KAMSSA HOLIDAY PACKAGES:

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GENERAL PAPER PACKAGE ONE

Instructions: Attempt one part in question 1.

1 (a)The recent registration on indecent wearing was only timely. discuss

(b) Assess the impact of Human Rights Activists in Uganda.

(c) Examine the causes of family break ups in Uganda.

Suggest solutions

(d) Examine the implication of withholding of Donor funds to Uganda

2 Read the passage below and answer the questions that follow

Unity in Africa

The most important and dramatic change that has taken place in Africa or in Africa's position in the world in the world in the last two and a half years has been the establishment of an organization of African unity.

5 Africa is divided into too many countries. A few are reasonably big. Many are unreasonably small, either in area or in population or in both. While, on the one land, we have countries like Algeria and Congo (Leopoldville) each with areas exceeding 900,000 square miles, and a country 10like my own (Nigeria) with a population of over 55 million, we have, on the other hand, a country like The Gambia with an area around 4,000 square miles and a population of just over 300,000. The entire population of Africa is not one half that of the Republic of China.

15. One of our problems, therefore, has been proliferation of states. Some feel that the old metropolitan countries, who carved up Africa for their own purposes, were responsible for this. Am sure they are responsible for the arbitrary division **20**of the continent, resulting here and there in an ethnic group being cut in two, one portion forming part of one country and the other part of another.

But I am not sure they are solely responsible for proliferation itself. Certainly, in the case of Nigeria, **25**our people were in numerous tribal groups before the advent of the colonial power. If these groups had developed into independent entities, we should have today not a smaller

but a greater number of independent countries in Africa. It is of course possible that left to ourselves, the normal incidence of 30affinity, trade and the need to combine for security, would have had upon our peoples the effect they had upon small ethnic groups elsewhere, so that we would on the whole be less fragmented than we are today. Who can tell?

35 In any case, the old colonial powers cannot altogether be exonerated from responsibility in this matter. Even where they were not responsible for the original divisions, they could have done better in helping to 'abate the nuisance'. Here again, Nigeria is a case in point. In order to facilitate 40their administration of the territories, the British secured the amalgamation of the different parts of Nigeria in one single country. Even when in 1953, a violent conflict between the Northern and Southern leaders threatened a break-up of the country, the British Government co-operated to 45effect a compromise settlement that enabled Nigeria to remain intact. It seems a pity that things did not develop in this way in all parts of our continent.

But if Africa was left divided by the metropolitan power, Africa itself very quickly created a further

50 divisions within itself, a division in another dimension. By 1962 the independent courtiers of Africa were divided into three camps or, more accurately, two and a half. Monrovia bloc, and there **55**within the Monrovia bloc a French –speaking sub-group commonly referred to as the UAM. These groupings each reflected a desire for inter-African co-operation, which was something to be commended, but the creation of more than one group reflected a new danger within Africa.

60 Therefore, what was born in Addis Ababa in May 1963, or rather, what came to fruition there, was not a recognition of the need for inter-African co-operation but the recognition that co-**65**operation would best be promoted on a continental scale through a single organization.

The creation of this organization was not easy. Many outside African who had never liked the African independence movement hoped that it would never happen. Even among our overseas friends who 70wished us well there were a great many who did not see how it could be accomplished,

having regard to what they thought were accomplished, having regard to what they thought were deep-seated differences of opinion between the Casablanca group and the Monrovia group-even on the **75**fundamental question of the form that African unity should assume. Within Africa itself, there was no lack of skeptics.

However, despite the apprehensions of the doubters, the deed was done. On May 25, 1963, in the **80**great city of Addis Ababa, capital of the ancient – and –modern kingdom of Ethiopia, the organization of Africa Unity was born. It's Charter, to which the Heads of African States and Governments there assembled, appended their signatures, was a remarkable document. It set out **85**with great clarity the purposes of the organization, the manner in which those purposes were to be implemented, the principles for the pursuit of them, and the institutional machinery to be employed.

Naturally the first purpose of the Organization is the promotion of the 'unity and solidarity of the **90**African states'; the co-ordination and intensification of efforts to achieve a better life for the peoples of Africa; the defense of their sovereignty, their territorial integrity and independence; and the eradication of colonialism from the continent.

95 But that was not all that OAU was created to do. The African leaders assembled in Addis Ababa were not out to promote a isolationist Africa. Their aim was a strong, stable and prosperous continent in a just and co-operative world. It was therefore underlined in the OAU charter that one **100**of its purpose was 'to promote international co-operation, having due regard to the charter of the United Nations and the Universal Declaration of Human Rights'.

105 Thus, from the onset of its establishment, OAU demonstrated that it was going to concern itself not only with the urgent problem of Africa, but also with international problems of general concern.

Questions

(a) Suggest a suitable title for the passage.

(b) What two things does the writer blame the old Metropolitan countries for?

(c) Why do you think the writer compares Africa's population with that of China?

(d) Explain why the writer calls the establishment of the OAU 'the most important and dramatic change that has taken place in Africa or in Africa's position"

(e) In not more than 100 words, summarize the aims of forming the OAU.

(f)Explain the meaning of the following words and phrases as used in the passage.

(i)---------the advent of the colonial power (25)

(ii) ---------- the entities (26)

(iii) Exonerated from responsibility (35)

(iv) Abate (37)

(v) Facilitate (39)

(vi) Came to fruitation (61)

(vii) Deep –seated (72)

(viii)Stable (98)

(ix) From the onset (104

END

SUDSIDIARY ICT

1. a) Computers can cause health problems if continuous used without control. Identify any three health problems and show how they can be controlled
   i) Problems
   ii) How they can be controlled.

b) i) Show any three ways how ict can be used in learning

ii) Show any three problems associated with the use of computers in learning?

2 a) Study the diagram below and name the parts

b) What do you understand by the term computer hard ware?

c) Outline any four categories of computer hard ware devices.

d) Briefly explain any five examples of input devices of a computer.

3. a) Computers accept data in various forms: Study the grid of Input devices below and answer the question which follows by indicating ***input device*** or ***output device***

A 	**B** 	**C** 
D 	**E** 	**F** 

b) Tick ***true*** or ***false*** next to each of the statements.

	True	False
Microcomputers are small and can be used by one person		
An Speedo meter is an example of an analog computer		
Volatility is the ability of computer to store data		

4. (i)
Write is CPU in full?
(ii) Why do you think the CPU is referred to as the brain of a computer?
(iii) Distinguish between data and information.
(iv) Give and explain any five (5) components that make up a system unit.
(v) Differentiate between a Computer system and System Unit.
(vi). Explain any three major components of a computer system and the role they play?

5. a) i) Define the term booting as applied in ICT
ii) Briefly explain any four steps involved in the booting of a computer

6. a) As an ICT student, briefly explain the relevance of the following items in a computer laboratory.
(a) Stabilizer
(b) A digital Camera
(c) UPS
(d) Scanner
(e) Air Conditioning Unit

7. Given the file path ***C:\user\desktop\Musoke\Letter.doc*** identify the following.
i. Filename:
ii. File type:
iii. Profile:
iv.Folder
v. Location

8. Basing on your ICT knowledge, briefly explain the relevance of

the following as far as file management is concerned.

