THE UNITED REPUBLIC OF TANZANIA NATIONAL EXAMINATIONS COUNCIL OF TANZANIA FORM TWO NATIONAL ASSESSMENT

032 CHEMISTRY

Time: 2:30 Hours Thursday, 14th November 2019 a.m.

Instructions

- 1. This paper consists of sections A and B with a total of **ten (10)** questions.
- 2. Answer all questions in the spaces provided
- 3. All writing must be in black or blue ink **except** diagrams which must be in pencil.
- 4. Cellular phones and any unauthorized materials are **not** allowed in the examination room.
- 5. Write your **Examination Number** at the top right hand corner of every page.
- 6. The following atomic masses may be used: H = 1, N = 14, O = 16, S = 32, Ca = 40

FOR EXAMINERS USE ONLY							
QUESTION NUMBER	SCORE	EXAMINER' INITIALS					
1							
2							
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SECTION A (20 MARKS)

Answer all questions in this section.

1.		each of the items (i) - (x) , choose the correct answer from the given alternatives and write in the box provided.	its
	(i)	What is the best way of keeping a clean test tube after use?	
	. ,	A Keeping it in water	
		B Keeping it on a test tube holder	
		C Keeping it in a basin for test tubes	
		D Keeping it on a test tube rack	
	(ii)	Which one of the following does not involve the processes of urban water treatment are	d
		purification?	
		A Sedimentation. B Distillation.	
		C Filtration. D Chlorination.	
	(iii)	Why hydrogen gas is not a constituent of air?	_
		A Because of being water soluble	
		B Because of being denser than air	
		C Because of being very light	
		D Because of being highly flammable.	
	(iv)	Which is the suitable alternative heat source to be used in absence of Bunsen burner?	
		A Torch and spirit burner	_
		B Torch and kerosene stove.	
		C Kerosene stove and spirit burner	
		D Firewood and torch.	
	(v)	What group and period does the element with 11 electrons belong?	_
		A Group I and period 3.	
		B Group II and period 1.	
		C Group I and period 1.	
		D Group II and period 3.	
	(vi)	What happens when substance A reacts with substance B to form a new substance C?	
		A Substance A and B are said to have formed a solution.	_
		B Substance A and B are said to have undergone a physical change.	
		C Substance A and B are said to have undergone a chemical change.	
		D Substance A and B are said to have undergone a dissolution.	
	(vii)	Which components make the fire triangle?	
		A Oxygen, fuel and heat.	
		B Oxygen, nitrogen and heat.	
		C Oxygen, fuel and carbon dioxide.	
		D Oxygen, heat and hydrogen.	

(viii)	Whic	h state is involved	ved when drying	wet clo	othes?					
		iquid to solid. as to liquid.		B D	Solid to g	-				
	C	ias to fiquid.		D	Liquid to	gas.				
(ix)		_	sists in radicals?	D	D '4'	,•				
	A Z C N	ero. [eutral		B D		or negativ and negati				
			a			C		2		
(x)	-	is a non-luming is very noisy.	ous flame is the n	nost ap B	plicable fl It has no		eating pu	irposes?		
		is very hot.		D		holes ope	n.			
(a)			List A with a coow the correspond		-		•	_	er of th	
			List A					List B		
(i)	A sol	vent which dis	solves most subst	ances	to form so	lutions.	A So	id		
(ii)	A sul	A substance that has no definite shape or size.						ution		
(iii)	A sul	ostance that has	a fixed shape an	d volu	me.		C Water			
(iv)			components can b	e sepa	rated by p	hysical	D Sugar			
()		neans.						lk		
(v)	Hom	omogeneous mixture of two or more substances.					F Ga	S		
							G Lic	luid		
							H Aiı	-		
Answe	orc									
List A		(i)	(ii)		(iii)	(i	v)	(v	·)	
List l	В									
(b)	E:11 :.	the blank and	ces by using the a	nnroni	rioto torma					
(b)	(i)	-	the effect of the				alanced	by the ch	narge (
	(ii)	Serum is s	eparated from b	olood	samples 1	by emplo	ying a	technique	e calle	
	(iii)	Boiling poin	ts of substances re	eflect t	he strengt	h of				
	(iv)	_	alk into a powder le substances fo		_	-				
	(v)	I DA INCOLLIN	IP CHINCIANCEC TO	rmaa	/IIIrino til	บาลบาก ลา	е сопес	III/AII/ TAI	rmea s	

SECTION B (80 MARKS)

Answer all questions in this section.

3. (a) State one use of each of the items (i) - (v) in administering First Aid.

S/N	Item	Use
(i)	Soap	
(ii)	Bandage	
(iii)	Sterile gauze	
(iv)	Iodine tincture	
(v)	Petroleum jelly	

b)	Give (i)	one function of each of the following apparatuses in the chemistry laboratory. Spatula
	(ii)	Gas jar
	(iii)	Lie-big condenser
	(iv)	Mortar and pestle
	(v)	Wire gauze

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4.	(a)	By gir (i)	ving one reason, explain the following facts: During laboratory preparation of oxygen gas, little manganese dioxide is added to hydrogen peroxide.				
		(ii)	Fish can obtain oxygen for respiration although they spend their lives in water.				
		(iii)	Oxygen gas can be used for welding activities although it does not burn.				
	(b)	Which	h property enables the use of hydrogen gas in filling weather balloons?				
		(ii)	production of oxy-hydrogen flame?				
		G:					
	(c)	Give two domestic uses of oxygen gas.					
5.	(a)	Give (i)	three chemical tests for water and show the results obtained in each.				
		(ii)					
		(iii)					
	(b)	(i)	Differentiate water treatment from water purification.				

		(ii)	Why drinking water should be treated and purified? Give two reasons. •
			•
		(iii)	How can drinking water be treated or purified?
			•
6.	(a)	Diffe	rentiate hypothesis from analysis.
		•••••	
	(b)	concl	tive use of the four senses of observation is important before a chemist can make a usion. With four points, show how the senses are used as tools of observation during imentation by giving one example for each.
		(i)	
		(ii)	
		(11)	
		(iii)	
		(iv)	

7. What precautions will you take in handling chemicals having the warning signs shown in the table?

S/N	Sign	Relevant Precaution
(a)		(i)
(b)		(i)
(c)		(i)
(d)		(i) (ii)
(e)		(i) (ii)

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8.	Briefly explain the five classes of fires based on the nature of the burning material and th extinguisher required. Give one example for each class.							
	(a)							
	· /							
	(b)							
	(c)							
	()							
	(d)							
	(u)							
	()							
	(e)							

Oxygen

9. A certain gaseous compound contains 30.4% of nitrogen and 69.6% of oxygen by mass. If the molar mass of the compound is 92, calculate the molecular formula.

Nitrogen

Stage

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10.	Briefly explain five characteristics to be considered when looking for a good fuel. (i)					
	(-)					
	(ii)					
	(iii)					
	(iv)					
	(v)					