MDCAT Physics Chapter 1 Test Session

Sr	Questions	Answers Choice
1	The age of universe is	A. 5 x 10¹⁷ sec B. 1.4 x 10¹⁷ sec C. 3.2 x 10⁷ sec D. 8.6 x 10⁴ sec
2	For a measuring scale having least count of 10 kg, how many significant figure are there in 7000 kg	A. 1 B. 2 C. 3 D. 4
3	The least count of stop watch is 0.10 sec,The time of 20 vibrations of pendulum is 40 sec The maximum possible percentage uncertainly in time period is	A. 0.016 B. 0.10 C. 0.001 D. 0.005
4	Which of them is not a physical quantity	A. Density B. Impulse C. Energy D. Kilogram
5	The dimensions of ½at^2 are of	A. length B. Velocity C. Acceleration D. TIme
6	The error is constant for _____ error	A. Random B. Systematic C. Both (a) and (b) D. None of these
7	Dimensions of refractive index	A. [M°L°T°] B. [MLT] C. [ML⁻¹T⁻¹] D. None
8	Which of the following is not measured in units of energy	A. Couple (angle turned through) B. Moment of inertia (angular velocity) ² C. Force (distance) D. Force (time)
9	Three bodies are of masses m_1 = 2.2 kg, m_2 = 10.02 g and m_3 = 10.01 g, the sum of their masses up to the appropriate is	A. 2.2 kg B. 2.203 kg C. 2.023 kg D. 2.0202 kg
10	nuclear physics deals with	A. Atom B. Atomic nuclei C. Elementary particles D. Light
11	Physical sciences deals with	A. Living things B. Nonliving things C. Both living and non- living D. Non of these
12	The whole range of colour printing uses just	A. 4 colours B. 3 colours C. 2 colours D. Red, blue, gray
13	Reduce the given number up to three significant figures 64.6546	A. 64.6 B. 64.7 C. 64.66 D. 64.65

14	Under same environment the measurement of a physical quantity gives different values. The error in measurement is called	A. Random error B. Systematic error C. Physical error D. Uncertainty
15	N-kg^{-1}is the unit of	A. Velocity B. Force C. Acceleration D. None of these
16	The derived unit of pressure is	A. kg/Ns B. kgm²/s² C. kg/m²s² D. kg/ms²
17	The ratio of SI units to CGS units of gravitational constant G will be	A. 10⁻³ B. 10 C. 10² D. 10³
18	Which of the following is dimensionally correct	A. Pressure = energy per unit area B. Pressure = energy per unit volume C. Pressure = force per unit volume D. Pressure = Momentum per unit volume per unit time
19	The error in the measurement of radius of sphere is 0.3% The maximum error in the measurement of its volume	A. 0.6% B. 0.9% C. 0.3% D. (4/3) π(0.3)²
20	If the unit of length, mass and time each be doubled, the unit of work is increased by	A. 2 times B. 6 times C. 4 times D. 8 times
21	The most accurate measurement out of the following is	A. 2 cm B. 2.0 cm C. 2.00 cm D. 2.000 cm
22	The number of significant figures in 5850 is	A. 3 B. 4 C. 5 D. 2
23	Smaller the least count of the instrument more is the measurement	A. Accurate B. Precise C. Accurate and precise D. None of these
24	One light year is equal to	A. 9.5 x 10¹⁵m B. 9.5 x 10¹⁵sec C. 9.5 x 10¹⁵km D. 9.5 x 10¹⁵cm
25	The dimensions of velocity gradient are same as that of	A. Frequency B. Time period C. Angular accelerations D. Accelerations
26	The energy equivalent to the mass of one Kilogram is	A. 3 x 10⁸j B. 931 Mev C. 9 x 10¹⁶m D. 25 Mev
27	When 400.1 is added to 20.54 we get	A. 420 B. 420.65 C. 420.1 D. 420.6
28	If the line of action of force passes through the axis of rotation or origin then its torque is	A. Maximum B. Zero C. Negative D. Non-zero
29	In the self-cross product the angle is	A. 0° B. 45° C. 90° D. 180°
30	Two forces of 6 N and 8 N can produce a resultant of	A. 0 N B. 1 N C. 10 N

		C. 10 N D. 18 N
31	If we have two vectors of magnitude 4 and 5 respectively and between them is 60°, what is magnitude of resultant	A. 4 B. 8 C. 2 D. 3
32	For a quantity to be a vector it must has/have	A. Magnitude and direction B. Obey law of vector addition C. Both (a) and (b) D. Only (a)
33	Minimum number of unequal forces whose vector sum can be zero is	A. 3 B. 4 C. 2 D. 5
34	When three forces acting at a point are in equilibrium then	A. Each force is numerically equal to the sum of the other two B. Each force is numerically greater than the sum of the other two C. Each force is numerically greater than the difference of the other two D. None of the above
35	The coplanar forces acting on a body keep it in equilibrium so they be	A. Parallel B. Non=parallel C. Concurrent D. Non-concurrent
36	A physical quantity which has both magnitude and direction but does not satisfies parallelogram law of addition	A. Must be a vector B. May be both scalar and vector C. Scalar D. None
37	Which of the given quantity is a vector	A. Pressure B. Momentum C. Kinetic energy D. Volume
38	When body is at rest or rotating with uniform angular velocity is has	A. Zero angular acceleration B. Rotationaly equilibrium C. Zero torque D. All are correct
39	The horizontal component of a force at an angle 60° with it is 50N. The value of force is	A. 43.3 N B. 50 N C. 100 N D. 120 N
40	The resultant of two equal forces is double of either of the forces. The angle between them is	A. 120° B. 90° C. 60° D. 180°
41	A person moves 30m north then 20m east then 30√2 m south west His displacement from the original position is	A. 14 m south west B. 28 m south C. 10 m west D. 15 m east
42	The direction of a vector in a space is specified by	A. One angle B. Two angles C. Three angles D. Cannot be specified
43	If the direction of force acting on a body capable of rotating about a point is reversed than	A. Magnitude of torque changes and direction remains same B. Magnitude of torque changes and direction is reversed C. Magnitude and direction both changes D. Magnitude of torque remains same and direction is reversed
44	The magnitude of X and Y component of P are 7 and 6.The magnitude of X and Y components of P + Q are 11 and 9 respectively. What is the magnitude of Q	A. 9 B. 8 C. 6 D. 5
45	Reverse process of vector addition is called	A. Negative of a vector B. Subtraction of vector C. Resolution of a vector D. Multiplication of a vector
46	If a force of 20 N makes an angle of 60° with the y-axis,then its vertical component will be	A. 5 N B. 17.32 N C. 10 N D. 8.66 N
		A. Tan⁻¹ (3/2)

