coil in the form of:	A. Heat B. Magnetic energy C. Electric energy D. Electro-magnetic energy
161	The unit is the unit for:	A. Resistance B. Magnetic flux C. Magnetic field D. Inductance
162	The dimentional formula for the modulus of elasticity is same as that for:	A. Stress B. Strain C. Velocity D. Surface tension
163	Which of the modulus of elasticity is involved in compressing a rod to decrease its length?	A. Young's Modulus B. Bulk Modulus C. Modulus of rigidity D. None of the above
164	Steel is prefered for making springs over copper. Why?	A. Steel is cheaper B. Young's modulus of steel is more than that of copper C. Young's modulus of copper is more than that of steel D. Steel is less likely to be oxidized

		D. Steel is less likely to be oxidized
165	The modulus of rigidity of a liquid is:	A. Zero B. 1 C. Infinity D. A value not one of those mentioned above
166	How does Young's Modulus vary with the increase of temperature?	A. Decrease B. Increases C. Remains constant D. First increases and then decreases
167	A wire is stretched to double of its length. The strain is :	A. 2 B. 1 C. Zero D. 0.5
168	According to the Hooke's law the force required to change the length of a wire by 'l' is proportional to:	A. l⁻² B. l⁻¹ C. l D. l²
169	For obtaining appreciable extension, the wire should be:	A. Short and thin B. Long and thin C. Short and thick D. Long and thick
170	A cable that can support a load W is cut into two equal parts. The maximum load that can be supported by either part is:	A. W/4 B. W/2 C. W D. 2W
171	A cable breaks if stretched by more than 2 mm. It is cut into two equal parts. How much either part can be stretched with out breaking?	A. 0.25 m B. 0.5 m C. 1 mm D. 2 mm
172	In case of p-n junction diode, at high value of reverse bias, the current rises sharply. The value of reverse bias is known as:	A. Cut off volatage B. Zener voltage C. Inverse voltage D. Critical voltage
173	In a common base transister circuit, the current gain is 0.98. On changing the emitter current by 5.00 mA, the change in collector current is:	A. 0.196 mA B. 2.45 mA C. 4.9 mA D. 5.1mA
174	When we apply reverse bias to a junction diode, it:	A. Lowers the potential barrier B. Raises the potential barrier C. Increase the majority career current D. Increase the minority carrier current
175	When boron is added as an impurity to silicon, the resulting material is:	A. n-type conductor B. n-type semiconductor C. p-type conductor D. p-type semiconductor
176	The forbidden gap with in germanium and silicon are 0.7 eV and 1.1 eV repectively. It implies, that:	A. Both silicon and germanium are perfect conductors at very low temperatures but very good insulators at room tempratures B. Both silicon and germanium are perfect insulators at room tempratures C. Both silicon and germanium are perfect conductors at very low temperatures but very good insulators at room tempratures D. Same as (C) above but with germanium shown better conductivity at room temperature.
177	A p-n junction has a thickness of the order of:	A. 1 cm B. 1 mm C. 10-6 cm D. 10-12 cm
178	The part of the transistor which is heavily doped to produce large number of majority carriers is:	A. Emitter B. Base C. Collector D. Any of the above depending on nature of transistor
179	When n-type semiconductor is heated,	A. Number of electrons increases while that of holes decreases B. Number of holes increases while that of electrons decreases C. Number of electrons and holes remain same D. Number of electrons and holes

		D. Number of electrons and holes increases equally.
180	Copper and germanium are cooled to 70K from rooms temperature, then	A. Resistance of copper increases while that of germanium decreases B. Resistance of copper decreases while that of germanium increases C. Resistance of both decreases D. Resistance of both increases
181	Radio waves of constant amplitude can be generated with:	A. Rectifier B. Filter C. PET D. Oscillator
182	A photo cell with a constant p.d. of V volt across it illumicated by a point source from a distance of 25 cm. When the source is moved to a distance of 1m, the electrons emiited by the photocell :	A. Carry 1/4th their previous energy B. Are 1/6th as numerous as before C. Are 1/4th as numerous as before D. Carry 1/4th their previous momentum
183	Shinning light of wavelengthλ and intensity 'I' on a surface S produces photoelectrons at rate R and with maxnimum kinetic energy E. Consider the following statements for the effect of changing one parameter at a time: a. Double I always doubles b. Double I does not change E at all c. Makingλ half always makes E more than 2-fold. The true statements are:	A. 1 and 2 only B. 2 and 3 only C. 1 and 3 only D. All of these
184	A monochromattic source of light is placed at a large distance d from metal surface. Photoelectrons are ejected at rate n, kinetic energy being E. If the source in brought nearer to distance d/2, the rate and kinetic energy per photoelectron become nearly:	A. 2n and 2E B. 4n and 4E C. 4n and E D. n and 4E
185	The frequency of the incident light falling on a photosensitive metal plate is doubled, the kinetic energy of the emitted photoelectrons is:	A. Double the earlier value B. Unchanged C. More than doubled D. Less than doubled
186	When a light of wavelength 300 nm (nanometer) falls on a photoelectric emitter, photoelectrons are liberated. For another emitter, however, light of 600 nm wavelength is sufficient for creating photoemission. What is the ratio of the work functions of the two emitters?	A. 1 : 2 B. 2 : 1 C. 4 : 1 D. 1 : 4
187	Ultra-voilet radiations of 6.2 eV falls on an aluminium surface. K.E. of fastest electron emitted is (Work function = 4.2 eV)	A. 3.2 x 10 - 21 J B. 3.2 x 10 - 19 J C. 7 x 10 - 25 J D. 9 x 10 - 32 J
188	A photoelectric cell converts:	A. Electric energy into light energy B. Light energy into mechanical energy C. Light energy into electric energy D. Mechnical energy into light energy
189	The essential distinstion between X-rays andγ-rays is that:	A. γ-rays have smaller wavelength that X-rays B. γ-rays estimate from nucleus while X-rays from outer part of the atom C. γ-rays have greater ionizing power than x-rays D. γ-rays are more penetrating than X-rays
		A. N∝ L and E∝λ B. N∝ L and E

