

Department of education – Western Province
 Second term evaluation
Science – Grade 11
Marking scheme
 Part I

01	2	11	3	21	3	31	4
02	1	12	1	22	3	32	2
03	4	13	4	23	1	33	2
04	2	14	3	24	2	34	1
05	3	15	1	25	1	35	3
06	2	16	3	26	3	36	1
07	2	17	3	27	2	37	2
08	1	18	1	28	4	38	2
09	2	19	1	29	2	39	1
10	4	20	4	30	2	40	4

marks for part I = 40 x 2=80

Part II

- (01) (A) i. Convex lens. (01)
 ii. Expansivity of X is greater than Y. (02)
 iii. Electric iron, Fire alarm signaling devices, electric rice cooker or another similar answer. (01)
 iv. Auxanometer. (01)
 v. Growth of a plant. (01)
- (B) i. To increase the pressure exerted by it. (01)
 ii. Breeding of mosquitoes due to the collection of water in discarded coconut shells with husks (polkomba)
 Occurance of bad odour due to stagnation of that water or similar ideas. (02)
 iii. moment of force = force x perpendicular distance to the point of application of force
 $= 40 \times 1.8 = \underline{72 \text{ Nm}}$ (02)
 iv. Compress under a certain pressure. (01)
- (C) i. Ultrasound waves. (01)
 ii. Reflection (01)
 iii. Ultrasound scanning (SCAN), Lithotripsy technology (to destroy bladder stones) (01)
- (Total marks 15)
- (02) (A) i. X- Starch Y- Sucrose (02)
 ii. Phloem fibres (01)
 iii. Mouth (01)
 iv. Saliva (01)
- (B) i. in valves (01)
 ii. Systolic blood pressure (01)
 iii. a) Associated with alveoli. (01)
 b) rib cage (ribs) (01)
- (C) i. Presence of fluid matrix (Blood plasma), Presence of several types of corpuscles (cells) (01)
 ii. Smooth muscles (01)
 iii. (a) Presence of anucleated (absence of nucleus) biconcave red blood cells. (01)
 (b) Four (01)
 (c) Birds (Aves) (01)
 (d) Homiothermic (01)
- (Total marks 15)
- (03) (A) i. Composition of mixture/ Distribution of constituents in the mixture. (01)
 ii. Homogeneous - b,d Heterogeneous- a,c,e (if all correct 02 marks)
 iii. Solutions (01)
 iv. A - to the blank above, B - to the blank below (02)
- (B) i. Jons Jacob Berzelious (01)
 ii. Valency (01)
 iii. $\text{Ca}^2 \text{Cl}^1 \text{ -- Ca}_1 \text{Cl}_2 \text{ -- CaCl}_2$
 If the formular is built by exchanging the valencies (02)/ If only the formular is written (01)

- (C) i. $\text{SO}_2 = 32 + 16 \times 2 = 64$
 $\frac{1}{64} \times 16 = \frac{1}{4} \text{ mol (2.5 mol)}$ (02)
 ii. 6.022×10^{23} (01)
 iii. $6.022 \times 10^{23} / 64 \times 16 = 1.5055 \times 10^{23}$ (02) (Total marks 15)

- (04)(A) i. Potential energy (01)
 ii. $E_k = \frac{1}{2}mv^2$ (01)
 iii. Motor cycle (01)
 (B) i. third law of Newton (01)
 ii. When the thread is cut by releasing the tension of the spring the 2 trolleys are moved to the opposite directions, (02)
 iii. (a) Q trolley pushes and hit on the syringe.
 The syringe compresses and water splashes from it to douse the candle. (02)
 (b) Hydraulic jack, action of baco machines.... (01)

- (C) i. The speed in a vacuum is $3 \times 10^8 \text{ ms}^{-1}$ / having the speed of light. (01)
 ii. Electromagnetic spectrum (01)
 iii. $v = f \lambda$ (01)
 iv. $v = f \lambda = 2 \times 1.5 = \underline{3 \text{ ms}^{-1}}$ (02)
 v. Radio waves (01) (Total marks 15)

- (05)(A) i. Animal cell (01)
 ii. Outer margin of the cell consists only a single line. (01)
 iii. Golgi complex (01)
 iv. Production of secretory substances/ Packaging of secretory substances / secretory function (01)

- (B) i. Spreading away of fruits and seeds from the mother plant. (01)
 ii. If 2 methods of dispersal of fruits and seeds are written with 2 examples. (02)
 iii. Viability of seeds (01)
 iv. Dormancy of seeds (01)