47	The angle between the vector 2i + 2j and the y-axis is	A. Tan⁻¹ (0/2) B. Tan⁻¹ (2/3) C. Sin⁻¹ (2/3) D. Cos⁻¹ (3/2)
48	The minimum number of unequal forces whose vector sum can be zero is	A. 3 B. 2 C. 1 D. 4
49	The example of vector product is	A. Torque B. Tangential velocity C. Angular momentum D. All of these
50	A chocolate cookie is a circular disk of diameter 8.5 ± 0.02 cm and thicknes 0.050 ± 0.005 cm the average volume in cm^3 is	A. 2.83 ± 0.3 B. 2.38 ± 0.27 C. 11.35 ± 1.2 D. 9.31 ± 1.12
51	Curie is the unit of	A. decay constant B. activity C. half-life D. average life
52	SI unit of water equivalent of electrons is	A. Kg B. Kg² C. Kg³ D. Kg¹
53	The magnetic moment of electron is	A. 9.27 x 10⁻²⁴ joule/Tesla B. 9.27 x 10⁻²⁴ Tesla/joule C. 9.27 x 10⁻²³joule/Tesla D. 9.27 x 10⁻²³Tesla/joule
54	One electrostatic unit (esu) of charge is equivalent to	A. 3.3 x 10 coulomb B. 3.3 x 10⁻⁹coulomb C. 3.3 x 10⁻¹⁰coulomb D. 3.3 x 10⁻¹¹coulomb
55	The value of solar constant in SI system is	A. 1340 watt/m² B. 1340 watt/m² C. 1340 m²/watt D. 1340 watt/m
56	The correct statement about poissons ratio is	A. Its unit is N/m² B. It is dimensionless C. Its unit is Newton D. Its dimensions MLT²
57	The SI unit gravitational potential is	A. Joule/Kg B. Kg/joule C. Joulex/Kg D. Joulex/Kg
58	One watt-hour is equivalent to	A. 3.6 x 10³ joule B. 3.6 x 10⁻³ joule C. 6.3 x 10³ joule D. 6.3 x 10⁻³ joule
59	The dimensions of intensity of energy are	A. MLT⁺²⁷T¹ B. MLT²T² C. ML³ D. MLT⁻²T³
60	Which of the following is not the unit of time	A. Leap year B. Lunar month C. Solar day D. Parallactic second
61	One micron is equivalent to	A. 10⁻⁴m B. 10⁻⁶m C. 10⁴m D. 10⁶m
62	The mass of electrons in Me V is	A. 1.02 Mev/C² B. 0.51 Mev/C² C. 51 Mev/C² D. 102 Mev/C²
63	The ratio of nuclear magneton and and Bohr magneton is	A. m_e/m_p B. m_p/m_e C. m_e/m_p D. 2m_p/m_{ez}
64	The value of Faraday number is SI unit is	A. 9.65 Coulomb/kg/equivalent B. 9.65 x 10⁷Coulomb/kg/equivalent C. 9.65 x 10⁻⁷

		</sup>Coulomb/kg/equivalent D. 9.65 Coulomb/kg/equivalent
65	The fundamental unit of the quantity of matter is	A. Kg B. Mol C. Gm D. Meter
66	In a experiment to determine acceleration due to gravity by simple pendulum a student commits 1 % positive error in the measurement of length and 3 % negative error in the measurement of time period The percentage error in the values of g will be	A. 7% B. 10% C. 4% D. 3%
67	The dimensions of the coefficient of viscosity are	A. [ML⁻¹T¹] B. [MLT] C. [M⁻¹L⁻¹T¹] D. [M⁰L⁰T⁰]
68	If the error in the measurement radius of a sphere is 1% then the error in the measurement of volume will be	A. 8% B. 5% C. 3% D. 1%
69	The ratio of the atomic radius to nuclear radius is	A. 10⁴ B. 10⁻⁴ C. 10² D. 10⁻²
70	One ferms is equivalent to	A. 10⁻¹⁴ meter B. 10¹⁴ meter C. 10⁻¹⁵ meter D. 10¹⁴ meter
71	Debye is the unit of	A. Magnetic dipole moment B. Electric dipole moment C. Density D. RMS velocity
72	The units of the temperature coefficient of resistant are	A. ΩK⁻¹ B. K⁻¹ C. ΩK D. (ΩK)⁻¹
73	How many wave lengths of Kr^{86} are contained in one meter	A. 1553164.13 B. 652189.63 C. 2347127.23 D. 1650763.73
74	A science student takes 100 observations in an experiment Second time he takes 500 observations in the same experiment By doing so the possible error becomes	A. 5 times B. 1/5 times C. Unchanged D. None of these
75	If the error in the measurement of radius of a sphere is 1% then the error in the measurement of volume will be	A. 1.1% B. 3% C. 5% D. 8%
76	Light year is the unit of	A. Speed B. Mass C. Distnace D. Time
77	The unit of surface energy per unit area may be expressed as	A. Nm⁻² B. Nm⁻¹ C. Nm D. Nm²
78	Demension of torque is	A. MLT⁻² B. ML²T⁻¹ C. ML²T⁻² D. ML²T²
79	Unit of solid angle is	A. Radian B. Degree C. Steradian D. Revolution
80	For assessment if total uncertainly in case of division	A. Absolute uncertainly are added B. Absolute uncertainty are subtracted C. Percentage uncertainties are added D. Percentage uncertainties are substracted
81	To decrease timing uncertainly	A. Increase number of vibration B. Decrease number of vibration C. Increase length of pendulum D. Decrease length of pendulum

82	Correction factor can be applied to	A. Personal error B. Systematic error C. Random error D. All
83	Light year is a unit of	A. Distance B. Speed C. Acceleration D. intensity
84	In addition and subtraction	A. Percentage uncertainties are added B. Percentage uncertainties are subtracted C. Absolute uncertainties are added D. Absolute uncertainties are subtracted
85	The number of seconds in one year are	A. 3.154 x 10⁶ B. 3.154 x 10⁵ C. 3.154 x 10⁴ D. 3.154 x 10⁷
86	Dimension of G are	A. [ML³T²] B. [M⁻¹L²T²] C. [M⁻¹L³T²] D. [M⁻¹L³T²]
87	Si system is based upon _____ kind of units	A. One B. Two C. Three D. Four
88	Reduce the following figure up to three significant figure 64.4567	A. 64.5 B. 64.4 C. 64.3 D. None
89	Fractional error in a measured quantity is determined by	A. Measured value / Absolute error B. Absolute error / Measured value C. Measured value + Absolute error D. Measured value - Absolute error
90	Dimension of coefficient of viscosity is	A. [MLT¹] B. [L⁻¹T^{1]} C. [ML⁻¹T^{1]} D. [M⁻¹L⁻¹T^{1] }
91	Three students measured the length of needle with a meter rod Which of the following is correct measurement	A. 0.2145 m B. 0.21 m C. 0.2142 m D. None
92	Prefix pico stands for	A. 10⁻⁹ B. 10⁻⁶ C. 10⁻¹⁵ D. 10⁻¹²
93	Zero error of the instrument is a type of _____	A. Random error B. Personal error C. Systematic error D. Classified error
94	What are the base units of Planks constant h Remember the energy of a photon is given by h*f* where *f* element the frequency	A. kgms⁻¹ B. kgm²s⁻¹ C. kgm²s⁻² D. kgm²s⁻³
95	Identify the correct unit of pressure among t bese	A. kgms⁻¹ B. kgm⁻¹s⁻² C. kgm²s⁻² D. kgm⁻²s⁻¹
96	If drag force is given by F = krv what could be the SI units of k	A. kgm²s⁻¹ B. kgm⁻²s⁻² C. kgm⁻¹s⁻¹ D. kgms⁻¹
97	Which pair includes a base unit and a derived unit	A. Candela,mole B. Joule,pascal C. Kilogram,meter D. Second Newton
98	Which quantity has different units from the others	A. Mass X velocity B. Force X time C. Energy / velocity D. Power X time

		D. Power X time
99	The SI unit of heat is:	A. Calorie B. Horse power C. Joule D. Watt
100	How many wavelengths of Kr^{86} are these in one metre?	A. 1553164.13 B. 1650763.73 C. 2348123.73 D. 652189.63
101	The dimensional formula for modulus of rigidity is:	A. ML⁻¹T¹ B. ML⁻²T² C. MLT¹ D. ML⁻¹T⁻²
102	The dimensional formula for latent heat is:	A. M[°]L²T¹ B. ML²T⁻² C. MLT⁻² D. ML²T⁻¹
103	Unit of universal gas constant is SI is:	A. W K⁻¹ mol⁻¹ B. J/Nk⁻¹ mol⁻¹ C. Jk⁻¹ mol⁻¹ D. erg K⁻¹ mol⁻¹
104	The dimensional formula for angular momentum is:	A. (M°L²T⁻²) B. (ML²T⁻¹) C. (MLT⁻¹) D. (ML²T⁻²)
105	The fundamental unit which has same power in the dimensional formula of surface tension and viscosity is:	A. Mass B. Length C. Time D. None
106	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
107	Planck's constant has the dimensions of:	A. Energy B. Momentum C. Frequency D. Angular momentun
108	The dimensional formula of torque is:	A. [ML²T⁻²] B. [MLT⁻²] C. [ML⁻¹T²] D. [ML⁻²T⁻²]
109	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%
110	Which of the following is equal to: joule x ohm /volt x second?	A. Ampere B. Volt C. Watt D. Tesla
111	The unit of inductance is equivalent to	A. V xs/A B. V xA/s C. V x s/v D. V /A x s
112	The motion without consideration of its cause is studied in:	A. Kinematics B. Mechanics C. Statics D. Modern Physics
113	The siemens is the SI unit of	A. Resistance B. Specific Resistance C. Conductance D. Inductance
114	The volt/metre is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
		A. MLT⁻² B. ML²T⁻²

