INDIAN SCHOOL NIZWA - WORKSHEET

	PHYSICS	
	CH: 2 Units and measurements	
Name:	Date:_____	Class:

1.	The SI unit of coefficient of viscosity is A. m/kgs B. B. ms/kg^2 C. Kg/ms^{-2} **D. Kg/ms**	1
2.	The unit of energy is A. J/s B. Watt day C. Kilowatt D. G cm/s^{-2}	1
3.	erg /m can be the unit of the measure of A. Force B. Momentum C. Power D. acceleration	1
4.	The dimensional representation of Planck's constant is identical to that of A. Torque B. Work C. Stress D. Angular momentum	1
5.	Which of the following functions of A and B may be performed if A and B possess different dimensions? A. A + B B. A – B **C. A/B** D. A/e^{AB}	1
6.	The dimension of K in the equation of elastic potential energy, W = ½ kx^2 is A. [$M^1L^0T^{-2}$] B. [$M^0L^1T^{-1}$] C. [$M^1L^1T^{-2}$] D. [$M^1L^0T^{-1}$]	1
7.	If energy E , velocity V and force F be taken as the fundamental quantities, then what are the dimensions of mass? A. EV^2 B. EV^{-2} C. FV^{-1} D. F V^{-2}	1

8.	Which of the following quantities is/ are dimensionless? A. Strain B. Specific gravity C. Angle D. All the above	1
9.	If the dimension of a physical quantity are given by $M^aL^bT^c$, then the physical quantity will be A. Velocity if a = 1 , b = 0, C = -1 B. Acceleration if a = 1, b =1, C = -2 C. Force if a = 0, b = -1, C = -2 D. Pressure of a = 1, b = -1, C = -2	1
10.	The radius of a disc is 1.2cm. Its area according to idea of significant figures will be given by A. 4.5216 cm^2 B. 4.521 cm^2 C. 4.52 cm^2 D. 4.5 cm^2	1
11.	Out of the following four dimensional quantities, which one quantity to be called as a dimensional constant? A. Acceleration due to gravity B. Surface tension of water C. Weight of standard kilogram mass D. Velocity of light in vacuum.	1
12.	If energy E, velocity V and time T are chosen as the fundamental quantities, the dimensional formula of surface tension (F/l) will be A. $[EV^{-1}T^{-2}]$ **B. $[EV^{-2}T^{-2}]$** C. $[E\ ^2V^{-1}T^{-2}]$ D. $[EV^{-2}T^{-2}]$	1
13.	Planck's constant h, speed of light in vacuum c, and Newton's gravitational constant G are the three fundamental constant. Which of the following combinations of these has the dimension of length? **A.** $\sqrt{\frac{Gc}{h^{3/2}}}$ **B.** $\frac{\sqrt{hG}}{c^{3/2}}$ C. $\frac{\sqrt{hG}}{c^{5/2}}$ **D.** $\sqrt{\frac{hc}{G}}$	1
14.	Which of the following is the smallest unit? A. Millimetre B. Angstrom C. Fermi D. Metre	1

15.	The wrong unit conversion among the following is A. 1 Angstrom = 10^{-10}m B. 1 fermi = 10^{-15} m C. 1 light year = 9.46 x 10^{15}m D. 1 AU = 1.496 x 10^{-11}m	1
	ASSERTION REASON TYPE **A. Both A and R are correct and R is the correct explanation of A** **B. Both A and R are correct and R is not the correct explanation of A** **C. A is correct but R is wrong** D. **Both A and R are wrong**	
16.	Assertion (A): All the numerals are dimensionless constants. Reason (R): Numerals have neither units nor dimensions	1
17.	Assertion (A): Light year and wavelength have same dimensions. Reason: Light year represent time and wavelength represent distance	1
18.	Assertion (A): A circular railway track of radius r is banked at an angle θ, so that a train moving with a speed v can safely go around the track. Then $\tan\theta = rg/v^2$. Reason (R): the formula is not dimensionally correct.	1
19.	Assertion(A): Dimension of energy density and pressure are the same. Reason (R): pressure and energy density have same units in Si.	1
20.	Assertion(A): Velocity, volume and acceleration can be taken as fundamental quantities. Reason (R): All the three are independent from each other.	1