(a) My computer
(b) My documents
(c) Recycle bin
(d) My network places
(e) Start menu
(f) Internet explorer

9. A company uses robots to manufacture cars.

(i) Tick **four** advantages to the company of using robots rather than humans to manufacture cars.

	(g)
Robots are cheap to buy	
Running costs are lower as humans have to be paid wages	
Robots never need maintenance	
Humans cannot work continuously	
Robots can work in hazardous conditions	
There is lower productivity with robots	
Robots produce the same standard of finished product every time	
Humans have greater accuracy than robots	

10. (a) What is an operating system?
(b) Describe 4 functions of an operating system.
(c) Mention 5 examples of utility programs and their functions
(d) Distinguish between single uses and multi-uses operating system.
(e) Briefly describe how you would install an operating system onto computer.
(f) State and explain the elements of a communication model
(g) What is meant by the term computer network?
(h) Explain the following terminologies as applied to computer network.

MAN, LAN, WLAN, WAN
NETWORK SWITCH, PROTOCAL
ROUTER, GATE WAY.

END

SUBSIDIARY MATHEMATICS PACKAGE
SECTION A

1. Given that $\frac{3^4 \times 3^8}{9 \times 3^7} = 32^x$, Find the value of x. (5mks)

2. Use matrix method to solve the simultaneous equations

$3x2 - 1y2 = ½$

$2x + 3y = 19$ (5mks)

3. Rationalize; $\frac{32 + 3}{22 - 33} - \frac{22 + 33}{2 - 2\ 3}$ (5mks)

4. A random variable X has probability distribution given in the table below

Marks (x)	94	95	96	100
P(X = x)	214	314	414	514

Find, (i) the expectation, E(x)

(ii) the variance, var (x) (5mks)

5. The price in shillings of commodities A, B, and C in 2010 and 2014, are given in table below.

Commodity	**2010**	**2014**
A	18,500	27,750
B	15,000	21,000
C	10,000	13,000

Using 2010 as the base year, find the

(h) Price relative of each commodity

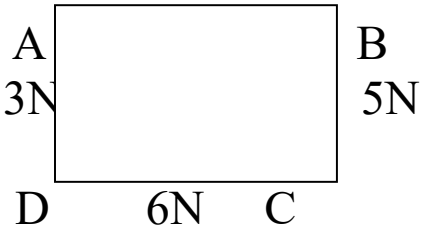
(i) Simple aggregate price index (5mks)

(6) Two independent events M and N are such that P(M) = 0.5 and P(N) = 37

Find $P(AUB)^1$ (5mks)

7. Find the standard deviation to the set of the numbers -193, -146, 28, 69, 177 (5mks)

8. Forces of magnitude 6N, 5N and 3N act on a square ABCD of mass 0.4kg



Find

(i) Resultant force on the square

(ii) The acceleration caused by the forces

SECTION B

9. The table below shows the monthly production of a cement factory for the year 2013

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
130	220	580	260	169	280	610	250	170	290	610	260

(a) Calculate the four month moving average (5mks)

(b) On the same graph plot the original data and the moving average.

(c) Use the graph to estimate the production of cement in January 2014

(ii) Comment on the trend of the company's cement production. (10mks)

10 (a) Solve the equation $2x^2 - 3x - 44 = 0$ (4mks)

(b) Form a quadratic equation whose roots are -32 and 5 (4mks)

(c) The roots of a quadratic equation $32 + 5x - 12 = 0$ are α and β. Form a quadratic equation with integral coefficients whose roots are $(2\alpha - 1)$ and $(2\beta - 1)$. (7mks)

11(a) The sum of the first ten terms of an A.P is 120 and the sum of the first twenty terms is 840. Find the sum of the first thirty terms (9mks)

(b) Find AB + 3I where A = $\begin{bmatrix} -3 & 1 \\ 2 & 3 \end{bmatrix}$, B $\begin{bmatrix} 7 & 0 \\ 8 & -6 \end{bmatrix}$ &I is a 2 x 2 identity M (6marks)

12. (a) Find the spearman's rank correlation co-efficient for the following data and comment on the variation

X	1	2.5	6	7	4.5	3	6.5
Y	0.5	1	3.5	6.5	3	2.5	5.5

(7mks)

(b) Plot a scatter diagram for the data and include a line of best fit. Comment on the variation (8mks)

13. A car takes 60s to travel between two sets of traffic lights starting from rest at the first set and coming to rest again at the second set. It accelerates uniformly to a speed of $12ms^{-1}$ in 4s, and then uniformly decelerates to rest. Find;
    (i) the uniform acceleration of the car.
    (ii) the distance between the two sets of lights (15mks)

14.(a) Write down the formula for the n^{th} term of an arithmetic progression (A.P) with the first term, a and the common difference, d.

(b) (i) Find the 200^{th} and $(n+1)^{th}$ terms of the A. P3 + 7 + ...

(ii) The second term of an A.P is three times the 7^{th} and the 9^{th} term is one (1). Find the first term, the common difference and which is the first term less than zero.

c) (i) Write down the formula for the sum of the first n terms of an A.P with first term, an and common difference, d.

(ii)Find the sum of the first 25 terms of the A.P 20 + 13 + ...

15.(a) Find the expression for the n^{th} term of a G.P with first term, a and common ratio, r.

(b)Find the number of terms in the G.P 0.03 + 0.06 + 0.12 + ……+ 1. 92.

c) The third term of a G.P is 10 and the sixth term is 80. Find the first and the tenth term.

(d) The first term of an A.P is 73 and the 9^{th} term is 25. Determine
    (i) The common difference of the A.P
    (ii) The number of terms that must be added to get a sum of 96.

(e) A G.P and an A.P have the same first term. The sums of their first, second and third terms are 6, 10.5 and 18 respectively. Calculate the sum of the six terms of the G.P.

16.(a) Write down the expansion of the following trigonometrically identities.

(b) Write down the expansions for the compound angles of the following:
(i) $\cos(A \pm B)$ (ii) $\sin(A + B)$ (iii) $\tan(A \pm B)$

END

HISTORY P210/1

INSTRUCTIONS:

Attempt all questions

1. Account for the rise and growth of African Nationalism.
2. Examine the causes and the effects of Italo-Ethiopia crisis 1933-41.
3. Account for the success the Egyptian revolution of 1952.
4. "The downfall of emperor Haille Selasie was inevitable" Discuss.
5. Examine problems that have affected Pan-Africanism since 1900.
6. Examine the causes and effects of Katanga Secession.
7. Assess the achievements of O.A.U.

