Answer Paper - Paper I           01. (2)         02. (4)         03. (3)         04. (2)         05. (1)         06. (2)         07. (3)         08. (1)         09. (3)         10. (4)           11. (1)         12. (4)         13. (3)         14. (1)         15. (4)         16. (2)         17. (1)         18. (3)         19. (4)         20. (2)           21. (3)         23. (2)         24. (1)         25. (1)         26. (2)         27. (4)         28. (4)         30. (1)           31. (3)         32. (3)         33. (3)         34. (1)         35. (2)         36. (1)         37. (1)         38. (4)         39. (1)         40. (4)           Assume the set of the first	Grade 1	Grade 11 Year End Examination 2015								
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(iii) a amylase b. lipase c. trypsin $(1/2 x 3 = 1 1/4 marks)$ (iv) (a) bile (1 mark) (b) makes the food basic and ensures easy digestion of fat. (11/2 marks) B. (i) a. chloroplast b. consist of green pigments and surrounded by a membrane. c. stacks of flattened plates / surrounded by aembrane d. transportation / secretion e. endo plasmic reticulumf. ( $1/2 x 6 = 3 marks$ ) (ii) a. Vessels b. tracheid c. fibres d. parenchym ( $1/2 x 4 = 02 marks$ ) (iii) radial transport mass flow. ( $1 x 2 = 2 marks$ ) (22. A. (i) Ca CO, g Ca O <sub>10</sub> + CO <sub>210</sub> (01 mark) (ii) Mixing the ash of the fire wood with CaO. More environmental pollution. (01 mark) (iii) To neutralise the acidity in agricultural soits. Preparation of plaster. As a Carbon dioxide absorber In pottery paint or any 2 use of CaO ( $02 marks$ ) B. (i) to observe the products of combustion (01 mark) (ii) (a) Cu SO, turn in to blue colour (b) lime water become milky colour ( $02 marks$ ) (iii) to condense water vapours ( $01 mark$ ) (iv) Because it will blow out with out oxygen supply. ( $01 mark$ ) (iii) No colour change ( $01 mark$ ) (iii) No colour change ( $01 mark$ ) (iii) No colour change ( $01 mark$ ) (iii) No deflection ( $01 mark$ ) (iii) $\frac{V_X}{V_Y} = \frac{N_X}{N_Y}$ $\frac{15}{50} = \frac{20}{20}$ $\frac{Vy = 500 \times 15 = 375}{20}$ ( $02 marks$ ) B (i) $p - n junction can be made by joining a p - type semi - conductor and a n-type semi conductor in aspecial way. (01 mark)(iii) a (01 mark)(iii) to convert alternating current into PC current to convert high frequency radio waves to audiofrequency waves etc (02 marks)C. (i) kWh (01 mark)(ii) Fuse Trip switch (1/2x2=01 mark)(iii) Fuse Trip switch (1/2x2=01 mark)(iv) a) Do not enter wires directly to plug base b) Use fuse wires of appropriate ampere value or anyother answer as teacher wish. (03 mark)(iii) SO300 + H,O00 \rightarrow H,SO300 (01 mark)(iii) SO3$	(ii)		b. pep			/				
