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Department Of Education – Western Province

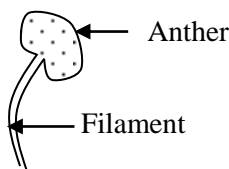
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Last Term Evaluation - 2019

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

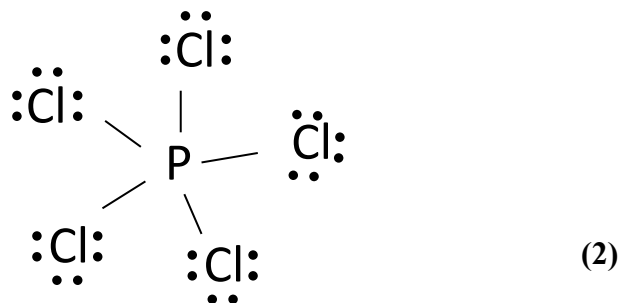
Part A

01. A) (i) $E_k = \frac{1}{2}mV^2$
 $\frac{1250 \times 2}{25} = V^2$ (1)
 $100 = V^2$
 $10ms^{-1} = V$ (1)
- (ii) Third law (1)
- (iii) $E = mgh$
 $= 25 \times 10 \times 8$ (1)
 $= 2000J/2kJ$ (1)
- B) (i) Fungi (1)
(ii) a) Yeast b) Mucor (1)
(iii) Polysaccharide (1)
(iv) $(C_6H_{10}O_5)_n$ (1)
(v) Remains dark black powder inside the crucible. (1)
- C) (i) a) 2 b) iv (2)
(ii) It is measured relative to the amount of elements and compounds. (1)
(iii) Atomic Mass Unit (1)

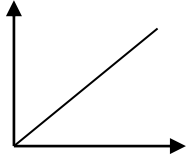
02. A) (i) a) One cotyledon of the seed.
 b) Root system without a tap root system. (2)
- (ii) 1. Presence of cell wall / Presence of large vacuole in the middle.
 2. Presence of chloroplast (2)
- (iii) 4 (1)
- (iv) a) Cellular Respiration (1)
 b) Carbon Dioxide (1)
- B) (i) Pisum Sativum (1)
 (ii) Genus - *Pisum* (1)
- C) (i) Can be obtained large number of plants with in a short period of time / New species
 are not produced. (2)
- (ii) Allowing new roots and buds to be developed from the tissue taken from mother plant. (1)
- (iii)  (1)
 The diagram shows a cross-section of a flower part. It consists of a rounded, dotted structure at the top labeled 'Anther' and a long, thin, curved structure below it labeled 'Filament'.
- (iv) a) Sucrose (1)
 b) C, H, O (1)

03. A) (i) Metal (1)
 (ii) Cupper (1)
 (iii) $2HCl + CaCO_3 \rightarrow CaCl_2 + H_2O + CO_2$ (2)
 (iv) $Ca(OH)_2$ (1)

- B) (i) A - Be B - K C - Na D - Li (4)
 (ii)



- C) (i) Hydrogen gas
 (ii) Sodium
 (iii) Carbon Dioxide
 (iv) Magnesium (4)

04. A) (i) A – **Constant acceleration** B – **Uniform velocity**
 C – **Uniform deceleration.** (If not ‘ Uniform’ no marks) **(3)**
- (ii) Constant / Uniform velocity (1)
- (iii) By finding the area of the graph (Trapezium) (1)
- (iv)  (1)
- (v) Zero / 0 (1)
- (vi) Velocity (1)
- B) (i) $\pi + h\rho g$ (1)
- (ii) $103360 + \frac{10}{100} \times 1000 \times 10$
 = 104360 Pa (1)
- (iii) Decreased (1)
- (iv) Increased when move upwards atmospheric pressure is getting lowered. (2)
- (v) Drinking with a straw / Action of syphon / Action of the rubber sucker. (1)
- (vi) 760 mm / 76cm (1)

Part B

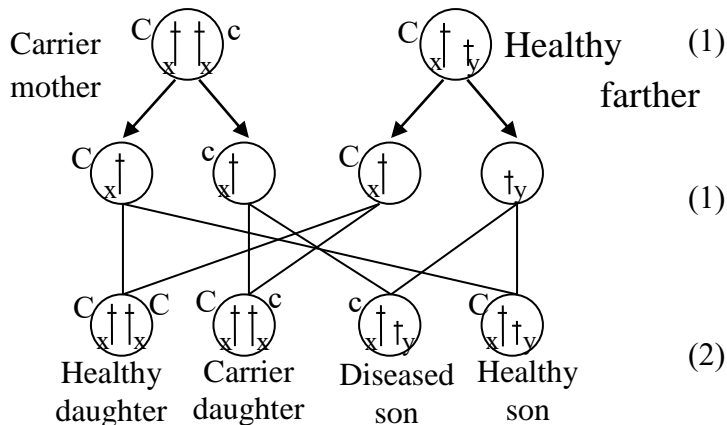
05. A) (i) A - Ribosome D - Stem Tuber **(2)**
- (ii) Suckers - Paddy, Banana, Pine apple
 Bulbils - Hana, Pine apple **(2)**
- (iii) Stems of plants which grow under the soil (buds are presence in that underground stem) **(1)**
- (iv) Can be used in dormant period **(1)**
- (v) a) Initiate rooting while it is still attached to the mother plant. **(1)**
 b) Indol Acetic Acid (IAA / IBA) **(1)**
- B) (i) a) Twig grafting **(1)**
- (ii) A - Scion B - Stock **(2)**
- (iii) A / Scion
- C) (i) Growth of plants **(1)**
- (ii) X - Scale Y - Plants **(1)**
- (iii) If the plant grows very slowly but the indicator shows it in a greater scale. **(2)**
- D) (i) Coelenterata / Cnidaria Hydra, Sea anemone
- (ii) Mammalia Human, Monkey
- (iii) Echinodermata Star fish , Sea urchin
- (iv) Arthropoda Butterfly, Cockroach **(4)**

