INDIAN SCHOOL MUSCAT

NAME OF THE EXAMINATION	FIRST PERIODIC TEST	CLASS: XI
DATE OF EXAMINATION	11 – 09 - 2022	SUBJECT: PHYSICS
TYPE	MARKING SCHEME	SET A

SET-B	Q.NO	VALUE POINTS	MARK
	1.	(i) A (ii) B (iii) A (iv) C	4 x 1 = 4
	2.	(i) $M^0L^1T^{-1}$ (ii)) $M^0L^1T^{-2}$ (ii) (a) 1 (b) 3	½ + ½ ½ + ½
	3	Dimensionally prove that 1J = 10^7erg $n_2 = n_1 \left[\frac{M_2}{M_1}\right]^a \left[\frac{L_2}{L_1}\right]^2 . \left[\frac{T_2}{T_1}\right]^{-2}$ $n_2 = n_1 \left[\frac{kg}{g}\right]^a \left[\frac{m}{cm}\right]^2 . \left[\frac{s}{s}\right]^{-2}$ ..... **1M** Rest of calculation up to final result **1M**	
	4.	Any four advantages of SI over other systems of units	4 X ½ =2
	5.	(a) $M^0L^1T^{-2}$ (b) $M^1L^{-1}T^{-2}$ (c) $M^1L^2T^{-2}$ (d) $M^1L^1T^{-1}$ If not Derived from formula or unit deduct 1 mark	4 x ½ =2
	6.	(i) Acceleration versus time graph (ii) Velocity versus time graph	1 1
	7.	(a) Graphical derivation of $S = ut + 1/2at^2$ - GRAPH DERIVATION If in introduction the following statement is missing deduct ½ marks "A body is moving with uniform acceleration" (b) $v^2-u^2=2as$ $0^2-35^2=2a(200)$ $a=-3.0625 m/s^2$ $v=u+at$ $0=35-3.06t$ $t=11.4s$	½ 1 1 ½
	8.	$M = kV^a d^b g^c$ $[M'] = k[L^1T^{-1}]^a \quad [ML^{-3}]^b \quad [L^1T^{-2}]^c$ 1M	

		$b = 1, a - 3b + c = 0$ $\Rightarrow a + c = 3$.....(1) and $-a - 2c = 0$.....(2) on solving:- $c = -3$ and $a = 6$ …….. (½ M each for a, b & c) $M = k\frac{V^6 d}{g^3}$ …….. ½ M	