<ul> <li>(iv) (a) bile (1 mark) (b) makes the food basic and ensures easy digestion of fat. (11/2 marks)</li> <li>B. (i) a. chloroplast b. consist of green pigments and surrounded by a membrane.</li> <li>c. stacks of flattened plates / surrounded by aembrane</li> <li>d. transportation / secretion e. endo plasmic reticulumf. (1/2 x 6 = 3 marks)</li> <li>(ii) a Vessels b. tracheid c. fibres d. parenchym (1/2 x 4=02 marks)</li> <li>(ii) radial transport mass flow. (1 x 2 = 2 marks)</li> <li>(2 A. (i) Ca CO<sub>3</sub> g Ca O<sub>60</sub> + CO<sub>500</sub> (01 mark)</li> <li>(ii) Mixing the ash of the fire wood with CaO. More environmental pollution. (01 mark)</li> <li>(iii) To neutralise the acidity in agricultural soils. Preparation of plaster. As a Carbon dioxide absorber In pottery paint or any 2 use of CaO (02 marks)</li> <li>B. (i) to observe the products of combinstion (01 mark)</li> <li>(iii) to condense water vapours (01 mark)</li> <li>(iv) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(iv) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(ii) No colour change (01 mark)</li> <li>(iii) No colour change (01 mark)</li> <li>(iii) No colour change (01 mark)</li> <li>(iii) No deflection (01 mark)</li> <li>(iii) No colour change ap - type semi - conductor and a n-type semi conductor in a special way. (01 mark)</li> <li>(iii) a (01 mark)</li> <li>(iii) b convert alternating current into PC current to convert high frequency radio waves to audio frequency waves etc (02 marks)</li> <li>C. (i) kWh (01 mark)</li> <li>(ii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iii) Fuse Trip switch (1/2</li></ul>					,					
<ul> <li>c. stacks of flattened plates / surrounded by aembrane d. transportation / secretion e. endo plasmic reticulumf. (1/2 x 6 = 3 marks) (ii) a. Vessels b. tracheid c. fibres d. parenchym (1/2 x 4 = 02 marks) (iii) radial transport mass flow. (1 x 2 = 2 marks)</li> <li>02. A. (i) Ca Co<sub>0</sub> g Ca O<sub>0</sub> + CO<sub>210</sub> (01 mark) (ii) Mixing the ash of the fire wood with CaO. More environmental pollution. (01 mark) (iii) To neutralise the acidity in agricultural soils. Preparation of plaster. As a Carbon dioxide absorber In pottery paint or any 2 use of CaO (02 marks)</li> <li>B. (i) to observe the products of combustion (01 mark) (ii) (a) Cu SO<sub>4</sub> turn in to blue colour (b) lime water become milky colour (02 marks)</li> <li>B. (i) to observe the products of combustion (01 mark) (iii) do conclense water vapours (01 mark) (iii) do conclense water vapours (01 mark) (iv) Because it will blow out with out oxygen supply. (01 mark) (iv) Because it will blow out with out oxygen supply. (01 mark) (iv) Because it will blow out with out oxygen supply. (01 mark) (ii) No colour change (01 mark) (iii) No colour change (01 mark) (iii) No deflection (01 mark) (iii) a (01 mark) (iii) kWh = <u>100 x 300</u> 1000 = 30 kWh (02 marks) (iii) Fuse Trip switch (1/2 x 2 = 01 mark) (iii) KWh = <u>100 x 300</u> 1000 = 30 kWh (02 marks) (iii) So<sub>20</sub> + H<sub>O</sub><sub>0</sub> → H<sub>S</sub><sub>SO<sub>200</sub> (01 mark) (iii) So<sub>200</sub> + H<sub>O</sub><sub>0</sub> → H<sub>S</sub><sub>SO<sub>200</sub> (01 mark) (iii) Nitrogen dioxide (01 mark)</sub></sub></li> </ul>					n of fat. (11/2 mai	·ks)				