115	The dimensional formula of gravitational constant G is:	B. ML³T⁻² C. M⁻¹L³T⁻² D. M⁻¹LT⁻²
116	The unit of Stefan Boltzman constant σ is:	A. W/mK⁴ B. Cal/m³K² C. W/m²K⁴ D. K/m²K⁴
117	If C and R denote capacity and resistance,the dimensional formula of CR is	A. M°L°T⁻¹ B. M°L°T° C. M°L°T° D. Not expressible in terms of MLT
118	Indicate which pair of physical quantities given below has not the same units and dimensions?	A. Momentum and impulse B. Torque and angular momentum C. Acceleration and gravitational field strength D. Pressure and modulus of elasticity
119	Of the following quantities,which one has dimensions different from the remaining three	A. Energy per unit volume B. Force per unit area C. Product of voltage and charge per unit volume D. Angular momentum
120	The dimensional formula of angular velocity is:	A. M[°]L[°]T⁻¹ B. MLT⁻¹ C. M[°]L[°]T⁻¹
121	The dimensional formula of light year is	A. LT⁻¹ B. T C. ML²T⁻² D. L
122	The unit of permittivity of free space ε◦ is:	A. Newton-metre²/coulomb B. Coulomb/Newtonxmetre C. Coulomb²/(Newtonxmetre)² D. Coulomb²/(Newtonxmetre)²
123	If L and R denote inductance and resistance respectively.then the dimensional formula of L/R is:	A. (M°L°T°) B. M°L°T° C. (M²L[°]T²) D. (MLT²)
124	Which of the following quantities has not been expressed in proper units?	A. Stress/Strain= Newton/metre² B. Surface tension = Newton/metre C. Energy = kg m/s D. Pressure = newton/metre²
125	Which of the following quantity is expressed as force per unit area?	A. Work B. Pressure C. Volume D. Area
126	A student measured the diameter of a wire using a screw gauge with least count 0.001cm.The correct measurement is	A. 5.3 cm B. 5.32 cm C. 5.320 cm D. 5.3200 cm
127	From the following pairs,choose the pair that does not have identical dimensions	A. Angular momentum and Planck's constant B. Moment of inertia and Moment of force C. Work and Torque D. Impulse and Momentum
128	The mks unit of Mechanical Equivalent of heat is	A. Joulex calorie B. Joule/ calorie C. Calorie x erg D. erg/ calorie
129	The Physical quantity which has the dimensional formula M^1T^{-3} is	A. Surface tension B. Solar constant C. Density D. Compressibility
130	If L and R represent inductance and resistance respectively,then dimensional formula of L/R will be	A. ML°T° B. M°L°T C. M°L°T⁻² D. M°LT⁻²
131	S,I unit of magnetic flux is	A. Weber metre⁻² B. Weber C. Weber per metre D. Weber per metre⁴

132	Numerical value of magnitude of a physical quantity is	A. Independent of system of units B. Directly proportional to magnitude of the unit C. Inversely proportional to magnitude of the unit D. Either (B) or (C)
133	Which of the following is not the unit of energy?	A. Calorie B. Joule C. Electron-volt D. Watt
134	Which one of the following groups have quantities that do not have the same dimensions?	A. Velocity,speed B. Pressure,stress C. Force,impulse D. Work,energy
135	Wb/m^2 is equal to	A. Henry B. Watt C. Tesla D. Dynes
136	The unit of focal power of a lens is	A. Watt B. Horse power C. Dioptre D. Kilo watt
137	The dimensions of Planck's constant is equal to that of	A. Energy B. Momentum C. Angular momentum D. Power
138	Identify the pair whose dimensions are equal	A. Torque and work B. Stress and energy C. Force and stress D. Force and work
139	The unit of Planck's constant h is same as that of	A. Energy B. Work C. Linear momentum D. Angular momentum
140	Which of the following quantity is dimensionless?	A. Gravitational constant B. Plank's constant C. Power of lens and gas constant D. None of these
141	If the acceleration due to gravity is 10 ms^{-2} and the units of length and time are changed to kilometer and hour respectively,the numerical value of acceleration is	A. 360000 B. 72000 C. 36000 D. 129600
142	The dimensions of the quantities in one of the following pairs are the same.identify the pairs.	A. Torque and work B. Angular momentum and work C. Energy and Young's modulus D. Light year and time
143	Length can not be measured by	A. Fermi B. Debye C. Micron D. Light year
144	Pick out the wrong pair:	A. Charge-coulomb B. Temperature-thermometer C. Pressure-barometer D. sp.gravity-hygrometer
145	Which of the following is the smallest unit?	A. Millimeter B. Angstrom C. Fermi D. Metre
146	The number of significant figures in all the given number 25.12.2009,4.156 and 1.257×10^{-4} is	A. 1 B. 2 C. 3 D. 4
147	If unit of length mass and time each be doubled the unit of work done is increased by	A. 4 times B. 6 times C. 8 times D. 2 times
148	The length breadth and thickness of a block are given by 1= 12 cm b= 6 cm and t= 2.45 cm.the volume of the block according to the idea of significant figures should be:	A. 1 x10² cm³ B. 2 x 10² cm³ C. 1.763 x 10² cm³ D. None of these
	The percentage errors in the measurement of mass and speed are 3% and 4%	A. 11% B. 10%

149	The percentage errors in the measurement of mass and speed are 3% and 4% respectively.The maximum error in the measurement of kinetic energy is:	B. 10% C. 8% D. 9%
150	Which of the following is a scalar quantity	A. Density B. Displacement C. Torque D. Weight
151	Which of the following is the only vector quantity	A. Temperature B. Energy C. Power D. Momentum
152	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
153	The angle between rectangular components of a vector is	A. 0° B. 60° C. 90° D. 120°
154	A force of 10N is acting along y-axis.Its component along x-axis is	A. 10N B. 20N C. 100N D. ZeroN
155	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°
156	Two forces of 10N and 15N are acting simultaneously on an object in the same direction Their resultant is.	A. Zero B. 5N C. 25N D. 150 N
157	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
158	If two non-zero vector A and B are parallel to each other.then A .B is equal to	A. Zero B. AB C. A + B D. A-B
159	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 above is correct
160	The vector product of two non zero vectors is zero when	A. They are parallel to each other B. They are perpendicular to each other C. They are equal vectors D. They are inclined at angle of 60°
161	If (a x b) points along positive z-axis,then the vectors a and b must lie in.	A. yz-plane B. zx-plane C. xy-plane D. None of the above
162	Identify the vector quantity	A. Heat B. Angular momentum C. Time D. Work
163	A boat which has a speed of 5 km/h in still water crosses a river of width 1 km along the shortest path in 15 minutes.The velocity of the river in km/s is:	A. 1 B. 3 C. 4 D. √41
164	The magnitudes of vectors A.B and C are 3,4 and 5 units respectively.If A + B = C the angle between A and B is:	A. π/2 B. cos⁻¹ 0.6 C. tan⁻¹ 7/5 D. π/4
165	The angle between two vectors -2î + 3ĵ + k̂ and î + 2ĵ-4k̂ is:	A. 0° B. 90° C. 180° D. None of the above
166	The angle between A and B is θ.The value of the triple product A,(B x A) is:	A. A²B B. Zero C. A²B sin θ D. A²B Cos θ