190	A beam of light of wavelengthγ and with illumination L falls on a clean surface of sodium. If N photoelectrons are emitted each with kinetic energy E, then	rgb(34, 34, 34);">∝ L and E∝ 1/λ C. N∝ L and E∝L D. N∝ 1/λand E∝1/L
191	The minimum wavelength of the X-rays produced by electrons accelerated through a potential difference V volts is directly proportional to:	A. √V B. V² C. 1/√V D. 1/V
192	There are discrete enrgy levels in atoms. It was first expertimentally demonstrated by:	A. Rutherford's experiment B. Franks Hertz experiment C. Marsden's experiment D. So0merfield experiment
193	Which of the following sources give discrete emission spectrum?	A. Incandescent electric bulb B. Sun C. Mercury vapour lamp D. Candle
194	In which of the following states does the incandescent substance give ciontinous sopectrum?	A. Vapours in molecular state B. Vapours in atomic state C. Solid or fluid in bulk state D. Solid or fluid in plasma state
195	Band spectrum is produced by:	A. H B. He C. H₂ D. Na
196	Who explained trhe origin of the fraunhoffer lines?	A. Fraunhoffer B. Kirchhoff C. Fresnel D. Smell
197	The nuclear model of an atom was proposed by:	A. J.J. Thomson B. E. Rutherford C. Neil Bohr D. Summerfield
198	To explain his theory Bohr used:	A. Conversation of linear momentum B. Conversation of angular momentum C. Conversation of quantum frequency D. Conversation of energy
199	In which region of electromagnetic spectrum does te Lyman series hydrogen atom lie:	A. Ultraviolet B. Infrared C. Visible D. X-ray
200	According to classical theory the proposed circular path of an electrons in Rutherford model of atom will be:	A. Circular B. Straight line C. Parabolic D. Spiral
201	Electrons in the atom are held in the atom due to:	A. Coulumb forces B. Nuclear forces C. Gravitational forces D. Van der Wall's forces

202	The nuclear 6C12 absorbs an energetic neutron and emits a beta particle (β). The resulting nucleaus is:	A. ₇N¹⁴ B. ₅B¹³ C. ₇N¹³ D. ₆C¹³
203	The mass defect for the nucleas of helium is 0.0303 a.m.u. What is the binding energy per nucleon for helium in MeV?	A. 28 B. 7 C. 4 D. 1
204	When a hydrogen atom is bombarded, the atom is excited to the n=4 state of hydrogen atom. The energy released when the atom falls from n=4 state to the ground state is:	A. 1.275 eV B. 12.75 eV C. 5 eV D. 8 eV
205	The mass of a proton is 1847 times that of an electron. An electron and a proton are projected into a uniform electric field in a direction at right angles to teh direction of the field with the same initial kinetic energy. The	A. Both the trajectories will be equally curved B. The proton trajectory will be less curved than the electron trajectory C. The electron trajectory will be less curved than proton trajectory D. The relative curving of the trajectories will be dependent on the value of the initial kinetic energy.
206	As the electron in Bohr orbit of hydrogen atom passes from stat n=2 to n=1, the kinetic energy K and potential energy U change as:	A. K two-fold, U also two-fold B. K four-fold, U also four-fold C. K four-fold, U also two-fold D. K two-fold, U also four-fold
207	The half life of the radio-isotope is 5 years. The fraction of atoms decayed in this substance after 15 years will be:	A. 1 B. 3/4 C. 7/8 D. 5/8
208	The structure of solids is investigated by using:	A. Cosmic rays B. X-rays C. Intra red Radiation D. γ-rays
209	The de Broglie wave corresponding to a particle of mass m and velocity v has a wavelength associated with it:	A. h/mv B. hm v C. mh/v D. m/hv
210	The cadhode of the photoelectric cell is changed sugh that the work function changes from W1 to W2 (W2 > W1). If the current before and after change are 11 and 12 , all other conditions remaining unchanged, then (assuming hv > W2)	A. I₁ = I₂ B. I₁ < I₂ C. I₁> I₂ D. I₁ < I₂ < 2I₁
211	The average binding energy of a nucleon inside an atomic nucleas is about:	A. 8 MeV B. 8 eV C. 8 Joules D. 8 erges