<ul> <li>d. transportation / secretion e. endo plasmic reticulumf. (1/2 x 6 = 3 marks)</li> <li>(ii) a. Vessels b. tracheid c. fibres d. parenchym (1/2 x 4 = 02 marks)</li> <li>(iii) radial transport mass flow. (1 x 2 = 2 marks)</li> <li>02. A. (i) Ca Co, g Ca O<sub>60</sub> + CO<sub>210</sub> (01 mark)</li> <li>(ii) Mixing the ash of the fire wood with CaO. More environmental pollution. (01 mark)</li> <li>(iii) To neutralise the acidity in agricultural soils. Preparation of plaster. As a Carbon dioxide absorber In pottery paint or any 2 use of CaO (02 marks)</li> <li>B. (i) to observe the products of combustion (01 mark)</li> <li>(ii) (a) Cu SO, turn in to blue colour (b) lime water become milky colour (02 marks)</li> <li>(ii) (a) Cu SO, turn in to blue colour (b) lime water become milky colour (02 marks)</li> <li>(ii) to condense water vapours (01 mark)</li> <li>(iv) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(i) Mg strip (01 mark) (ii) Mg - 2" → Mg <sup>str</sup> (01 mark)</li> <li>(iii) No colour change (01 mark) (iv) Fe nail (01 mark)</li> <li>(v) 2H,O + 4e + O, → 40 H (01 mark) (vi) Pink (01 mark)</li> <li>(ii) No deflection (01 mark)</li> <li>(iii) No deflection (10 mark)</li> <li>(iii) No deflection and by joining a p - type semi - conductor and a n-type semi conductor in a special way. (01 mark)</li> <li>(ii) a (01 mark)</li> <li>(iii) to convert alternating current into PC current to convert high frequency radio waves to audio frequency waves etc (02 marks)</li> <li>C. (i) kWh (01 mark)</li> <li>(ii) kWh=<u>100x 300</u> 1000 = 30 kWh (02 marks)</li> <li>(iii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iv) a) Do not enter wires directly to plug base b) Use fuse wires of appropriate ampere value or any other answer as teacher wish. (03 marks)</li> <li>O4 A (i) increasment in concentration of sulphur dioxide in air. (01 mark)</li> <li>(ii) SO<sub>300</sub> + H<sub>2</sub>O<sub>0</sub> → H<sub>2</sub>SO<sub>3e00</sub> (01 mark)</li> <li< td=""><td>B. (i)</td><td>a. chloroplast b. const</td><td>st of green pigment</td><td>s and surrounded</td><td>d by a membrane.</td><td>*</td></li<></ul>	B. (i)	a. chloroplast b. const	st of green pigment	s and surrounded	d by a membrane.	*				
<ul> <li>(ii) a. Vessels b. tracheid c. fibres d. parenchym (1/2 x 4 = 02 marks)</li> <li>(iii) radial transport mass flow. (1 x 2 = 2 marks)</li> <li>(ii) Ca CO<sub>3</sub> g Ca O<sub>60</sub> + CO<sub>200</sub> (01 mark)</li> <li>(ii) Mixing the ash of the fire wood with CaO. More environmental pollution. (01 mark)</li> <li>(iii) To neutralise the acidity in agricultural solls. Preparation of plaster. As a Carbon dioxide absorber In pottery paint or any 2 use of CaO (02 marks)</li> <li>B. (i) to observe the products of combustion (01 mark)</li> <li>(ii) (a) Cu SO, turn in to blue colour (b) lime water become milky colour (02 marks)</li> <li>(iii) to condense water vapours (01 mark)</li> <li>(iv) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(iv) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(ii) No colour change (01 mark) (ii) Mg - 2<sup>+</sup> → Mg<sup>±T</sup> (01 mark)</li> <li>(iii) No colour change (01 mark) (iv) Fe nail (01 mark)</li> <li>(v) 2H<sub>2</sub>O + 4 e + O<sub>2</sub> → 40 H (01 mark) (vi) Pink (01 mark)</li> <li>(v) 2H<sub>2</sub>O + 4 e + O<sub>2</sub> → 40 H (01 mark) (vi) Pink (01 mark)</li> <li>(ii) No deflection (01 mark)</li> <li>(iii) No deflection (10 mark)</li> <li>(iii) a (01 