167	If two non zero vectors A and B obey the relation |A + B| = |A - B|.then the angle between them is:	A. 120° B. 90° C. 60° D. 0°
168	Five equal forces of 10N each are applied at one point and all are lying in one plane.If the angles between them are equal,the resultant force will be:	A. Zero B. 10 N C. 20 N D. 10 √2 N
169	The sum of two forces acting at a point is 16 N.if the resultant force is 8 N and its direction is perpendicular to minimum force then the forces are	A. 6 N and 10 N B. 8 N and 8 N C. 4 N and 12 N D. 2 N and 14 N
170	The magnitude of vector A,B and C are respectively 12,5 and 13 units and A + B = C then the angle between A and B is	A. 0 B. π C. π/2 D. π/4
171	If resultant of two forces (F and F) acting on a point is F,then the angle between two forces is.	A. 0° B. 45° C. 60° D. 120°
172	Which of the following is a scalar quantity?	A. Displacement B. Electric field C. Acceleration D. Work
173	A boy walks uniformly along the sides of a rectangular park of size 400 m x 300 m.starting from one corner to the other corner diagonally opposite.Which of the following statements is incorrect?	A. He has traveled a distance of 700 m B. His displacement is 700 m C. His displacement is 500 m D. His velocity is not uniform throughout the walk.
174	Which pair of the following force will never give resultant force of 2N?	A. 2 N and 2 N B. 1 N and 1 N C. 1 N and 3 N D. 1 N and 4 N
175	Two forces 3 N and 2 N are at an angle 0 such that the resultant is R.The first force is now increased to 6 N and the resultant becomes 2R.The value of θ is	A. 30° B. 60° C. 90° D. 120°
176	If the resultant of n forces of different magnitudes acting at a point is zero, then the minimum value of n is	A. 1 B. 2 C. 3 D. 4
177	Can the resultant of 2 vectors be 0?	A. Yes when the 2 vectors are same in magnitude and direction B. No C. Yes when the 2 vectors are same in magnitude but opposite in sense D. Yes when the 2 vectors are same in magnitude making an angle of 2π/3 with each other.
178	Which of the following quantities is a vector	A. Volume B. Temperature C. Displacement D. Density
179	The rectangular components of force 5 dyne are	A. 3 and 4 dyne B. 2.5 and 25 dyne C. 1 and 2 dyne D. 2 and 3 dyne
180	Angular momentum is	A. A scalar B. A vector C. Neither A.nor B. D. Either A.or B.
181	Two forces of magnitude 7 N and 5 N act on a particle at an angle θ to each other.θ can have any value.The minimum magnitude of the resultant force is	A. 12 N B. 8 N C. 2 N D. 5 N
182	Two forces of 4 dyne and 3 dyne act upon a body.The resultant force on the body can only be	A. Between 3 and 4 dyne B. Between 1 and 7 dyne C. More than 3 dyne D. More than 4 dyne
183	The resultant of two equal forces is double of either of the force.The angle between them is	A. 0° B. 60° C. 90°

		D. 120°
184	Two forces are such that the sum of their magnitudes is 18 N and their resultant is perpendicular to the smaller forces and the magnitude of resultant is 12.Then the magnitude of the forces are	A. 12 N,6 N B. 13 N,5 N C. 10 N,8 N D. 16 N,2 N
185	The maximum and minimum magnitudes of the resultant of two given vectors are 17 units and 7 units respectively.If these two vectors are at right angles to each other.the magnitude of their resultant is	A. 14 B. 16 C. 18 D. 13
186	Surface area is	A. Scalar B. Vector C. Neither scalar nor vector D. Both scalar and vector
187	The resultant of two forces.one double the other in magnitude,is perpendicular to the smaller of the two forces.The angle between the two forces is	A. 120° B. 60° C. 90° D. 150°
188	Dot product of two mutual perpendicular vector is:	A. 0 B. 1 C. ∞ D. None of these
189	The vector sum of two forces is perpendicular to their vector differences.In that case the forces	A. Are equal to each other in magnitude B. Are not equal to each other in magnitude C. Cannot be predicted D. Are equal to each other
190	Which of the following sets of concurrent forces may be in equilibrium?	A. F₁ - 3 N,F₂ - 5 N,F₃ = 6 N B. F₁ - 3 N,F₂ - 5 N,F₃ = 15 N C. F₁ - 3 N,F₂ - 5 N,F₃ = 1 N D. F₁ - 3 N,F₂ - 5 N,F₃ = 9 N
191	A person walks first 10 km north and 20 km east.then the resultant vector is	A. 22.36 km B. 22.46 km C. 25.23 km D. 20.36 km
192	Two forces of 12 N and 8 N act upon a body.The resultant force on the body has a maximum value of:	A. 4 N B. 0 N C. 20 N D. 8 N
193	Two forces P and Q have a resultant Perpendicular to P.the angle between the forces is:	A. tan⁻¹ (-P/Q) B. tan⁻¹(P/Q) C. sin⁻¹(P/Q) D. cos⁻¹ (-P/Q)
194	If A x B = B x A,then the angle between A and B is	A. π B. π/3 C. π/2 D. π/4
195	An airplane flies 400 m from north and then files 300 m south and then flies 1200 m upwards then net displacement is	A. 1200 m B. 1300 m C. 1400 m D. 1500 m
196	Two equal forces (P each) act at a point inclined to each other at an angle of 120°.The magnitude of their resultant is	A. P/2 B. P/4 C. P D. 2P
197	The study of nature has been classified into branches are:	A. Two B. Three C. Four D. None of these
198	The biological sciences deal with the	A. Living things B. Non-living things C. Both D. None of these
199	The physical sciences deals with	A. Living things B. Non-living things C. Both D. None of these

200	Physics is an important and basic part of physical sciences which is a	A. Mathematical science B. Experimental science C. Statistical science D. None of these
201	How many main frontiers are of fundamental science ?	A. One B. Two C. Three D. None of these
202	What type of science is Physics	A. Living things B. Non-living things C. Experimental science D. None of these
203	Physics deals with the study of	A. Matter and Energy B. Outer atmosphere C. Matter and Energy and their relationship D. None of these
204	Astrophysics is the branch of physics deals with the	A. Physics of oceans B. Physics of stars and galaxies C. Physics of earth crust D. None of these
205	Plasma physics is the branch of physics deals with the	A. Atoms B. Molecules C. Ions D. None of these
206	Solid state Physics is the branch of physics deals with the	A. Atoms and molecules B. Structure C. Properties D. b and c
207	Types of physical quantities are	A. one B. Two C. Three D. None of these
208	Base quantities are those which	A. Remain the same B. Can be derived C. Further divided D. None of these
209	Derived quantities are those which can	A. Be subdivided B. Be derived from other quantities C. Not derived D. None of these
210	Diameter of nucleus is	A. 10⁻¹² B. 10⁻¹⁵ C. 10⁻¹⁶ D. None of these
211	High energy physics is the physics of	A. Nucleus B. Subatomic particles C. Plasma physics D. Astrophysics
212	Aerodynamics is a branch of physics deals with the	A. Thermodynamics B. Hydrodynamics C. Dynamics D. None of these
213	The relativistic mechanics in which object move	A. Less than C B. Greater than C C. Equal to C D. Approach to C
214	The diameter of an atom is	A. 10⁻⁷ m B. 10⁻¹⁰ m C. 10⁻¹² m D. 10⁻¹⁴ m
215	The distance from Earth to Sun is	A. 10⁹ m B. 10⁸ m C. 10¹⁰ m D. 10¹¹ m
216	The diameter of the milky way is	A. 10¹⁵ m B. 10¹⁷ m C. 10¹⁸ m D. 10²⁰ m
217	The distance to the nearest galaxy is	A. 10²⁰ m B. 10²⁹ m C. 10³⁰ m