END

HISTORY P210/2

SECTION A

1. Explain the main features of the social and economic organization of the Masai during the 19th century. *(25marks)*

2. Assess the impact of the long distance trade on the socio-economic development of east Africa during the early 19th century.
3. Explain the significance of Age set system on the socio-economic organization of the pre-colonial societies. *(25marks)*

SECTION B

4. To What extent did land question contribute to outbreak of Mau Mau apprising in Kenya. *(25marks)*

5. Account for the success of the white settlers farming in Kenya during the colonial period. *(25marks)*

6. Examine socio-economic development in Tanganyika between 1900 and 1940 *(25marks)*

7. Examine the impact of missionary activities on the socio-economic development of Uganda. *(25marks)*

SECTION C

8. With reference to any one country, discuss the view that foreign aid has

sustained the economies of East African countries. *(25marks)*

9. "The collapse East African Community (EAC)in 1977 was inevitable" discuss. *(25marks)*

10. Discuss the role of international monitory fund (IMF) to the socio-economic development of Uganda. *(25marks)*

END

HISTORY P210/3 (History of Europe 1789-1970)

INSTRUCTIONS

- Attempt all questions

1. Account for the collapse of the Bourbon monarchy in France by 1793
2. To what extent did the directory (1795-99) contribute to the rise of Napoleon Bonaparte to power in France?
3. How did Napoleon Bonaparte consolidate his power in France between 1799 and 1814?
4. Assess the impact of the Vienna settlement on Europe
5. Why did the Orleans monarchy collapse in 1948?
6. Discuss the achievements and failures of Metternich between 1815 and 1848.
7. Examine the causes of consequences of the 1848 revolutions in Austria.
8. To what extent did foreign powers contribute to the unification of Italy?
9. Examine the stages in the unification of Germany up to 1870.
10. Account for the outbreak of the Crimean war between 1854 and 1856.

HIST P210/6 (History of Africa 1855-1914)

INSTRUCTIONS:

- Answer any **FOUR** questions only.

1. How far did the pre-colonial societies depend on the army?
2. Examine the factors that prolonged slave trade in West Africa.
3. Discuss the causes and effects of the 1905 and 1907 African resistance in East Africa.
4. How did the European colonialists acquire territories in either East Africa or West Africa?
5. To what extent was the Buganda Agreement a basis of change in

Buganda?
6. To what extent was the Portuguese rule in Angola developmental?
7. Account for the conflicts between the British and the Boers in South Africa between 1880-1881.
8. How did the French consolidate their rule in Algeria between 1870 and 1914?
9. Account for Samoure Toure's prolonged resistance against the French.
10. What impact did Christian missionary activities have on the social, economic and political development of East and Central Africa up to 1914?

C.R.E P245/1

INSTRUCTIONS: Attempt 4 questions picking one from each section

NB: Question 5 is compulsory

SECTION A LAW BOOKS

1. a) Account for God's disappointment upon man in Genesis 3

b) What lessons can modern Christians learn from the fall of man?

a) Examine the significance of the Passover to the Jews

b) What is the relevance of the Passover to Christians today

2. a) Discuss the role of priests in the history of Israel

b) In what ways were sacrifices abused among the Israelites

3. Discuss the impact of obeying and disobeying God's command to the Israelites in Deuteronomy 28.

SECTION B: INSTITUTIO FO KINGSHIP IN ISRAEL

4. a) Analyze the basis of religious syncretism among the Israelites

b) Examine the ways in which Christians practice religious syncretism today

5. a) Examine the ways in which King Saul failed to line to the expectations of Kingship in Israel

b) What lessons can modern political leaders learn from Saul's

failure

6. a) Examine Nathan's prophesy to David in 2nd Samuel 12:1-15

b) What were the consequences of David's sin?

7. a) Discuss the role of Solomon in the division of the Kingdom of Israel

b) What were the consequences of the division of Israel

SECTION C

8. a) Account for Amos preaching in the north though he was from the South

b) Examine the conflicts between Prophet Amos and Amaziah the chief Priest.

END

C.R.E P245/2 (NEW TESTAMENT)

INSTRUCTIONS Attempt 4 (Four) questions, picking at least a question from each section

SECTION A: EARLY CHURCH

1. a) "Transmitting Christianity in the first century A.D experienced a number of challenges". Justify. (12 Marks)

b) Comment on the steps the early Church employed to overcome the above challenges. (13mks)

2. a) Comment on the circumstances that prompted the compilation of the codex. (12mks)

b) Show the importance of the codex to the present church in Uganda

3. a) Account for the good fellowship and worship in the early church.

b) Explain why the spirit of brotherhood is dying out in the church today

SECTION B: THE GOSPELS

N.B. Question 4 is compulsory

4. Justify the sour relationship between Jesus and the Jewish authorities in the gospels of John and Mark. (25mks)

5. a) Comment on the significance of women to the ministry of Jesus in

Mark's gospel. (10mks)

b) Asses the effectiveness of women in the spread of the gospel in Uganda today. (15mks)

6. a) Discuss the significance of the parable of the tenants according to the gospel of Mark. (13mks)

b) What lessons do modern Christians draw from the event?

7. Analyze the distinctive presentation of Jesus' Messiahship in the fourth gospel

END

C.R.E P245/4

(CHRISTIAN APPROACHES TO SOCIAL AND ETHICAL ISSUES)

INSTRUCTIONS Attempt four questions choosing at least one from each section

SECTION 1 (SEX, MARRIAGE AND FAMILY)

1. a) Account for the limited cases of sex abuse in African traditional society than in modern situation (12mks)

b) Examine the cases of sex abuse in the Bible (13mks)

2. a) "Virgins are dying breed and being one is rare" Account for the high rate of loss of virginity among the youth today (12mks)

b) As a Christian, what advice would you give the youth in order to abstain until marriage? (13mks)

3. "Women should not have equal rights with men in Uganda".

a) As a Christian, comment on this statement (13mks)

b) What role is the church playing in an effort to uplift the status of women (12mks)

4. a) Analyze the challenges parents face raising children in the present society (12mks)

b) What Christian teachings can help to address some of the challenges?

SECTION II (WORK, LEISURE AND MONEY)

5. To what extent should a Christian participate in a strike?(25mks)

6. a) Explain the circumstance under which the use of Euthanasia by

medical workers is advocated for 12mks)

b) Examine the Christian view on Euthanasia 13mks)

7. a) Account for the high rate of drug addiction in Urban areas of Uganda (13mks)

b) Discuss the Bible teaching son alcohol (12mks)

8. a) Examine the advantages of capitalism in the Ugandan environment

b) Why does Christianity disapprove of Capitalism? (13mks)

SECTION III (LAW AND ORDER)

9. a) Discuss the rights of children in your society (12mks)

b) Examine the ways in which the church is trying to defend the rights of children in Uganda (13mks)

10. a) Under what circumstances may the church conflict with the state

b) Discuss the role of the church towards the state today? (13mks)

11. How far should Christians involve in armed resistance to liberate their country? (25mks)

12. a) Discuss the abuses that usually occur in the taxation system in Uganda today (12mks)

b) Should Christians pay taxes to an immoral government? Give reasons for your answer. (13mks)

END

GEOGRAPHY PACKAGE ONE

1. Examine the influence of acidic lava in the formation of extrusive igneous Vulcanicity in East Africa. (25 marks)

2. (a) Distinguish between mud flow and earth flow. (10 marks)

(b) To what extent are activating causes a major factor contributing to the occurrence of landslide in East Africa? (15 marks)

3. (a) Distinguish between lateral and vertical erosion of a river. (08 marks)

(b) Describe the features formed in the lower stage of rives in East Africa. (17 marks)

6.(a) Differentiate between warm and cold ocean current. (10 marks)

(b) Explain the effects of a warm ocean current on the climate and human activities at the coastal areas of East Africa. (15 marks)

7. Account for the growth and distribution of mangrove vegetation in East Africa. (25 marks)

8.(a) Distinguish between zonal and intrazonal soils. (10 marks)

(b) Account for the formation of Zonal soils in East Africa. (15 marks)

END

GEOGRAPHY PACKAGE TWO

SECTION A

1. Study the table below showing the climate statistics for station Z.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp(°C)	-- 18	-- 14	-- 8	8	14	17	19	18	13	8	-- 7	-- 12
Rainfall(mm)	24	17	20	23	46	29	86	60	36	20	20	21

(a) Draw a circular graph to represent the information in the table above.