mark)</li> <li>(iii) a (01 mark)</li> <li>(iii) a (01 mark)</li> <li>(iii) to convert alternating current into PC current to convert high frequency radio waves to audio frequency waves et (02 marks)</li> <li>C. (i) kWh (01 mark)</li> <li>(iii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iv) a) Do not enter wires directly to plug base b) Use fuse wires of appropriate ampere value or any other answer as teacher wish. (03 marks)</li> <li>O4 A (i) increasment in concentration of sulphur dioxide in air. (01 mark)</li> <li>(ii) SO<sub>200</sub> + H<sub>2</sub>O<sub>0</sub> → H<sub>2</sub>SO<sub>200</sub> (01 mark)</li> <li>(iii) Nitrogen dioxide (01 mark)</li> <li>(iv) Destruction of plants and forest, Destruction of aquatic flora and fauna, Dissolving of minerals like</li> &lt;</ul>		c. stacks of flattened plates / surror	unded by aembrane							
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<ul> <li>02. A. (i) Ca CO<sub>3</sub> g Ca O<sub>60</sub> + CO<sub>2100</sub> (01 mark)</li> <li>(ii) Mixing the ash of the fire wood with CaO. More environmental pollution. (01 mark)</li> <li>(iii) To neutralise the acidity in agricultural softs. Preparation of plaster. As a Carbon dioxide absorber In pottery paint or any 2 use of CaO (02 marks)</li> <li>B. (i) to observe the products of combustion (01 mark)</li> <li>(ii) (a) Cu SO<sub>4</sub> turn in to blue colour (b) lime water become milky colour (02 marks)</li> <li>(iii) to condense water vapours (01 mark)</li> <li>(iv) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(v) Because it will blow out with out oxygen supply. (01 mark)</li> <li>(ii) No colour change (01 mark) (ii) Mg - 2<sup>s</sup> → Mg<sup>+r</sup> (01 mark)</li> <li>(iii) No colour change (01 mark) (iv) Fe nail (01 mark)</li> <li>(v) 2H<sub>2</sub>O + 4 e + O<sub>2</sub> → 40 H (01 mark) (vi) Pink (01 mark)</li> <li>(i) No deflection (01 mark)</li> <li>(ii) No deflection (01 mark)</li> <li>(iii) a (01 mark)</li> <li>(ii) a (01 mark)</li> <li>(ii) a (01 mark)</li> <li>(ii) a (01 mark)</li> <li>(ii) to convert alternating current into PC current to convert high frequency radio waves to audio frequency waves ete (02 marks)</li> <li>(iii) Fuse Trip switch (1/2x 2=01 mark)</li> <li>(iv) a) Do not enter wires directly to plug base b) Use fuse wires of appropriate ampere value or any other answer as teacher wish. (03 marks)</li> <li>(4 A (i) increasment in concentration of sulphur dioxide in air. (01 mark)</li> <li>(ii) SO<sub>400</sub> + H<sub>2</sub>O<sub>0</sub> → H<sub>2</sub>SO<sub>400</sub> (01 mark)</li> <li>(iii) Nitrogen dioxide (01 mark)</li> <li>(iv) Destruction of plants and forest, Destruction of aquatic flora and fauna, Dissolving of m</li></ul>	(ii)	a. Vessels b. tracheid c. fibres	d. parenchym (	$1/2 \ge 4 = 02 $ mark	as)					