		C. 10³⁰ m D. 10³¹ m
218	Steradian is a unit of	A. Radius B. Plane angle C. Solid angle D. None of these
219	Steradian is an angle of	A. One dimensional angle B. Two dimensional angle C. Three dimensional angle D. None of these
220	Radian is an angle which is	A. Solid angle B. Plane angle C. Angle D. None of these
221	Scientific notation which can be expressed in the	A. Negative powers B. Powers of ten C. Decimals D. None of these
222	The expression of scientific notation is	A. One non-zero digit left of decimal B. One zero digit left of decimal C. Two zeros and one non-zero digits left of the decimal D. None of these
223	The number 134.7 should be written as	A. 13.47 × 10² B. 1.347 × 10² C. 13.47 × 10³ D. None of these
224	The number 0.0023 should be expressed as	A. 0.023 × 10⁻² B. 0.23 × 10⁻⁴ C. 2.3 × 10⁻³ D. None of these
225	Age of the Universe is	A. 5 × 10¹⁵ sec B. 5 × 10¹⁷ sec C. 5 × 10¹⁹ sec D. None of these
226	Age of the Earth is	A. 14 × 10¹⁷ sec B. 1.4 × 10¹⁹ sec C. 1.4 × 10¹⁷ sec D. 1.4 × 10¹⁵ sec
227	One year is equal to	A. 4.3 × 10¹⁰ sec B. 4.4 × 10⁸ sec C. 3.12 × 10⁷ sec D. 3.2 × 10⁶ sec
228	One day is equal to	A. 5 × 10⁷ sec B. 6.6 × 10⁴ sec C. 9.3 × 10³ sec D. None of these
229	Time between the normal heart beats is	A. 8 × 10⁻¹ sec B. _{8 × 10}⁻²_{sec} C. 8 × 10⁻³ sec D. None of these
230	Period of audible sound waves is	A. 1 × 10⁻⁴ sec B. 1 × 10⁻³ sec C. 1 × 10⁻² sec D. 1 × 10⁻¹ sec
231	Period of typical radio waves is	A. 1 × 10⁻⁸ sec B. 1 × 10⁻⁸ sec C. 1 × 10⁻⁶ sec D. 1 × 10⁻⁵ sec
232	Period of vibration of an atom in a solid is	A. 1 × 10⁻¹⁰ sec B. _{1 × 10}⁻¹³_{sec} C. 1 × 10⁻¹⁶ sec D. 1 × 10⁻¹⁹ sec
233	Period of visible light waves is	A. 2 × 10⁻¹⁰ sec B. 2 × 10⁻¹¹ sec C. 2 × 10⁻¹⁴ sec D. 2 × 10⁻¹⁵ sec
234	The error of any measurement may occur due to	A. Negligence B. Faulty apparatus C. Inappropriate method

		D. All of these
235	The uncertainty of any measurement may occur due to	A. Limitation to an instrument B. Natural vibrations of the object C. Natural imperfections of a persons sense D. All of these
236	In the measurement 12.7 measures	A. One accurately known digit B. Tow accurately known digit C. Two accurately known digit and one doubtfull D. None of these
237	Random error occurs when repeated measurements of the quantity under the same conditions gives	A. Equal values B. Different values C. Increasing values D. None of these
238	Systematic error refers to an effect that influences particular quantity for the measurements which are	A. All B. Some C. None D. a and b
239	In integers such as 8,000 Kg, significant zeros are determined by the instrument when least count is 1 Kg	A. 8.00 × 10³ Kg B. 8.000 × 10³ Kg C. 8.00 × 10³ Kg D. 8.0 × 10³ Kg
240	According to equation $E = mc^2$ Kg mass is actually the enrgy	A. 8 × 10¹⁵ J B. 9 × 10¹⁷ J C. 9 × 10¹⁶ J D. 8 × 10¹⁵ J
241	In colour printing, the entire range of colours uses just	A. Three colours B. Four colours C. Five colours D. None of these
242	The precision of measurement in physics depends	A. Average values B. Least count of instrument C. Error free instrument D. b and c
243	The mass of Uranium atom is	A. 10⁻¹⁰ Kg B. 10⁻¹⁵ Kg C. 10⁻²⁰ Kg D. 10⁻²⁵ Kg
244	Accuracy of a measurement depends on	A. Percentage uncertainty B. Fractional uncertainty C. Less absolutely D. None of these
245	For assessment of total uncertainty when added or subtracted the absolute uncertainties are	A. Multiplied B. Divided C. Added D. Subtracted
246	For assessment of total uncertainty when percentage uncertainties are	A. Added B. Subtracted C. Divided D. Multiplied
247	In the assessment of total uncertainties when power factor is involved, the percentage uncertainty is	A. Added B. Multiplied by that power C. Divided by that power D. None of these
248	The travel time of light from Moon to Earth is	A. 2 min 10 sec B. 1 min C. 1 min 20 sec D. 3 min 30 sec
249	The time taken by the light to travel from Sun to Earth is	A. 4 min 20 sec B. 5 min 20 sec C. 8 min 20 sec D. 9 min 20 sec
250	The time taken by the light to travel from Pluto to Earth is	A. 4 hrs 20 sec B. 5 hrs 20 sec C. 6 hrs 20 sec D. 76 hrs 20 sec
251	8.233 m, 2:105 m and 1.05 cm are the length, breadth and thickness respectively. Find volume of the sheet correct upto appropriate significant digits	A. 8.25 × 10⁻³ m³ B. 7.15 × 10⁻² m³ C. 7.85 × 10⁻² m³ D. None of these
	Total mass when silver coins are added to box as 2.2 kg, 0.01001 Kg and 0.01002	A. 2.3 Kg B. 2.2 Kg

252	Kg correct to appropriate precision	B. 2.2 Kg C. 2.43 Kg D. 2.67 Kg
253	The dimension stands for the nature of a physical quantity which is	A. Quantitative B. uantitative C. Numerical D. None of these
254	Light year is measured in	A. Time B. Length C. Speed D. None of these
255	By dimensional analysis, we can find	A. Correctness of formula B. Derivation of formula C. Physical nature D. All of these
256	We are living in the age of	A. Technology B. Information technology C. Space age D. None of these
257	The computer chips are made from	A. Semiconductor B. Conductor C. Silicon D. Sand
258	Base quantities are	A. Scalars B. Vectors C. Both D. None of these
259	Pascal is a unit of	A. Mass B. Power C. Pressure D. Intensity of light
260	The number 1678.9 should be written in scientific notation as	A. 16.789 × 10³ B. 1.6789 × 10³ C. 1678.9 × 10³ D. None of these
261	Supplementary unit/units in S.I. Units are	A. Radian B. Steradian C. Candela D. a and b
262	Pico is the prefix for	A. 10⁻¹⁰ B. 10⁻¹² C. 10⁻¹⁵ D. 10⁻¹⁸
263	SI Unit of power is	A. Joule B. Pound C. Watt D. Dyne
264	SI unit of temperature	A. Centigrade B. Celsius C. Kelvin D. All of these
265	Significant figure in 0.00110	A. One B. Two C. Three D. Four
266	Precision or absolute uncertainty and the least count have the relation in which absolute	A. uncertainties is double the least count B. Equal the least count C. Half the least count D. None of these
267	A precise measurement is the one which has	A. Absolute uncertainty B. Less absolute uncertainty C. More absolute uncertainty D. None of these
268	An accurate measurement is the one which has	A. Percertainity B. Less percentage uncertainty C. Less fractional uncertainty D. b and c
269	The difference between two separated positions are given as $X_1 = 10.5 \pm 0.1$ cm and $X_2 = 26.8 \pm 0.1$ cm. What is their absolute uncertainty	A. 1.63 ± 0.1 cm B. 16.3 ± 0.2 cm C. 3 ± 0.1 cm D. 16.3 ± 0.05 cm
		A. 7.72 ± 0.5 ohm