(b) Outline the merits and demerits of the method used in (a) above. (c) Determine the mean annual temperature and mean annual rainfall for the station.

(d) Examine the factors responsible for the climate of station Z.

(e) Identify three forms of natural vegetation you expect to exist in the region where the station is located.

SECTION B

2. (a) Distinguish between factory farming and nomadic pastoralism.

(b) Examine the problems facing animal rearing in the tropical Africa.

3. Examine the factors that have led to the growth and development of plantation agriculture in either Brazil or South Africa.

4. Assess the contribution of forestry to the economic development of either Canada or Swaziland.

5. To what extent have geographical factors limited the growth and development of Africa's inland fisheries?

6. Account for the low levels of the mining industry to the economic development of either Angola or Zambia.
7. To what extent has raw material contributed to the growth and development of the manufacturing industries in either Japan or Nigeria?
8. Examine the factors responsible for the rapid population growth rates in either India or Kenya.
9. Account for the extensive desertification in Africa.
10. Assess the role of the tourism industry to the development of either Switzerland or Egypt.

END

GEOGRAPHY PACKAGE THREE

SECTION A

FIELDWORK

1. For anyone fieldwork you have carried out either as a group or as an individual,

(a)(i) State the topic of the study. (2 marks)

(ii)Outline the objectives of the study. (4 marks)

(b)Draw an annotated line transect of the area studied. (6 marks)

(c)Examine the relationship between physical features and land use in the area studied. (6 marks)

(d)Explain the limitations of the methods used during the fieldwork study. (7 marks)

2. For any fieldwork study you have carried out around your school (within 5km radius),

(a)(i) State the topic of the study. (2 marks)

(ii)Outline the objectives of the study. (4 marks)

(b) Describe how you used the following methods in data collection during the field study.

(i) Observation

(ii)Questionnaire

(iii) Pacing

(c) Explain the findings of the study. (6 marks)

(d) Outline the problems you encountered during the fieldwork study. (5 marks)

SECTION B

3. Examine the contribution made by the rift valley to the economy of Uganda.
4. To what extent has climate influenced the development of the agrarian systems in Uganda?
5. Discuss the contribution made by forestry to the economy of Uganda.
6. Examine the problems affecting development of the tourist industry in Uganda.
7. Study the table below showing Uganda's population in urban areas in 1992 and answer the questions that follow.

REGION	URBAN POPULATION
Northern	170,000
Central	1,200,000
Eastern	320,000
Western	220,000
TOTAL	1,910,000

Source: Adopted from the Republic of Uganda Statistical Abstract: MFEP July 1996

(a) Draw a divided rectangle to show the proportion of the urban population living in each region.

(b) Discuss the factors that have led to the development of urban population in Uganda.

8. Account for the distribution of manufacturing industries in Uganda.
9. To what extent have the physical factors influenced the distribution of road transport in Uganda?

(a) Describe the theories for the formation of the rift valley in Uganda.

(b) Explain the effects of the rift valley on the environment in Uganda.

10. To what extent has physical factor limiting the development of water transport in Uganda.
11. "Wild life is a basis of tourism industry in Uganda." Discuss
12. Assess the contribution of fishing industry to the economic development of Uganda.
13. (a) Account for the increased deforestation in Uganda
(b) What measures have been taken reduce deforestation in Uganda.
14. Examine the factors influencing population distribution in Uganda.

END

ENTREPRENEURSHIP PACKAGE ONE

SECTION A

1(a) Identify four sources of capital for a business. (4mks)
b(i) Define the term marketing (1mk)
(ii) Outline three tools of effective marketing strategy (3mks)
c(i) What is meant by capital market? (1mk)
(ii) Given three major players in the capital markets (3mks)
d(i) Distinguish wish between marketing plan and production plan (2mks)
(ii) State any two functions considered when preparing a marketing (2mks)
e. The cost of a tractor was Shs 10,000,000/=. Its scrap value was Shs 2,000,000/= and it was expected to last for 4 years.
Calculate,
i. Purchase annual depreciation (2mks)
ii. Value of the tractor after 2 years (2mks)

SECTION B

2(a) Assess the implications of competition in business (10mks)
(b) In what ways can entrepreneur overcome competition in business? (10mks)
3(a) Explain the barriers to effective communication (10mks)
(b) Suggest solutions to the barriers to effective communication (10mks)
4(a) Explain the various methods of costing (12mks)
(b) Describe the produce of purchasing goods (8mks)
5(a) Define the keeping of records in a small business (10mks)
(b) Examine how entrepreneurs manage the funds in business (10mks)

ENTREPRENEURSHIP PACKAGE TWO

SECTION A

1.(a) (i) Distinguish between an Entrepreneur and entrepreneur.
(ii) Give any two behavioral characteristics of successful entrepreneurs associated with strong need for a achievement.
(b) (i) Define the term Negotiation. *(1mark)*
(ii) Outline any three attributes of good negotiators. *(3marks)*
(c) Outline any four factors that can guide to evaluate a business idea. *(4marks)*
(d) (i) Distinguish between quality control and quality assurance.
(ii) State any two merits of quality control in business. *(2marks)*
(e) (i) What is meant by the term target market population?
(ii) State any three factors influencing target market population.

SECTION B

2.(a) What factors bring about change in business? *(10marks)*
(b) Explain the benefits of change to an enterprise. *(10marks)*
3.(a) Why is there need for effective communication in an enterprise? *(10marks)*
(b) Of what importance is effective communication in an enterprise?
4.(a) Explain the steps involved in taking out to an insurance policy.
(b) What are the benefits of insurance to business? *(12marks)*
5.(a) Why is it necessary to ensure proper inventory management in an enterprise? *(10marks)*
(b) Describe the tools used in the management of inventory and stores for an enterprise *(10marks)*
6.(a) Distinguish between sales promotion and personal selling.
(b) Describe the process of carrying our personal selling. *(16marks)*
(a) Why is there need to control quality during production?
(b) Explain the factors that determine the quality of products in an Enterprise. *(10marks)*

END

ECONOMICS PACKAGE ONE

SECTION A

1.(a)(i) Define the term "Industrial inertia." (01 mark)

(ii) Why should the government influence the location of an industry? (03 marks)

(b) (i) Distinguish between Nominal Income and Real Income. (02 marks)

(ii) Mention any two determinants of real income. (02 marks)

(c) (i) State the "Big-Push theory of economic growth. (01 mark)

(ii) Mention any three limitations of the Big push theory in developing countries. (03 marks)

(d) (i) Define the term "Economic dependence." (01 mark)

(ii) Give any three effects of economic dependence in an economy. (03 marks)

(e)(i) Distinguish between frictional and seasonal unemployment (02)

(ii) Give any two causes of seasonal unemployment in an economy.

