Roll Number		

SET **A**

INDIAN SCHOOL MUSCAT
SECOND TERM EXAMINATION
SCIENCE 086

CLASS: IX **TERM-2** Max.Marks: 40

MARKING SCHEME			
	QN.NO	**VALUE POINTS**	**MARKS SPLIT UP**
	1	a) The universal law of gravitation states that everybody in the universe attracts every other body with a force F which is directly proportional to the product of their masses and is inversely proportional to the square of the distance between them. b) The value of G is given by **$G = 6.673 \times 10^{-11}$ N m^2/kg^2**	1 1
	2	a) $F = G (m_1.m_2/d^2)$ If $d = 1/2\ d$ $F = G (m_1.m_2/(d/2)^2)$ $F= 4G\ m_1.m_2/\ d^2$ when the distance is halved, the gravitational force between two bodies increases by 4times. **OR** b) $F = G (m_1.m_2/d^2)$ If $m_1 = m_1/2$ And $m_2 = m_2/2$ $F = G (m_1/2 \times .m_2/2)/(d)^2$ $F= 1/4G\ m_1.m_2/\ d^2$ when the masses are halved, the gravitational force between two bodies decreases by 4times.	½ ½ ½ ½ ½ ½ ½ ½
	3	(i) Definition (1) (ii) (a)7 (½) (b) 6 (½)	(1+1)
	4	Two postulates (1+1)	(1+1)
	5	(a)36.5g (b)84g (c)78g (d)174g (½ + ½ + ½ + ½) **OR** Drawback-(2)	(½ + ½ + ½ + ½) **OR** 2

	6	(a)PO_4^{3-} (b)(CO_3^{2-}) (c)SO_4^{2-} (d)NO_3^- (½ + ½ + ½ + ½)	(½ + ½ + ½ + ½)
	7	a) Cholera- contaminated water b) Syphilis- Sexual contact c) Malaria – Vector d) Influenza- Through air (1/2x 4=2 marks) **OR** Acute diseases - last for a short period of time no long-term effect on health Chronic diseases – lasts for a long time has drastic long-term effect on health. (1+1=2 marks)	2 marks
	8	Positive Work done: Work is said to be positive when the force applied on the object is in the direction of motion of the object. Negative Work done: work is said to be negative when the force applied on the object is opposite to the direction of motion. Zero work done -Work done is said to be zero when the displacement done by body is zero or if the direction of force acting on body is perpendicular to the direction of displacement then work done is zero.	1 1 1
	9	a) SI unit of power is Watt. If 1Joule of work is done in 1s then power is said to be 1W. b) P=1200W t =30minutes = 30 /60 = 0-5h E =P x t = 1200 x 0.5 = 600/1000=0.6kWh No. of days =30 Energy consumed = 0.6 x 30 =18kWh **OR** a) Energy possessed by an object by virtue of its position or configuration is called potential energy b) m= 2000 kg, v= 0 u= 90km/h=90 x 5/18 = 25m/s $W = ½ m(v^2-u^2)$ = ½ x 2000 (0-625) = -1000 x625 = -625000J	1 ½ ½ ½ ½ 1 ½ ½ ½ ½
	10	Becoming protected against a disease through vaccination or attaining immunity against a particular disease through the administration of vaccines is called immunization. (2 marks) a. BCG vaccine b. DPT (any other) (1/2 x 2=1mark)	2+1=3marks

	11	a) Person is suffering from AIDS – Acquired Immune Deficiency Syndrome. (1/2 mark) b) The pathogen that has caused AIDS is HIV – Human Immune Deficiency Virus. (1/2 mark) c) This virus is transmitted through following ways: (i) Sexual contact with an infected person carrying AIDS virus. (ii) Transfusion of blood. (iii) Use of unsterilized needles, blades or razors. (iv) AIDS infected mother to the fetus developing in her womb. (Or any other) (1/2x 4=2 marks)	½ + ½ + 2=3 marks
	12	(i)Definition: Cation with example (1), Anion with example (1) (ii)Definition (1) **OR** Three differences (1+1+1)	2+1 (or) (1+1+1)
	13	(i)Definition (1) Two examples (½ + ½) (ii)Definition (1)	(2+1)
	14	a) At point C-maximum potential energy At point A-maximum kinetic energy b) The *law of conservation of energy* states that energy can neither be created nor destroyed but only transformed from one form to another. c) Photosynthesis-Solar energy ⟹ chemical energy Electric bell-electrical energy ⟹ sound energy Or Microphone – Sound energy changes to Electrical energy Electric bell- Electrical energy changes to sound energy	1 1 2 1 1
	15	(a) 23:6:24 (1) (b) (i) $Al_2(SO_4)_3$ (ii) $(NH_4)_3PO_4$ (½ + ½) (c) (i) Oxygen Isotopes (1) (ii) 90% and 10% (½ + ½) (or) Formula (½) Substitution (½) Result: 75% and 25 % (1)	(1+1+2)