270	The percentage uncertainties are when current I is following 0.84 ± 0.05 A due to potential difference 5.2 ± 0.1 V. The uncertainty of R is	A. 7.72 ± 0.5 ohm B. 6.62 ± 0.5 ohm C. 6.6 ± 0.5 ohm D. None of these
271	The formula for the volume of a sphere is	A. 4 π² B. 4/3 π³ C. 4/3 π² D. 5/3 π³
272	The percentage uncertainty in measuring the volume of sphere measured by calipers callipers is when r = 2.25 ± 0.01 cm with least count ± 0.01 cm	A. 46.7 ± 0.5 cm² B. 47.7 ± 0.5 cm³ C. 47.7 ± 0.6 cm³ D. 477.6 ± 0.6 cm³
273	The time of 30 vibrations of simple pendulum by stop water accurate upto one tenth of a second is 54.6 sec.	A. 1.82 ± 0.003 sec B. 2.82 ± 0.03 sec C. 2.82 ± 0.003 sec D. None of these
274	Length of a metal cylinder with the help of a vernier callipers of least count 0.01 cm is 5.35 cm. Its percentage uncertainty in length is	A. 2% B. 2.3% C. 0.2% D. 0.3 %
275	Volume of metal cylinder with the help of a vernier callipers of least count 0.01 cm when diameter is 1.22 cm and length 5.35 cm. Find its uncertainty as	A. 6.02 ± 0.1 cm³ B. 6.2 ± 0.1 cm³ C. 6.25 ± 0.1 cm² D. 6.3 ± 0.1 cm³
276	The Dimension of length is	A. [L]⁰ B. [L]⁻¹ C. [L] D. None of these
277	The Dimensions of volume is	A. [V³]⁻¹ B. [L⁻³] C. [L]³ D. None of these
278	The Dimension of velocity is	A. [LT] B. [LT⁻¹] C. [L⁻¹T] D. None of these
279	The Dimension of acceleration is	A. [L²T] B. [LT²] C. [LT⁻²] D. None of these
280	The Dimension of Force is	A. [MLT⁻²] B. [MLT²] C. [ML²T⁻²] D. None of these
281	The dimension of gravitational constant G are	A. [ML²T⁻²] B. [M⁻¹L³T⁻²] C. [M⁻¹L²T⁻¹] D. [M⁻¹L⁻²T⁻²]
282	The dimensions of expression $V_f = V_i + at$. Taking the R.H.S	A. [LT] B. [LT²] C. [LT⁻¹] D. [LT⁻²]
283	The dimensional of density are	A. [MLT⁻³] B. [ML⁻³] C. [M³L] D. [ML³]
284	The dimensions of co-efficient of viscosity are	A. [ML⁻¹T⁻¹] B. [ML⁻²T⁻¹] C. [ML²T⁻³] D. [ML³T⁻¹]
285	The dimensions of power are	A. [ML²T²] B. [ML²T⁻²] C. [ML²T⁻³] D. [M²LT⁻³]
286	The dimensions of work are	A. [MLT⁻²] B. [ML²T⁻¹] C. [ML²T²] D. [ML²T⁻²]
		A. [ML²T⁻²]

287	The dimensions of pressure are	B. [ML-1T-2] C. [M²LT⁻¹] D. [M²LT⁻²]
288	The dimensions of Einsteins Equation $E = mc^2$	A. [ML⁻²] B. [ML²T⁻²] C. [M²LT²] D. [MLT⁻¹]
289	Vectors are those physical quantities which requires	A. Magnitude B. Magnitude and directions C. Direction D. None of these
290	How many ways vector can be represented	A. Bold letter B. Arrow over capital letter C. Graphically D. All ow them
291	The coordinate axes are those in which lines are drawn	A. Parallel B. Perpendicular C. At right angle D. All of them
292	When two axis are drawn at right to each other are called	A. Coordinate axes system B. Cartesian system C. Rectangular coordinate system D. All of these
293	An axis which is at right angle to both X and Y and Y axes direction is in space is called	A. Unit vector axis B. Zero vector axis C. Z-axis D. None of these
294	Vector subtractions is made when vectors are just	A. Added B. First make it negative then add C. Only make it negative D. None of these
295	Negative of vector can be made when	A. Magnitude is made negative B. Directions is reverse with negative magnitude C. Only direction is changed D. None of these
296	Multiplication of a vector is carried out by a	A. Number B. Direction C. Number and direction D. None of these
297	When a vector is multiplied by a scalar, the product of the quantity will be	A. A new vector quantity B. New direction C. Same direction D. a and c
298	A unit vector is defined as	A. Whose magnitude is one B. Show the given direction C. Opposite direction D. a and b
299	The unit vectors is not restricted to Cartesian coordinate system only. Unit vectors may have	A. Specific direction B. Any direction C. Not a and b D. None of these
300	A null vector is defined as	A. Zero magnitude B. Arbitrary direction C. Fixed direction D. a and b
301	A unit vector may be defined by the	A. Surface B. Direction by normal drawn vector C. Along the direction of surface D. a and b
302	Equal vectors are said to be equal if by have	A. Same magnitude and direction B. Same magnitude and opposite C. No position of initial points D. Direction a and b
303	Rectangular components are those which are	A. Right angle to each other B. Making angle of 90^O with each other C. Perpendicular to each other D. All of these
304	A component of a vector has its	A. Normal value B. Effective value C. Given direction D. b and c

305	The component of a vector has its direction as	A. Same B. Opposite C. perpendicular D. None of these
306	Position vector is a vector, which describes the	A. Location of a point with respect to origin B. Location of point with respect to any point C. Location of a point with respect to some related point D. None of these
307	Position vector is a vector which is drawn	A. From one point to another B. From origin to that point C. Always from origin to that point D. None of these
308	The positions of two aeroplanes at any instant are at A (2, 3, 4) and B(5, 6, 7) from the origin in km. Find the distance between the two aeroplanes.	A. 3.2 Km B. 4.9 Km C. 5.0 Km D. 5.2 Km
309	When R^x is negative and R^y is positive, the resultant lies in the second quadrant and its direction is	A. θ = 90 + Φ B. θ = 180 - Φ C. θ = 180 + Φ D. None of these
310	When R_x and R_y are negative, the resultant lies in the third quadrant and its direction is	A. θ = 180 + Φ B. θ = 180 - Φ C. θ = 90 + Φ D. None of these
311	If Rx is positive and Ry is negative, the resultant lies the fourth quadrant and its direction is	A. θ = 180 + Φ B. θ = 360 + Φ C. θ = 360 - Φ D. None of these
312	Find the angle between two forces of equal magnitude of their resultant is also equal to the magnitude of either of these forces	A. 60^o B. 120^o C. 180^o D. 360^o
313	How many the multiplications of vectors are ?	A. Three B. Two C. One D. None of these
314	The magnitude of the scalar product is	A. AB sin Φ B. AB cos Φ C. AB D. None of these
315	The magnitude of the scalar product can also written as	A. Magnitude of vector and effective component of vector B. Vector and effective component of vector C. Vector and perpendicular component of vice vector D. None of these
316	When the vectors are mutually perpendicular then the product is	A. Maximum B. Minimum C. Zero D. None of these
317	The cross product of two perpendicular vectors has magnitude	A. Maximum value B. Minimum value C. Zero D. None of these
318	The cross product of parallel vectors has magnitude	A. Maximum value B. Minimum value C. Zero D. None of these
319	The cross product of parallel vectors is zero when angle between	A. θ 0^o B. θ = 90^o C. θ = 180^o D. a and c
320	The self product of two vectors in cross product is	A. Zero B. Square of vector C. Only same vector D. None of these
321	The vector sum of three vectors gives a zero resultant. What can be the orientations	A. 90^o B. 60^o C. 120^o D. 180^o