SECTION B.

2.(a) How are profits maximized in a perfect competition market in the short run? (08 marks)

(b) Examine the advantages and disadvantages of perfectly competitive markets. (12 marks)

3 (a) Explain how the cost of living index in an economy is computed.

(b)What are the problems faced in the computation of cost of living index? (12 marks)

4.(a) Distinguish between economic growth and economic development.

(b)Examine the implications of economic growth in an economy ,16

5.a) Explain the challenges being faced by the private sector in developing countries. (10 marks)

(b) What measures should be taken to promote the private sector in developing countries? (10 marks)

6.(a) Distinguish between imported inflation and structural inflation. (04 marks)

(b)Assess the impact of inflation in an economy. (16 marks)

7.(a) What are the causes of unemployment in an economy? (10 marks)

(b) Explain the effects of unemployment in an economy. (10 marks)

ECONOMICS PACKAGE TWO

SECTION A

1. (a)(i) Distinguish between free goods and public goods. (02 marks)
   (ii) Give two examples of public goods in your country. (02 marks)
   (b) (i) Differentiate between consumption and investment expenditures. (02 marks)
   (ii) Mention two factors that influence the level of consumption in your country. (02 marks)
   (c) State four demerits of the structure of imports of your country. (04 marks)
   (d) (i) What is meant by structural inflation? (01 mark)
   (ii) Give three causes of structural inflation in your country. (03 marks)
   (e) (i) What is meant by public enterprises? (01 mark)
   (ii) State three reasons for setting up public enterprises in your country. (03 marks)

SECTION B.

2. (a) Describe the features of an oligopolistic market. (08 marks)
   (b) Explain the merits and demerits of oligopolistic markets. (12 marks)
3. (a) Describe the population structure of your country. (08 marks)
   (b) Examine the economic implications of such as population structure. (12 marks)
4. (a) Under what circumstances may an economy have economic growth without development? (06 marks)
   (b) Explain the factors that influence the level of economic growth in your country. (14 marks)
5. (a) Distinguish between labour saving technology and capital saving technology. (04 marks)
   (b) Assess the impact of adopting capital saving technology in LDCs. (16 marks)

END

PHYSICS PACKAGE ONE

1.(a) Define the following terms as applied to oscillatory motion

(i) amplitude (ii) period

(b) State four characteristics of S.H.M. (02 marks)

(c) A mass M is suspended from a rigid support by a string of length, l . The mass is pulled aside so that the string makes an angle □ with the vertical and then released.

(i) Show that the mass executes S.H.M with a period

$T = \sqrt{l/g}$ (05 marks)

(ii) Explain why this mass comes to a stop after a short time (02 marks)

(d) A piston in a car engine performs a S.H.M. of frequency 12 – 5HZ. If the mass of the piston is 0.50kg and its amplitude of vibration is 45mm, find the maximum force on the piston.

(e) Describe an experiment to determine the acceleration due to gravity, g using a spiral spring of known force constant. (06 marks)

2. (a) (i) What is meant by the following terms, steady flow and viscosity? (02 marks)

(ii) Explain the effect of increase in temperature on the viscosity of a liquid. (03 marks)

(b) (i) Show that the pressure P exerted at a depth, h, below the free surface of a liquid of density, □, is given by P = h□g. (03 marks)

(ii) Define relative density. (01 mark)

(c) A metal ball of diameter 10mm is timed as it falls through oil at a steady speed. It takes 0.5s to fall through a vertical distance of 0.30m. Assuming the density of the metal is 7500 kgm^{-3} and that of oil is 900kgm^{-3} Find:

- the weight of the ball
- the up thrust of the ball
- the coefficient of viscosity of the oil

(Assume the viscous force = 6□ŋrV_0 where ŋ is the coefficient of viscosity, r is radius of the ball and V_0 is terminal velocity.

3. (a)(i) Define the terms specific heat capacity and specific latent heat of fusion. (02 marks)

(ii) Explain the changes that take place in the molecular structure of substances during fusion and vaporization. (04 marks)

(b) With the aid of a labeled diagram describe an experiment to determine the specific heat capacity of a liquid using continuous flow method.

(c) Steam at 100^0C is passed into a copper calorimeter of mass 150g containing 340g of water at 15^0C. This is done until the temp of the calorimeter and its contents is 71^0C. If the mass of the calorimeter and its contents is found to be 525g, calculate the specific latent heat of vaporization of water. (06 marks)

4. (a) (i) Define saturated vapour pressure. (01 mark)

(ii) Describe with the aid of a diagram, how s.v.p of a liquid can be determined at a given temperature.

(b) Use kinetic theory to explain the following observations.

(ii) s.v.p. of a liquid increases with temperature

(iii) s.v.p. is not affected by a decrease in volume at constant pressure.

(c) When hydrogen gas is collected over water, the pressure in the tube at 15^0C and 75^0C are 65.5cm and 105.6cm of mercury respectively. If the s.v.p. at 15^0C is 1.42cm of mercury, find its value at 75^0C.

5. (a) (i) What is meant by the term radioactive decay, half-life and decay constant? (03 marks)

(ii) Show that the half-life t ½ of a radio isotope is given by

t ½ = 0.693

Where □ is the decay constant (Assume the decay law?

$N = Noe^{-2t}$) (03 marks)

(b) With the aid of a labeled diagram, describe the structure and action of a cloud chamber. (05 marks)

(c) A radioactive isotope $^{99}_{43}X$ decays by emission of a gamma ray

The half-life of the isotope is 360 minutes.

What is the activity of 1mg of the isotope? (06 marks)

(d) Explain the term avalanche as applied to an ionization chamber. (03 marks)

PHYSICS PACKAGE TWO

SECTION A

1(a)(i) State the laws of reflection of light (2mks)

(ii) A ray of light is incident on a plane mirror. The mirror is then turned through an angle α keeping the direction of the incident ray constant. If the reflected ray turned through an angle β, find the relationship between α and β. (4mks)

(b) Describe how a sextant is used to determine the angle of elevation of a star (5mks)

(c)(i) An object is placed 15cm infront of a converging lens of focal length 10cm. A convex mirror of radius of curvature 30cm is placed coaxially with the lens 20cm behind the lens. Find the position and magnification of the final image (7mks)

(ii) Sketch a ray diagram for the image formation (2mks)

2(a) Define angular magnification of an optical instrument (1mk)

b(i) Describe with the aid of a ray diagram, the operation of an astronomical telescope in normal adjustment (5mks)

(ii) State one advantage of this instrument over a microscope in normal adjustment (1mk)

(c) A concave lens of focal 30cm is arranged coaxially with a convex lens of focal length 20cm. An object 3cm tall is placed a distance of 70cm from the concave lens, on the side remote from the concave lens. If the lenses are 10cm a part, find,

(i) the position of the final image (4mks)

(ii) the height of the final image (3mks)

(d) Explain the following as applied to lenses

(i) Chromatic aberration (2mks)

(ii) spherical aberration (2mks)

(e) State 2 ways spherical aberration is reduced in mirrors (2mks)

SECTION B

3(a) What is meant by the following as applied to wave motion?

i. Wave length (1mk)

ii. Period (1mk)

iii. Wave front (1mk)