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<ul> <li>(ii) No deflection (01 mark)</li> <li>(iii) <u>Vx</u> = <u>Nx</u> <u>15</u> = <u>20</u> <u>Vy</u> = <u>500 x 15</u> = 375 <u>20</u> (02 marks)</li> <li>B (i) p - n junction can be made by joining a p - type semi - conductor and a n-type semi conductor in a special way. (01 mark)</li> <li>(ii) a (01 mark)</li> <li>(iii) to convert alternating current into PC current to convert high frequency radio waves to audio frequency waves etc (02 marks)</li> <li>C. (i) kWh (01 mark)</li> <li>(ii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iii) Fuse Trip switch (1/2 x 2 = 01 mark)</li> <li>(iv) a) Do not enter wires directly to plug base b) Use fuse wires of appropriate ampere value or any other answer as teacher wish. (03 marks)</li> <li>O4 A (i) increasment in concentration of sulphur dioxide in air. (01 mark)</li> <li>(ii) SO<sub>2(0)</sub> + H<sub>2</sub>O<sub>(0)</sub> → H<sub>2</sub>SO<sub>2(eg)</sub> (01 mark)</li> <li>(iii) Nitrogen dioxide (01 mark)</li> <li>(iv) Destruction of plants and forest, Destruction of aquatic flora and fauna, Dissolving of minerals like</li> </ul>	. ,									
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		limestone? for any 2 $(1 \times 2 = 2 \times m)$	arks)							

- B. (i) Agricultural waste matter (02 marks)
  - (ii) NO<sub>3</sub><sup>-</sup> and PO<sub>4</sub><sup>-3</sup> (1 x 2 = 02 marks)
  - (iii) Loss of biodiversity in water bodies. Lose their beauty. Limits the uses of water.  $(1 \times 2 = 02 \text{ marks})$
- C. (i) 1st 30000 units 2nd 3000 units  $(1/2 \times 2 = 1 \text{ marks})$ 
  - (ii) a) Respiration b) excreation  $(1 \times 2 = 2 \text{ marks})$
  - (iii) Number pyramid / Bio mass pyramid  $(1/2 \times 2 = 1 \text{ marks})$

## Essay questions - Biology

01. A. (i) A-Spinal cord C-Sensory neuron B-motor neuron D-effector  $(1/2 \times 4 = 2 \text{ marks})$ 

- (ii) sense organ  $\rightarrow$  sensory neuron  $\rightarrow$  spinal cord  $\rightarrow$  moto neuron  $\rightarrow$  Effector (02 marks)
- (iii) Spinal reflexes (01 mark) cranial reflexes (01 mark) Spinal reflexes touch a hot object or similar answer (01 mark) Cranial reflexes sneezing, Salivation, moving headaway when a harmful object comes near the eyes. (01 mark)
- (iv) pain touch / pressure / cold / heat receptors for any 2  $(1/2 \times 2 = 01)$
- B. (i) They are organic compounds act at low concentration. (01 mark)
  - (ii) Male-testosterone (01 mark) Female-oestrogen/Progesterone (01 mark)
  - (iii) testosteron Testis (01 mark) Oestrogen / Progesterone Ovaries (01 mark)
- C. (i) Two testes, two epididgmis vas deferent, penis.  $(1/2 \times 4 = 02)$ 
  - (ii) The uterus can enlarge. (01 mark) (iii) Umbilical cord (01 mark)
  - (iv) Nutritive materials Oxygen, Carbondioxide, Waste matter (02 marks)
  - (v) Prolactin (01 mark)
- 02. A. (i) Carbon dioxide is needed or not for photosynthesis. (02 marks)
  - (ii) Plant should exposed to the sunlight. A and B leaves should boil in water. A and B leaves should boil in alcohol. Wash the two leaves with water. Put two iodine drops. (03 marks)
  - (iii) leaves are same in size Both leaves got same amount of sunlight. (02 marks)
  - (iv)  $CO_2$  to absorb carbon dioxide gass (01 mark)
  - (v) to remove the starch in the leaf before the experiment (01 mark)
  - B. (i) White/colourless (01 mark) (ii) brown (01 mark)
    - (iii) Dark blue / dark purple or black colour can be seen outside the cellophane sac. (02 marks)