322	Vector A lies in XY plane. For what orientation with both of its rectangular components be negative ?	A. I-quadrant B. II-quadrant C. III-quadrant D. None of these
323	Vector A lies in the XY-plane. For what orientation will its components have opposite signs ?	A. II-quadrant B. III-quadrant C. IV-quadrant D. a and c
324	If one of the rectangular components of a vector is not zero, can its magnitude be zero	A. It is zero B. It if not zero C. It may be negative D. None of these
325	Can a vector have a component greater than the vectors magnitude ?	A. yes B. No C. yes in some cases D. None of these
326	Can the magnitude of a vector have a negative value ?	A. No B. Yes C. yes in same cases D. None of these
327	Under what circumstance would a vector have components that are equal in magnitude ?	A. 45^o , 145^o , 245^o B. 135^o , 225^o C. 45^o , 135^o , 225^o and 315^o D. None of these
328	Is it possible to add a vector quantity to a scalar quantity ?	A. No B. Yes C. Never D. None of these
329	Can you add zero to a null vector ?	A. No B. Yes C. Yes in some cases D. None of these
330	Two vectors have unequal magnitudes can their sum be zero ?	A. Yes B. No C. Can be zero D. None of these
331	How would the two vectors of the same magnitude have to be oriented. If they were to be combined to give a result equal to a vector of the same magnitude.	A. 60^o B. 120^o C. 270^o D. None of these
332	The two vectors to be combined have magnitude 60 N and 35 N. Pick the correct answer from those given below and tell why is it the only one of the three that is correct. (i) 100 N (ii) 70 N (iii) 20 N	A. (i) is correct B. (ii) 20 N C. (iii) is correct D. (ii) may be correct
333	A body in equilibrium implies that it is no moving nor rotating	A. True B. False C. Sometimes in equilibrium D. None of these
334	If coplanar forces acting on a body form a closed polygon, then the body is said to be in equilibrium	A. yes B. False C. Sometimes in equilibrium D. None of these
335	Rectangular components of a vector are those which have angle between them	A. 30^o B. 60^o C. 90^o D. 0^o
336	The magnitude of work is zero when the angle between force and displacement is	A. 0^o B. 90^o C. 10^o D. None of these
337	Torque is a turning effect of a	A. Body B. Momentum C. Force D. None of these
338	If we keep the moment arm, fixed while change the force, then, the torque is	A. Changed B. Does not change C. Some what change

		D. None of these
339	Torque is a physical quantity which is	A. Scalar quantity B. Vector quantity C. Constant quantity D. None of these
340	The perpendicular distance from the axis of rotation to the line of the action of force is called	A. Linear distance B. Angular distance C. Momentum arm D. None of these
341	In torque when the force is kept constant and the moment arm increases, then the torque	A. Increases B. Decreases C. Remains constant D. None of these
342	The magnitude of i^2 in scalar product is	A. Zero B. 1 C. Less than 1 D. Greater than 0
343	The magnitude of j^2 in cross product is	A. Zero B. 1 C. Greater than 1 D. Less than 0
344	The direction of torque can be determined by	A. Head to tail rule B. Right hand rule C. Left hand rule D. None of these
345	The SI units of torque is	A. Nm² B. Nm C. Nm⁻¹ D. Nm⁻²
346	The direction of torque is	A. Along F B. Along r C. Perpendicular plant formed by F and r D. None of these
347	When force F makes an angle θ with the position r relative to point O, then the toque will be	A. $\tau = 0$ B. $\tau = rF \cos 0$ C. $\tau = rF$ D. rF sin θ
348	Torque is zero if	A. Moment arm is zero B. Body is at rest C. Uniform angular acceleration D. None of these
349	The magnitude of torque determines its	A. Linear acceleration B. Angular acceleration C. Moment arm D. None of these
350	The rotational analogue of force is	A. Torque B. Momentum C. Moment of inertia D. None of these
351	What quantity produces the angular acceleration in body	A. Momentum B. Inertia C. Moment of inertia D. Torque
352	The dimensions of torque is	A. [MLT⁻²] B. [ML²T⁻²] C. [ML²T⁻¹] D. [MLT]
353	The torque is zero when the angle between F and r is	A. 90^o B. 180^o C. 270^o D. 0^o
354	The torque is maximum when the angle between F and r is	A. 0^o B. 90^o C. 180^o D. 275^o
355	The torque is taken as positive when it is	A. Clockwise B. Anticlockwise C. Both D. None of these
		A. Clockwise B. Anticlockwise

356	The torque is taken as negative when it is	B. Anticlockwise C. Both D. None of these
357	The body is in equilibrium when it is in a state of	A. Accelerated motion B. Uniform motion C. Rest or uniform motion D. None of these
358	The body is in a state equilibrium when it is	A. At rest B. In motion C. In rotation D. None of these
359	The body is in a dynamic equilibrium when it is	A. At rest B. In motion C. In uniform motion D. Acceleration motion
360	When there are number of forces acting on a body and the body is	A. At rest B. Motion C. Rest or moving with uniform velocity D. None of these
361	If a body has zero acceleration, it means that it is	A. At rest B. Uniform velocity C. Both D. None of these
362	According to the first condition for equilibrium, the vector sum of all the forces acting on a body must be equal to	A. The maximum value B. The minimum value C. A negative value D. Zero
363	Mathematically the first condition for equilibrium can be expressed as	A. ΣF_x = 0 B. ΣF_y = 0 C. ΣFx = 0 and ΣF_y = 0 D. ΣFx = 0 or ΣF_y = 0
364	In coordinate axes the right ward forces are taken as	A. Positive B. Negative C. Just units only D. None of these
365	In coordinate axes, the left ward forces are taken as	A. Positive B. Negative C. Just units only D. None of these
366	The second condition for equilibrium describes that	A. ΣFx = 0 B. ΣF_y = 0 C. ΣF = 0 D. Στ = 0
367	A body is in complete equilibrium when	A. ΣF = 0 B. Στ = 0 C. SF = 0 and Στ = 0 D. None of these
368	When the second condition for equilibrium, is satisfied then there is no	A. Linear acceleration B. Angular acceleration C. Both D. None of these
369	When the first condition for equilibrium is satisfied, if means that there is no	A. Linear acceleration B. Angular acceleration C. Both D. None of these
370	When the both conditions are satisfied, then there is no	A. Linear acceleration B. Angular acceleration C. Linear acceleration and angular acceleration D. None of these
371	Two equal, antiparallel and non-collinear forces are called	A. Net force B. Couple C. Torque D. None of these
372	Coplanar forces are those, which act on a	A. Single plane B. All planes C. Common plane D. None of these
373	A null vector is defined as zero magnitude and its direction is	A. Specific B. Arbitary C. Undefined D. None of these

374	A paratrooper is an example of	A. Static equilibrium B. Dynamic Equilibrium C. Both static and dynamic equilibrium D. None of these
375	The identity of an element is determined by:	A. the number of its protons B. the number of its electrons C. the number of its neutrons D. its atomic mass
376	One mole of $(NH_4)_2 HOP_4$ contains _ moles of hydrogen atoms:	A. 1 B. 5 C. 6 D. 9
377	The compound having highest %age of oxygen is:	A. CH₃COOH B. C₂H₅OH C. H₂O D. CH3COCH₃
378	Point out the element having atomic mass = 63.5465:	A. Br B. Zn C. Cu D. Ni
379	What are the rations among the volumes of gases of $^{32}O_2$, $^{2}H_2$ and $^{16}CH_4$, If they taken in equal masses?	A. 2 : 16 : 1 B. 2 : 16 : 2 C. 1 : 1 : 1 D. 1 : 16 : 2
380	At the present time, the main frontiers of fundamental science are	A. 2 B. 3 C. 4 D. 5
381	The instrument used to gather information from the far side of the Universe is	A. Compound microscope B. Radio telescope C. Astronomical Telescope D. Simple mircroscope
382	The branch of physics which concerned with the ultimate particles of which the universe is composed is known as	A. Solid state Physics B. Particle Physics C. Nuclear Physics D. Atomic physics
383	Computer chips are made from	A. Conductors B. Semiconductors C. Insulators D. Both A and B
384	Which branch of physics deal with the structure and properties of solids	A. Atomic Physics B. Plasma Physics C. Molecular Physics D. Solid state Physics
385	Those quantities which can be measured accurately are known as	A. Physical Quantities B. Scalar Quantities C. Vector Quantities D. Non Physical Quantities
386	Physical quantities are often divided into _____ categories	A. 3 B. 2 C. 9 D. 5
387	Distance to nearest galaxy from earth is	A. 10¹⁰m B. 10¹⁵m C. 10⁴⁰m D. 10³⁰m
388	Diameter of the nucleus is of the order of	A. 10⁻¹⁰m B. 10⁻¹²m C. 10⁻¹⁵m D. 10⁻¹⁸m
389	Diameter of the atom is of the order of	A. 10⁻¹⁰m B. 10⁻¹²m C. 10⁻¹⁵m D. 10⁻⁹m
390	The principle characteristics of an ideal standard are	A. Inaccessible and invariable B. accessible and invariable C. Accessible and variable D. None of these
391	The system international (SI) is built from _____ kind of units	A. Two B. three C. four D. five