(b)(i) State the principle of super position of waves (1mk)

(ii) Explain, using the principle of super position of waves, the formation of stationary waves. (4mks)

(d)(i) State two conditions necessary for interference patterns to be formed (2mks)

(ii) Describe an experiment to demonstrate interference of sound waves (4mks)

4(a)(i) State the factors that affect the speed of sound in air (3mks)

(x) Explain how one factor stated in 2(a)(i) above, affect the speed of sound in air (2mks)

(b)(i) Distinguish between progressive and stationary waves and give an example of each (3mks)

(ii) Show that two waves of the same frequency and wave length travelling in opposite directions in the same medium produce a stationary wave when they meet (4mks)

(c) A plane progressive wave travelling in the x-direction is represented by the equation $y = 0.36\sin 7\pi(40t - x/25)$ where t is the time is seconds, y is the displacement In metres Determine the (i) periodic time (2mks)

(ii) speed of the wave (3mks)

(d) (i) Explain what is meant by beats (2mks)

(ii) State one application of beats (1mk)

SECTION C

5a) (i) Distinguish between magnetic flux and magnetic flux density (2mks)

(b) In the figure below, A and B represent current carrying wires placed 8cm apart in air. Current through a is 7A and that through B is 4A

(i) Find the magnetic flux density at C, 3cm from B towards A

d)(i) Describe the structure and mode of operation of galvanometer (5mks)

(ii) State how the galvanometer above can be converted into an ammeter reading several amperes (1mk)

6(a)(i) What is meant by a sinusoidal alternating current (1mk)

(ii) Define peak value, root mean square (r.m.s) value and frequency of an alternating sinusoidal current (3mks)

(b) A sinusoidal voltage of r.m.s value 13.2V is connected across a 50μF capacitor

(i) Find the peak value of the charge on the capacitor (2mks)

(ii) Sketch using the same axes the graphs of charge Q on the capacitor and current I in the circuit against time (2mks)

(iii) If the frequency of the alternating current is 49.6Hz, calculate the r.m.s value of the current through the capacitor. (3mks)

(c) Explain why a capacitor in a circuit blocks the flow of direct current but allows the flow of alternating current (4mks)

(d) Describe the structure and mode of operation of the attraction type moving of iron meter (5mks)

SECTION D

7a) (i) Define the following electric field intensity and electric potential at a point (2mks)

(ii) Show that the electric field intensity at a point is equal to the negative potential gradient at that point (4mks)

b) (i) Explain with the aid of a diagram, how an insulated metal sphere can be charged by induction using a negatively charged rod. (3mks)

(ii) Describe how a gold leaf electroscope can be used to detect the presence of charge on a body (2mks)

(c)(i) Write down the equation for the electrostatic force between two isolated point charges in a vacuum. (1mk)

(ii) Sketch the electric field lines between two negatively charged spheres carrying un equal charges and use the sketch to explain a neutral point (1mks)

8(a) Define the following terms

(i) Drift velocity (1mk)

(ii) Electromotive force of a cell (1mk)

(iii) Internal resistance of cell (1mk)

(b) A conductor has n free electrons per unit volume each carrying a charge e and moving with a drift velocity *v*. Derive an expression for the drift velocity v in terms of n, A and e where A is the cross sectional area (3mks)

(c) Describe an experiment to determine the e.m.f and internal resistance of a cell (6mks)

(d) Two identical cells each of e.m.f E and internal resistance r are connected in series A 7Ω resistor is connected across the combination and draws a current of 0.333A. When the new cells are now connected in parallel, the resistor draws a current of 0.375A from the combination. Calculate E and r (4mks)

(e)(i) State the factors which affect resistance of a conductor (2mks)

(ii) Explain how the factor from e(i) above affect resistance (2mks)

9(a)(i) Define capacitance and dielectric constant (2mks)

(ii) State the factors which affect capacitance of a capacitor (2mks)

(b) A capacitor of capacitance C, is charged by a battery of e.m.f, V_0. The charging battery is then removed and the capacitor is connected to an uncharged capacitor of capacitance C_2. Show that the loss of energy, E after connection is given by

$$E = \tfrac{1}{2}\left\{\frac{C_1C_2}{C_1C_2}\right\}V_0^2$$

(c) Describe an experiment to measure the capacitance of a capacitor using a ballistic galvanometer (5mks)

(d) A capacitor X of 5.0μF and another, Y of 8.0μF are connected in series with a 20V supply.

Calculate the,

i. Charge on X (4mks)

ii. Potential drop across X

END

MATHEMATICS PACKAGE
SECTION A

Attempt all questions in this section

1. Two forces P and Q act on a particle. The force P has a magnitude of 7N and acts due to North. If the resultant of P and Q is a force of magnitude 10N acting in a direction with a bearing 120^0. Find the,

(i) Magnitude of Q (ii) Direction of Q

2. Given that x = 5.73, y = -2.496 and Z = 5.9765 are rounded off to the given decimal indicated.

(a) State the maximum possible errors in X, y and Z.

(b) Find the limits within which the exact value of the expression lie.

3. A car needs to be recharged. The probability that it starts a car engine straight away is 0.4. If it fails, the probability of starting after the fruit push is 0.75 and that of starting after a second push is 0.9. Determine the probability that the car,

(a) Starts after being pushed once

(b) Fails to start after being pushed twice. (5marks)

4. The table below shows motorcycle casualties by age in 2011.

Age (Years)	**percentage of casualties**
16-19	36
20-24	26
25-29	15
30-39	11
40-80	12

(a) Calculate the mean number of casualities

(b)Draw a histogram and estimate mode. (5marks)

5.Two forces of 20N and 5N act away from the same point on a particle of mass 4.0kg. Find the acceleration of the particle.

6.A car moves from Kampala to Jinja and then back. Its average speed on the return journey is $4kmhr^{-1}$ greater than that on the outward journey and it takes 12 minutes less. Given that Kampala and Jinja are 80km apart, find the average speed on the outward journey.

SECTION B

7.The centre of a regular hexagon ABCDEF of sides 2a is O. Forces of magnitude 4N, 5N, tN, 1N, 7N and 3N act along the sides AB, BC, CD, DE, EF and FA respectively. Their directions are in the order of the letters. Given that the resultant of these six forces is of magnitude $2\sqrt{3}$ N acting in a direction perpendicular to BC, determine the values of S and t.

(i) Show that the sum of the moments of the forces about O is $27a\sqrt{3}$NM.

(ii) If the mid-point of BC is M, find the equation of the line of action of the resultant; refer to OM as x-axis and OD as y –axis

8.The height and masses of eleven students are given in the table below.

Height (cm)	156	151	152	146	160	157	149	142	158	141
Mass (kg)	62	58	63	58	70	60	55	57	68	56

(a)(i) Plot the data on a scarter diagram

(ii) Draw the line of best fit. Hence estimate the mass corresponding to a height of 155cm.

(b)(i) Calculate the rank correlation coefficient for the data.

(ii) Comment on the significance of the heights on mass of the students.

(Spearman's $\ell = 0.79$ and Kendall's $j = 0.64$ at 1% level of significance based on II observations). (12marks)

9. (a) Events A, B and C are such that P(A) =x, P(B)=y and P(c) x+y. If P(AuB) = 0.6 and P(B/A) = 0.2,

Show that $4x+5y = 3$.

