Roll Number		

SET **C**

INDIAN SCHOOL MUSCAT
SECOND TERM EXAMINATION
SCIENCE 086

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

<table>
<tr><th colspan="4">MARKING SCHEME</th></tr>
<tr><th></th><th>QN.NO</th><th>VALUE POINTS</th><th>MARKS SPLIT UP</th></tr>
<tr><td></td><td>1</td><td>
<table>
<tr><th>Gravitational constant (G)</th><th>Acceleration gravity (g)</th></tr>
<tr><td>Universal gravitational constant is a constant value at any place in the universe.</td><td>The nature of the acceleration due to gravity varies from place to place.</td></tr>
<tr><td>The value of G = 6.673×10^{-11} Nm^2/kg^2</td><td>The value of acceleration due to gravity of the earth is 9.8 m/s^2 and moon is equal to 1.6 m/s^2.</td></tr>
<tr><td>The unit of G is Nm^2/kg^2</td><td>The unit of g is m/s^2</td></tr>
</table>
Any two differences</td><td>1+1</td></tr>
<tr><td></td><td>2</td><td>a)

$F = Gm_1 x\ m_2 / d^2$
$F = 6.67 \times 10^{-11} \times 90 \times 90 / (4.0 \times 10^{-2})^2$ N
$F = 6.67 \times 10^{-11} \times 81 \times 10^5 / 1.6$ N
$F = 6.67 \times 81 \times 10^{-6} / 1.6$ N
$F = 6.67 \times 50.625 \times 10^{-6}$ N
$F = 337.67 \times 10^{-6}$ N
OR

b) When a body or object falls towards earth due to gravitational force of earth and without any other force acting on it. It is called free fall

c) $F = G (m_1.m_2/d^2)$

If d = 3 d

$F = G (m_1.m_2/(3d)^2)$

$F = 1/9\ G\ m_1.m_2/ d^2$

when the distance is tripled, the gravitational force between two bodies become 1/ 9times.</td><td>½

½
½
½

½
½

½
½</td></tr>
<tr><td></td><td>3</td><td>(i) Atomicity (1)
(ii)(a) 7 (b)6 (½ + ½)</td><td>(1+1)</td></tr>
</table>

	4	Definition (1) Explanation (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	Definition (1) N_O=6.022 x 10^{23} (1)	(1 +1)
	7	Pandemic is an outbreak of a particular disease which affects the population worldwide. (1mark) a) Swine flu b) H1N1 (or any other two) (1/2 x 2=1mark) OR a) Cholera- contaminated water b) Syphilis- Sexual contact c) Malaria – Vector d) Influenza- Through air (1/2x 4=2 marks)	marks
	8	a) Yes. The object possesses energy in the form of potential energy b) m=120kg h=6 m Potential energy P.E.= mgh P.E. =120×10×6=7200J half way down, K.E = 7200/2 =3600J (according to law of conservation of energy)	1 ½ ½ ½ ½
	9	a) 1 kilowatt-hour = 1000 joules/seconds 1 hour = 60 x 60 seconds 1 kilowatt-hour = 1000 x 60 x 60 = 36,00,000 joules Thus, **1kWh=3.6 x 10^6 J** b) E(bulbs)= P x t =4 x 40 x 5 = 0.8 kwh E (tube lights) = P x t = 4 x 60 x 5 = 1.2 kwh E (washing machine) = 1400 x 3 = 4.2 kwh total energy= 0.8 + 1.2 + 4.2 = 6.2 kwh cost per unit = Rs.8.00 no. of days = 30 days Therefore, the electricity bill for the entire month = 6.2 x 30 x 8 = Rs.1488/- **OR** c) Zero work done. The direction of applied force and displacement are perpendicular to each other	½ ½ ½ ½ ½ , ½ ½ +1

		d) Weight= mg= 12kN= 12000N Mass= 12000/10= 1200kg V= 40m/s K.E = ½ mv^2 = ½ x 1200 x40 x 40 = 960000J = 960kJ	½ ½ ½
	10	There are specific organs targeted by the pathogens once they enter the host body. This depends upon the way through which they enter the host body. For example, if they enter through the respiratory system, lungs are the organ which will get infected. (2 marks) Loose motion, vomiting, nausea and stomachache (any two symptoms) (1/2 x 2=1mark)	2+1=3 marks
	11	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=3 marks
	12	. (i) Definition: Cation with example (½ + ½) Anion with example (½ + ½) (ii) Definition (1) Each differences (1)	(2+1) (or) (1+1+1)
	13	Neil's Bohr Model (2) Bohr Model of Sodium Atom(1)	(2+1)
	14	a) At point C, maximum energy - Potential energy At point A, maximum energy - 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) Microphone - Sound energy $\Rightarrow$ electrical energy Electric Motor-Electrical energy $\Rightarrow$ mechanical energy or	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)