ලාත් මධුරාම - රතාක වලාව Chemistry - Dulan Madus ng. ලාත් මධුරාම - රතාක විදාව Chemistry - I ලබන් ගම්බර් දාහේ මධුරාම - රතාක විදාව Chemistry - I ලබන් ගම්බර්	try Dulan Madurunge good මුදුරට රසාක විදුලට Chemistry Dulan Madurange good මුදුරට රසාක විදුලට Chemistry Dulan Madurange good මුදුරට රසාක විදුලට විදුලට විසාග මධ්වස්ථානය කිරීමට විදුලට විදුලට විසාග මධ්වස්ථානය Madurange good මුදුරට රසාක විදුලට විදු
තාත් මටරංග - රසාගත විසාව Chemistry - Dulan Madurange යගේ මට අධ්යයන	රිය Special Online Speed 1 eSt වෙසට Chemistry - Dulan Madurance ලබේ මුල්ලට - රියෙන වියල් රියේ විසින් වියල් Chemistry - Dulan Madurance road මුල්ලට - රියෙන වියල් Chemistry - Dulan Madurance road මුල්ලට - රියෙන වියල් පොදු සහතික පතු (උසස් පෙළ), 2023 අගෝස්තු Of Education (Adv. Level) Examination, August 2023
රසායන විදාහාව I Chemistry I	O2 S/E I

Universal gas constant $R = 8.314 \,\mathrm{J \, K^{-1} \, mol^{-1}}$ Avogadro constant $N_A = 6.022 \times 10^{23} \text{ mol}^{-1}$ Plank's constant $h = 6.626 \times 10^{-36}$ Velocity of light $c = 3 \times 10^8 \text{m s}^{-1}$ Plank's constant $h = 6.626 \times 10^{-34} \text{J s}$

Introduction to Paper Class 02 -2023 AL

Answer	all	the	Questions.
	Answer	Answer all	Answer all the

An organic compound A contains 39.97% of C, 6.73% of H and 53.30% of O, by weight. What is the 1. empirical formula of A? (H = 1, C = 12, O = 16)

- (1) $C_6H_8O_2$ (2) $C_2H_4O_2$ (3) $C_3H_7O_3$ (4) $C_3H_6O_3$ (5) CH_2O_3

A gaseous hydride of nitrogen, N₃H_b (20 cm³) was burnt in excess O₂ to give 10 cm³ of N₂ and 30 cm³ 2. of water vapour. The formula of the gaseous hydride is,

- (1) NH₃
- (2) N,H,
- (4) N₂H
- (5) N₃H₅

A solution has been prepared by mixing 250 cm³ of a Na₃SO₄ solution of concentration 0.150 mol dm⁻³ and 750 cm³ of a NaCl solution of concentration 0.100 mol dm⁻³. The composition of this solution in terms of ppm 3. Na is, (O = 16, Na = 23, S = 32, Cl = 35.5)

(1) 3450

4.

- (2) 2588
- (3) 1725
- (4) 3.45 (5) 0.15

When 100 cm³ of a hydrocarbon was completely burnt in 600 cm³ of oxygen, 300 cm³ of carbon dioxide and 400 cm3 of water vapour were formed. The oxygen remained unreacted after the combustion was 100 cm3. All volumes were measured at the same temperature and pressure. The formula of the hydrocarbon is,

- (1) C₂H₄
- (2) C_2H_6 (3) C_3H_6 (4) C_3H_8 (5) C_4H_8

When TiO2 is heated in the presence of H2(g) another oxide of titanium is formed. If 1.600 g of TiO2 produces 5. 1.440 g of this oxide, the formula of the oxide is (0 = 16.0, Ti = 48.0)

- (1) TiO
- (2) Ti₂O₃
- (3) Ti₂O
- (5) Ti₂O₂

6.	1 mo! of an organic compound X required 2 mol of O ₂ for complete combustion, and produced 2 mol of CO ₂ and 2 mol of H ₂ O as the only products.									
	The molecular formula of X is									
	(1) C ₂ H ₄	(2) C ₂ H ₆	(3) C ₂ H ₄ O	(4) CH ₄ O	(5) C ₂ H ₄ O ₂					
7.	1.92 g of the hydroca The mass of oxygen (1) 6.72 g	arbon C_9H_{20} gave on contracted is $(H = 1,$ (2) 4.02 g	omplete combustion, 5 C = 12, O = 16) (3) 3.86 g		.70 g of water vapour. (5) 3.24 g					
8.	What is the empirical formula of a substance containing 39.02% S, 58.54% O and 2.44% H? (H=1, O=16, S=32)									
	1) H ₂ SO ₃	2) H ₂ SO ₄	3) H ₂ S ₂ O ₃					
	4) H ₂ S ₂ O ₇) HSO ₄							
9.			-		d O is 88. This compound ms in a molecule of this 5) 5					
10.		solution were mixed se value of x?		entration of Na ⁺ ion	olution and 80 cm ³ of 0.2 as in the solution was 0.6 5) 0.36 moldni ⁻³					