- (C) i. Garden pea plants/ *Pisum sativum* (01)
 ii. According to the relevant characters available in page no. 177 in the book 10-II (02)
 iii. As genes (01)
 iv. Transmission of inherited characters to next generation is known as heredity. (02)

- (D) i. Q - Cranial nerves R- Spinal nerves (02)
 ii. By vertebral column (01)
 iii. Sodium/ Potassium (01)
 iv. Pituitary (01) (Total marks 20)

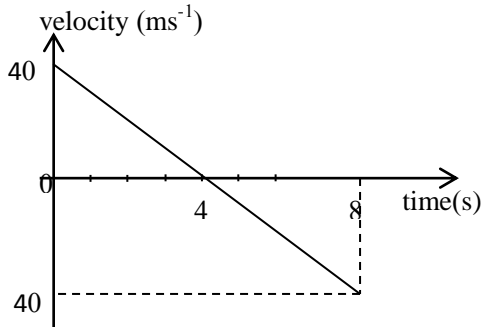
- (06)(A) i. Covalent bonds (01)
 ii. Dot and cross diagrams (01)
 iii. A bond electron pair. (01)
 iv. $\begin{array}{c} \text{H} \\ | \\ \text{H}-\text{C}-\text{H} \\ | \\ \text{H} \end{array}$ (02)

- (B) i. Increase in temperature, change in colour, formation of precipitates, burning with a flame, liberation of gases... for 2 such answers (02)
 ii. Single displacement reactions (01)
 iii. $\text{H}_2 + \text{Cl}_2 \longrightarrow 2\text{HCl}$ (02)
 iv. Hydrogen chloride (01)

- (C) i. Hydrochloric acid (01)
 ii. An acid is a compound that releases H^+ ions in an aqueous solution. (01)
 iii. Concentration of acids and surface area of metals. (02)

- (D) i. Electronegativity decreases. (01)
 ii. Fluorine (01)
 iii. Noble gases show less tendency to form chemical bonds. (01)
 iv. (a) In between Be & B (01)
 (b) Metalloid elements (01) (Total marks 20)

- (07)(A) i. 40 ms^{-1} (01)
 ii. $\frac{1}{2} \times 4 \times 40 = \underline{80 \text{ m}}$ (02)
 iii. 8 seconds (02)
 iv.



Draw and label the 2 axes (01)
 Draw the upper and lower halves of the graph equal in size. (01)

- (B) i. LDR / Light Dependent Resistor (01)
 ii. Deflection of the ammeter, the bulb lights. (02)
 iii. Discharging the battery, covering the light dependent resistor. (02)
 (C) i. Object - at a point beyond the center of curvature. (02)
 Image - between the center of curvature and the focal point. (02)
 ii. Should bring towards the mirror. (01)
 iii. Upright and larger than the object. (02)
 (D) i. Power is the amount of work done in a unit time. (01)
 ii. $W = VI$ $I = W/V = 1200/240 = \underline{5 \text{ A}}$ (02)

(Total marks 20)

- (08)(A) i. R (01)
 ii. When swallowing food the trachea is blocked to prevent entering the food into it. (02)
 iii. S (01)
 iv. If a disease each relevant to 2 systems are mentioned. (02)

- (B) i. oil/ lipids (01)
 ii. Sudan III (01)
 iii. a) X - starchy substance (01)
 b) Y - Iodine solution (01)
 (C) i. Pressed it onto the wall. (01)
 ii. P - pressure is high. Q - pressure is low. (02)
 iii. Should be smooth (01)
 iv. Barometer (01)

- (D) i. If write an advantageous instance and a disadvantageous instance of friction, (02)
 ii. Nature of the contact surface, Normal reaction (01)
 iii. Dynamic frictional force (01)
 iv. Remains stationary (01)

(Total marks 20)

- (09)(A) i. a- a gas jar b- beehive stand c- trough (03)
 ii. To keep the gas jar/Directing delivery tube easily into the gas jar (01)
 iii. Downward displacement of water. (01)
 iv. Dissolving in water. (01)

- (B) i. Chromatography (01)
 ii. Separation of the components present in a mixture containing non-volatile components. (01)
 iii. Q end (01)
 iv. Roneo papers (01)

- (C) i. Thickness of the strings, Nature of the materials that strings are made. (02)
 ii. Fondling (bowing) by the bow. (01)
 iii. a) Tuning folk (01)
 b) 256 vibrations occur in one second (01)

- (D) i. Center of gravity (01)
 ii. Under 2 forces (01)
 iii. Weight of the metal sheet and the tension of the string used to suspend it. (02)
 iv. Vibration of the metal sheet by striking the hammer. (01)

(Total marks 20)