Given that B and C are mutually exclusive and that P(BuC)= 0.9, determine another equation in x and y.

Hence find the values of x and y. Deduce whether A and B are independent events.

(b)The events A and B are independent, with P(A) = ½ and P(AuB) = ⅔. Find the,

(i) P(B) (ii) P(A/B) (iii) P(B/A)

10.(a) Show that the root of the equation $f(x) = \ln x - \sin x - 2 = 0$ lies between 3 and 4. (3marks)

(b)By using the Newton Raphson method, find the root to 2 decimal places.

MATHEMATICS PACKAGE TWO

Attempt all questions in this section

1.Solve for x in: $3^{x+2}+3^{1-x}=28$ (5marks)

2. Solve tan2x-3Cot2x = 0 for $0 \leq x \leq 360^0$ (5marks)

3. If α^2 and β^2 are the roots of the quadratic equation.
$X^2-30x+9=0$ .Form a quadratic equation whose roots are α and β (5marks)

4. Find the co-ordinates of the points where the curve $y=x^3-5x^2+2x+8$ cuts the x-axis. (5marks)

5. Prove by induction that $3^{2n+2}-8(n)-9$ is divisible by 64 for all integral values of n (5marks)

6. Find the equation of the line passing through the point of intersection of the lines 3x+y-9=0 and 4x+3y-7=0 and perpendicular to the line 5x-4y+1 =0.

7.Find the values of m if $\log_5 2$,$\log_5(2^m-3)$, $\log \frac{17}{2}(2^{m-1})$ are in a arithmetic progression. *5marks)*

8(a)Given that α and β are the roots of the equation $x^2-px+2=0$. Form an equation whose roots are $\alpha^2 \frac{\alpha}{\beta}$ and $\beta^2 \frac{\beta}{\alpha}$ *(6marks)*

(b) When a polynomial x^3+px^2+qx+7 is divided by x^2-3x+2, the remainder is 5x-3. Find the values of P and q *(6marks)*

9(a) Prove by induction that $1+3+3^2+----------+3^{n-1}=\frac{1}{2}(3^n-1)$ *(5marks)*

(b) Expand $\sqrt{4-3x}$ as far the term in x^3.Hence by substituting for $x=\frac{1}{3}$,evaluate $\sqrt{3}$.Correct to three significant figures *(7marks)*

10(a) find the term independent of x in the expansion of $(3x-\frac{1}{x})^{10}$. *(5marks)*

(b) The sum of the first terms of an AP and G.P is 57. The sum of the second terms of the same A.P and G.P is 94. The sum of the third terms of the same AP and GP is 171. If the common ratio of the G.P is 2. Find the sum of fourth terms of the AP and G.P (*7marks)*

11.Solve for x in:

(a) $(3x^2+2x)+8=9(3x^2+2x)$ *(6marks)*

(b) $\text{Log}_x 5+4\text{Log}_5 x=4$ *(6marks)*

12(a) Solve the simultaneous equations.

$2x+3y-z=7$, $x-4y+3z=-4$ and $4x+y-2z=4$ *(6marks)*

END

BIOLOGY PACKAGE

Answer all questions in this paper.

1(a) State the significance of interphase for a cell preparing to divide. (3mks)

(b) Give two major characteristics of mitosis. (2mks)

(c) State the importance of chiasmata. (2mks)

2.(a) Give the meaning of each of the following: -

(i) Conservation. (2mks)

(ii) An endangered species. (2mks)

(b) State human interventions that may be taken in order to minimize extinctions of species. (6mks)

3(a) State Mendel's law of independent assortment. (1mk)

(b) Rats heterozygous for genes R and Q were mated with those homozygous recessive for both genes. The offspring formed from this cross are shown in the table below.

Genotypes	Numbers.
RrQq	105
rrqq	103
Rrqq	25
rrQq	29

(i) Suppose genes R and Q were independently inherited. Work out the ratio you would have expected the four genotypes to have occurred (3mks)

(ii)Could the actual results be explained if the two genes were linked? (4mks)

(iii)Suggest a possible reason for the results obtained in the table. (2mks)

4. (a) What is meant by water stress? (3mks)

(b) State evidence of;

(i) water transport in xylem. (4mks)

(ii) translocation in phloem. (4mks)

(c) Active transport in absorption of mineral salts by roots. (3mks)

5 (a) State how the structure of each of these tissues is related to its function.

(i) collenchyma tissue. (2mks)

(ii) Sclerenchyma tissue. (3mks)

(b) Give the characteristics of epithelial tissue that enable it perform the role of mechanical protection to underlying tissues. (5mks)

6.(a) What is meant by alternation of generations? *(02 marks)*

(b) Describe alternation of generations in ferns. *(07 marks)*

(c) Outline differences of alternation of generations between the moss and ferns. *(05 marks)*

(d) What is the significance of alternation of generations? *(06 marks)*

7.Describe how the following serve as homeostatic organs;

(i) Skin *(07 marks)*

(ii) Pancreas *(05 marks)*

(iii) Liver *(08 marks)*

8.Describe mechanisms used by certain species of plants to increase them carbon dioxide concentration in the leaf cells for maximum photosynthesis. *(20 marks)*

9.Explain why organisms that respire aerobically seldom undergo anaerobic respiration when an electron acceptor is available. *(20 marks)*

10.Explain the different support mechanisms employed in dicotyledonous and aquatic plants. *(20 marks)*

END

CHEMISTRY PACKAGE

INSTRUCTIONS TO CANDIDATES:

*Answer **all the** questions*

Illustrate your answers with equations where applicable.
Where possible use H = 1, C = 12, N = 14, O = 16, Na = 23,Cl = 35.5 ,Al = 27
1 mole of a gas occupies 22.4dm^3 at s.t.p
1 mole of a gas occupies 24dm^3 at room temperature
Molar gas constant = 8.314JK$^-$mol^{-1}

SECTION A

1.(a) The molar conductivity of sodium hydroxide solutions of different concentrations are shown in the table below:

Concentration (mold m^{-3})	0.01	0.04	0.09	0.16	0.25	0.36
Λ ($\Omega^{-1}cm^2mol^{-1}$)	238	230	224	217	210	202

(i)Plot a graph of molar conductivity against the square root of concentration. (04marks)

(ii) Explain the shape of the graph. (4½marks)

(iii) Determine the value of molar conductivity at infinite dilution of sodium hydroxide and indicate its units. (02marks)

(b) Using the same conductivity cell, the resistance of 0.1M potassium chloride solution and 0.1 bromoethanoic acid solutions were found to be 24.96 and 66.50 Ohms respectively at 25°C when determined using the same conductivity cell. The conductivity of KCl at 25°C is 0.01164Ω^{-1}cm^{-1} and the molar conductivity of bromoethanoic acid at infinite dilution is 389Ω^{-1}cm^{2}mol^{-1}.