    - (iv) The dark blue colour can be observed in side the sac. (02 marks)
  - C. (i) Mineral salts active absorption (01 mark) water Osmosis (01 mark)
  - (ii) Stomata (01 mark) (iii) Removal of water from plant surface as water vapour (02 marks)

## Chemistry

- 01. A. (i) to remove the oxides of the metal (01 mark)
  - (ii)  $Mg_{(s)} + H_2O_{(g)} \rightarrow MgO_{(s)} + H_2_{(g)}$  (02 marks)
  - (iii)  $H_2$  gas (01 mark)
  - (iv) boiling tube is kept vertically so the heat may not supplied to the metal pieces equally. Steam also may not supplied equally. (02 marks)
  - (v) When Mg was heated with steam more gas volume can be traped in the test tube. / When Al was heated with steam less gas volume can be traped. / When Cu was heated with steam no gas will be traped.  $(1 \times 3 = 03)$
  - (vi) Cu, Al, Mg (03 marks)
  - B.(i) heamatite, limestone, coke

    - e.  $\operatorname{CaO}_{(s)} + \operatorname{SiO}_{2(s)} \rightarrow \operatorname{CaSiO}_{3(s)} (1 \times 5 = 05)$
- 02. A. (i) Solubility is the maximum amount of solute that can dissolve in 100 g of the solvent at a given temperature. (02 marks)
  - (ii) temperature / nature of the solute / nature of the solvent for any two  $(1 \times 2 = 02)$

Grade 11	Year End Exami	nation 2015	Scier	nce 3/4
(iii) nature of solve	ent (01 mark)	(iv) X (01	mark)	
(v) Temperature	(01 mark)			
(vi) Solubility of A	in 500 g of water at 90°C	= 7.8 g		
Solubility of A	in 100 g of water	= -7.8 500	ς 100	
		= 1.56 g	(03 marks)	
B. (i) $[12+16+(14-60 \text{ g mol}^{-1})]$	$(1+4) = 2 mol^{2}$ (01 mark)	100 8	(**********	
(ii) Amount of mo	les in 60 g of urea	= 1  mol		
Amount of mo	les in 120 g of urea	$= \frac{1 \mod x}{60}$	$120 = 2 \mod 1$	
Amount of mo	les in 1 dm <sup>3</sup> concentration	$= 2 \mod d$	$m^{-3}$ (03 marks)	
C. (i) Organic polar	- Ethanol, Acetone			
	olar - Benzen, Hexane			
Inorganic Pola	r - Water			
Inorganic non	polar - Carbon disulfid	e $(1/2 \times 6)$	= 3  marks)	
(ii) Jak latex is a r	non polar solute. but water i	is a polar solven	t so it can not be disso	lved and
	by water. but kerosene is	-		
kerosene. (0.			ducat	
· · · · · · · · · · · · · · · · · · ·				
Physics 6	002			
01. A. ms		acceleration du	tring first 8S = $\frac{\text{velocity}}{\text{tim}}$	<u>change</u> ne
16 -	o o o al cite		$\frac{16 \text{ mc}^{-1}}{8 \text{ s}} = 2 \text{ ms}^{-2}$	
12 -	a Nat		$\frac{1}{8 \text{ s}} = 2 \text{ ms}$	
8 -			(02)	marks)
4	, , , , , , , , , , tim	ne	(021	.11d1K5)
$0 \begin{array}{c} 2 \\ 2 \\ 4 \end{array}$	6 8 10 12 14 16 (s)			
(ii) Area acuerad	$= 1/2 x 81 x 1.6 ms^{-1}$			
(ii) Area covered				
	$= 64 \mathrm{m}  (02 \mathrm{marks})$			
(iii) Deceleration d	luring the last $4\overline{s} = \frac{\text{velocity c}}{\text{time}}$	ehange		
	1 (			
	$-16 \mathrm{ms}^{-1}$			
	$4 s = 4 m s^{-2}$			
	er the highest temperature.	B - next and		
C - lowest tem	iperature.	(01 mark)		
(ii) Radiation (0	1 mark)			
(iii) dull black surf	faces are the best absorbers	of radiation. Wh	nite surfaces are poor a	ubsorbers
and shining sur	rffaces are the poorest.			
(iv) A- will c	cool fastest B - next and	C - las	st (01 mark)	

## Grade 11

## Year End Examination 2015