		D. five
392	Total number of base units are	A. three B. five C. seven D. nine
393	Number of supplementary units are	A. three B. two C. seven D. five
394	Which of the following are the units of intensity of light	A. Pois B. Lux C. Siemen D. candela
395	The SI units of the intensity of light are	A. Lux B. candela C. Pois D. None of these
396	Radian and Steradian are _____ units.	A. Base B. Derive C. Supplementary D. None of these
397	Radian is the unit of	A. Solid Angle B. Plane Angle C. both a and b D. None of these
398	The maximum value of plane angle is	A. 2π radian B. 360° C. One revolution D. All of these
399	The symbol for radian is	A. rad B. Rad C. rd D. rdn
400	An are equal to half of the radius subtend angle of _____ at the center of circle.	A. .π rad B. 2π rad C. 1/2π rad D. 1/2 rad
401	An are equal to radius of the circle subtended an angle of _____ at the center of circle	A. 1 rad B. 2 rad C. π rad D. 1/2π rad
402	Maximum value of solid angle for closed surface is	A. 2π rad B. 2π sr C. 4π sr D. 360°
403	Solid Angle can be _____ only.	A. Practically measure B. theoretically measure C. Both a and b D. Sometimes practically measure and sometimes theoretically measure
404	Solid angle is	A. Two dimensional angle B. Three dimensional angle C. One dimensional angle D. Multi-dimensional angle

405	The angle subtended at the center of sphere by an area of its surface equal to the half of square of its radius is	A. 1 sr B. 2 sr C. 1/2 sr D. none of these
406	The SI unit of power is terms of base unit is	A. Watt B. Kgm²s⁻³ C. Kgm⁻²s⁻³ D. Kgm²s³
407	Which pair of quantities are not derived quantities?	A. Charge, Current B. Current, Intensity of Light C. solid angle, plane angle D. None of these
408	Which one is not correct representation?	A. 5N B. 3 Newton C. 5 Newton D. both a and b
409	Which one is least multiple?	A. exa B. femto C. atto D. nano
410	Which of the following pairs of electrical units are the units equivalent?	A. Coulomb; As⁻¹ B. Farad ; C⁻¹V C. Pascal: Nm⁻² D. Volt ; JC
411	The SI unit of gravitational constant G is:	A. m³kg⁻¹s⁻² B. m²kg⁻² C. Jmkg⁻¹ D. None of these
412	The fundamental quantities which form the base for the SI systems are:	A. Mass, energy and time B. Mass, force and time C. Mass, length and time D. Force, length and time
413	Age of earth is approximately	A. 1.4 x 10¹⁷years B. 5 x 10¹⁷s C. 1.4 x 10⁻¹⁷s D. 1.4 x 10⁷
414	Color printing uses just _____ colors	A. Seven B. five C. three D. four
415	Which color is not used in the combination of colors for color printing?	A. cyan B. magenta C. green D. yellow
416	Travel time of light from sun to earth is	A. 8 hours 20 minutes B. 8 minutes 20 seconds C. 1 minutes 20 seconds D. 5 hour 20 seconds
417	Physical quantities having no dimensions are called	A. Scalar B. Numerics C. Non physical Quantities D. None of these
418	Which one is numeric quantity?	A. Strain B. Plane Angle C. Impulse D. both A and B
419	Dimensions of light year are	A. [LT⁻¹] B. [ML⁻¹T] C. [ML⁻¹] D. [M⁰L]
420	The unit of power is	A. Erg B. KW C. Watt D. both B and C
421	The pair of quantities has same dimensions?	A. Power, Work B. Work, Torque C. Impulse, Linear momentum D. Both B and C
422	In CGS system the units of dynamic viscosity are	A. Nsm⁻² B. Poise

	In CGS system the units of dynamic viscosity are	C. Nm⁻² D. None of these
423	One poise = _____.	A. 0.1 Nsm⁻² B. 0.1 Pascal second C. 1.01 x 10⁵N D. both A and B
424	The dimensions $[MLT^{-2}]$ refer to the quantity	A. Acceleration B. Velocity C. Force D. Momentum
425	One second = _____.	A. 31 x 10⁻⁸years B. 3.1 x 10⁸years C. 3.1 x 10⁻⁸years D. 3.1 x 10⁻¹⁸years
426	The dimensions $[MLT^{-1}]$ refers to the quantity	A. Momentum B. Angular frequency C. Angular displacement D. Angular acceleration
427	One light year = _____.	A. 9.5 x 10⁻¹⁵m B. 9.5 x 10¹⁵m C. 9.5 x 10⁻¹²m D. 9.5 x 10¹²m
428	1 year = _____.	A. 3.1536 x 10⁷s B. 3.1536 x 10⁻⁷s C. 3.1536 x 10¹⁰s D. 3.1536 x 10⁻¹⁰s
429	The dimensions $[ML^2T^{-2}]$ refers to the quantity	A. Work B. Spring constant C. Torque D. Both A and C
430	The dimensions of Young's Modulus are	A. [ML⁻¹T⁻¹] B. [ML⁻¹T⁻²] C. [MLT⁻²] D. [ML⁻²T⁻¹]
431	The dimensions of force are	A. [MLT⁻¹] B. [M^oLT⁻²] C. [MLT⁻²] D. [ML⁰T⁻²]
432	The dimensions $[MLT^{-1}]$ refers to the quantity	A. Force B. Momentum C. Impulse D. None of these
433	The units of modulus of elasticity are	A. Nm⁻² B. Nm² C. Torr D. Both B and C
434	Femto means	A. 10⁻¹⁵ B. 10⁻¹⁸ C. 10⁻² D. 10⁻¹²
435	$KWm^{-2}$is the unit of	A. Power B. Energy C. Intensity D. Energy per unit area
436	In SI system the correct unit of amount of substance is	A. Litre B. Mole C. Millilitre D. Gram
437	The correct unit of electric current in SI system is	A. Ampere B. Ampere/sec C. Coulomb sec D. Coulomb / meter
438	The correct unit of Kinematic viscosity in SI system is	A. ra(D) s⁻² B. m².s⁻¹ C. g.s⁻² D. N .sm⁻²
439	State the physical quantity represented by $[ML^2T^{-2}K^{-1}]$ where K is represents the unit temperature	A. Thermal capacity of the body B. Thermal conductivity C. Specific thermal capacity D. Entropy
		A. Kelvin

440	In SI system the correct unit of Planck's constant is	B. Js C. Lux D. Candela
441	M.K.S. unit of pressure	A. Atmosphere B. Dynes per sq.cm C. Meter D. Pascal
442	One Pascal in SI is equal to	A. One newton metre B. One newton metre⁻¹ C. One newton metre⁻² D. One dyne cm²
443	The correct unit of power is	A. Kilowatt B. Dynes C. Joule D. Kilowatt-hour