06. a) (i) The substances that increase the rate of a reaction, without being chemically consumed during the reaction. (1)
- (ii) Amount of change occurred in unit time. (1)
- (iii) MnO_2 increases the rate of reaction. (1)
 H_2SO_4 decreased the rate of reaction. (2)
- (iv) Gas bubbles evolves in three test tubes; A B C speed of evolution of gas bubbles in high in tube C less in tube B. (2)
- (v) Measure the mass of MnO_2 before the experiment. (1)
 Measure the mass of MnO_2 after the experiment. (3)
- (vi) Surface area of reactants. (1)
- (vii) Rate of reaction is high when the No. of collision are high due to the increase of surface area of reactants. (1)
- (viii) Concentration of reactions / Temperature of the system (1)
- B) (i) H_2 / Hydrogen gas (1)
- (ii) Introduce a lighted ekel to the test tube with hydrogen gas. It gives pop sound. (1)
- (iii) $2NaOH + FeSO_4 \rightarrow Na_2SO_4 + Fe(OH)_2$ (2)
- (iv) Molecular mass of $Fe(OH)_2 = 56 + (16 + 1) \times 2$
 $= 56 + 34$
 $= 90gmol^{-1}$ (2)
- (v) Oxygen concentration increases (During photosynthesis oxygen emits)
 CO_2 concentration decreased. (During photosynthesis CO_2 consumes) (2)
07. A) (i) $E_{(P)} = mgh$ (1)
 $= 4 \times 10 \times 7.2$ (1)
 $= 288J$
 E_k kinetic energy = 288 J (1)
- (ii) $E_k = \frac{1}{2}mV^2$
 $288 = \frac{1}{2} \times 4 \times V^2$
 $V^2 = \frac{288}{2}$
 $V = \sqrt{144}$
 $V = 12ms^{-1}$ (3)
- (iii) Momentum = mV
 $= 2 \times 144$
 $= 288kgms^{-1}$ (2)
- (iv) Because the horizontal plane is with a friction. (1)
- (v) Nature of the surface, perpendicular reaction force. (2)

- B) (i) $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$
 $\frac{1}{R} = \frac{1}{2} + \frac{1}{4}$
 $\frac{1}{R} = \frac{2+1}{4}$
 $\frac{1}{R} = \frac{3}{4}$
 $R = 4/3\Omega$ (3)
- (ii) $V = IR$
 $I = V/R$
 $I = 3/4/3$
 $I = 3 \times \frac{3}{4}$
 $I = \frac{9}{4}A$
 $I = 2.25(A)$ (3)
- (iii) 2Ω Bulb (1)
- (iv) Decrease the brightness of 4Ω bulb./ (2)

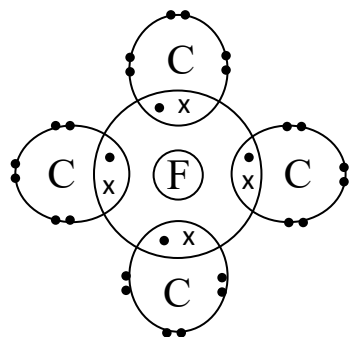
08. A) (i) B - Sperm (1)
(ii) Fertilization (1)
(iii) Testosterone (1)
(iv) Growth, Respiration, Nutrition (2)

- B) (i) Cross pollination (1)
(ii) Parthenocarpy (1)
(iii)



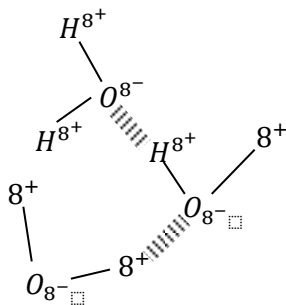
- C) (i) When an object is partially or completely submerged in a fluid, the up-thrust acting on it, is equal to the weight of the fluid displaced by the object. (2)
- (ii) $(10 \times 10 \times 10cm^3 \times \frac{1}{4}) \quad 1000 \times \frac{1}{4}m^3$ (2)
- (iii)
- $$u = v\rho g$$
- $$= \frac{1}{1000} \times 1000 \times 10$$
- $$2.5N$$
- (2)
- (iv) $u = V\rho g$
- $$\frac{1000}{1000000} \times 1000 \times 10$$
- $$= 10N$$
- (2)
- (v) $10N - 2.5N$

09. A) (i) 5 (1)
(ii) C (1)
(iii) B (1)
(iv) EC (2)
(v) Covalent bonds (1)
(vi)



(2)

(vii)



(2)

- (viii) High boiling point
High specific heat capacity
High density than ice (1)

B) (i) $W \times 50 = 250 \times 40$
 $= \frac{250 \times 40}{50}$
 $= 200g$ (2)

(ii) 3 (1)

(iii) Three forces should be co-planar. One force must have a direction opposite to the other two forces. The resultant of any two forces must be equal in magnitude and opposite in direction to the third force. (2)

(iv) Two coplanar forces of equal magnitudes acting in opposite directions along two lines of action that are spaced apart. (2)

(v) Handle of the bicycle, Tap, Steering wheel (2)