(i) Calculate the cell constant. (02marks)

(ii) Calculate the molar conductivity of 0.1M bromoethanoic acid. (03marks)

(ii) Determine the PH of 0.1M bromoethanoic acid. (4 ½ marks)

2. Be, Mg, Sr and Ba are elements in group II of the Periodic Table.

(a) Describe and explain the trend in the reactivity of elements with cold water down the group. (06 marks)

(b) Compare the solubility and basicity of the hydroxides of group II elements with the hydroxides of group I elements. (3 ½

(c) Write equation to show how disproportionation reaction takes place between;

(i) sodium thiosulphate and dilute sulphuric acid

(ii) potassium manganate(VI) and dilute sulphuric acid.

(iii) Iodine and sodium hydroxide solution.

(d) Manganese(IV) oxide occurs in pyrolusite ore, 2.0g of pyrolusite ore was boiled with excess concentrated hydrochloric acid. The chlorine liberated was bubbled through excess potassium iodide solution. The iodine liberated required 33.5cm^3 of 0.2M sodium thiosulphate solution.

(i) Write equations for the reactions that take place. (3 ½marks)

(ii) Calculate the percentage of manganese(IV) oxide in the ore.

3. Complete combustion of a certain mass of hydrocarbon W yielded 896cm^3 of carbon dioxide gas measured at s.t.p and 0.72g of water. The same mass of W when vapourised occupied 244.52cm^3 at 298K and 760mmHg pressure

(a) Calculate;

(i) the ratio of carbon to hydrogen in W. (03marks)

(ii) the molecular formula of W (03marks)

(b) Write the structural formulae and IUPAC names of all the possible isomers of W. (03marks)

(c) One of the isomers of W reacts with hydrogen bromide gas forming 2–bromo–2–methyl propane.

(i) Identify the isomer. (01 mark)

(ii) Write an equation and outline a mechanism for the reaction between W and warm dilute sulphuric acid. (03marks)

(d) Write equations to show the following conversions can be effected. In each case indicate reagents and conditions for each reaction.

(i) W to $CH_3\overset{\overset{CH_3}{|}}{\underset{OH}{|}}C - CH_2CH_3$ (04 marks)

(ii) W from propanoic acid (03 marks)

4.(a) Explain why fluorine shows some differences in its properties from the rest of the elements. (Chlorine, bromine and iodine) of the Periodic Table. (03 marks)

(b) State the differences between the Chemistry of fluorine and the rest of the elements of group (VII) of the Periodic Table.

(c) Write equations to compare the reaction of fluorine and chlorine when they react separately with;

(i) water (03 marks)

(ii) cold dilute sodium hydroxide (03 marks)

(iii) concentrated sodium hydroxide (03 marks)

(d) Write equation for the reaction between hydrochloric acid and silicon dioxide. (1 ½ marks)

5.(a) Explain the factors that affect the solubility of a sparingly soluble salt. (05 marks)

(b) Describe an experiment you would carry out in the laboratory to determine the solubility product of calcium iodate (V). (07 marks)

(c) Calculate the solubility in gm/dm^3 of calcium iodate(VI) in;

(i) water

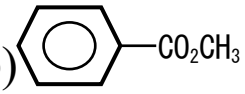
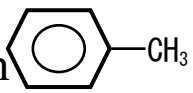
(ii) 0.2 moldm^{-3} calcium hydroxide solution. (07 marks)

(Ksp of Calcium iodate(V) = $1.95 \times 10^{-6} mol^2 dm^{-3}$, $Ca(IO_3)_2 = 390$).

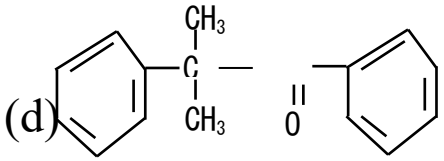
(d) Account for the differences in the solubilities in (c) above.

6. Write equations to show how the following compounds can be synthesized; indicate the reagents and conditions.

(a) $(CH_3)_2 C = N – NHCONH_2$ from ethene. (04marks)

(b)  from  (03 marks)

(c) Propene to butanoic acid. (03marks)

(d)  from ethyne. (03 ½ marks)

$(CH_3)_2CCH_2CH_3$

(e) Aminoethane from propanoic acid. (03 marks)

7. Explain the following observations; write equations for the reactions where necessary.

(a) When a concentrated solution of sodium carbonate is added to aqueous solution of chromium(III) sulphate, a green precipitate is formed with effervescence. (04marks)

(b) Calcium phosphate is sparingly soluble in water. It is less soluble in calcium nitrate solution but more soluble in dilute hydrochloric acid. (04marks)

(c) The molar conductivities at infinite dilution of lithium and sodium ions are 38.7 and 50.1$\Omega^{-1}cm^2mol^{-1}$ respectively at 25°C. (03 marks)

(d) An aqueous solution of 0.01M sodium chloride and 0.02M solution of urea have the same freezing point. (03 marks)

(e) 1–bromohexane undergoes meleophilic substitution reaction whereas bromobenzene does not. (03 marks)

(f) Ethylamine is a stronger base than phenyl amine. (03 marks)

8.(a) The principle ore from which zinc is extracted is zinc blend.

(i) Briefly explain how the ore is concentrated. (4 ½ mark

(ii) Explain how zinc is obtained from the concentrated ore (05 marks)

(b) 4g of an ore of zinc was dissolved in excess ammonia and the resultant solution shaken with 200cm^3 of dichloromethane. The mixture was allowed to stand to obtain equilibrium. 20cm^3 of the organic layer required 10cm^3 of 0.02M hydrochloric acid for complete neutralization. 20cm^3 of the aqueous layer required 9cm^3 of 1M hydrochloric acid for neutralization. Given that Zn^{2+} form a complex of coordination number four with ammonia ligands in aqueous layer.

(i) Write an equation for the reaction taking place during the titration. (01mark)

(ii) Suggest the most suitable indicator. (01 mark)

(iii) Calculate the percentage of zinc in the ore. (06 marks)

(c) Explain how zinc protects iron from rusting. (2 ½ marks)

END

ART P615/4 STUIO TECHNOLOGY

INSTRUCTIONS:

i) This paper consists of compulsory questions.

ii) Drawings and diagrams should be used where necessary.

Q1. Define the following terms as used in Art

a) Plasticity (2mks)
b) Porosity (2mks)
c) Pottery (2mks)
d) Kneading (2mks)
e) Shrink (2mks)

Q2. Explain four uses of colour in Art and design. (12mks)

Q3. Illustrate the following terms as used in Art

i) Parallel perspective(3mks)
ii) Pattern (3mks)
iii) Contrast (3mks)
iv) Asymmetrical balance. (3mks)

Q4. Outline four methods of forming sculptures. (4mks)
b) Give two materials used for making sculpture (2mks)
c) Give four uses of sculpture in the community. (4mks)

Q5. Describe the process of preparing paper Mache. (8mks)

Q6(a) What is patch work? (8mks)
(b) Give four uses of patch work. (8mks)

Q7 (a) Explain the slab technique of making clay articles. (3mks)
(b) Give three tools used in the preparation of clay for the technique mentioned in 7(a) above. (3mks)
(c) Name two articles made using the slab technique. (2mks)

Q8. Describe the process of making a mask using strips of papers. (10mks)

Q9. Explain three reasons why fabrics are decorated. (9mks)

Q10. Describe the process of making a batik. (10mks)

ART PAPER 2

A young lady clad in a tight UPPER and a free-size skirt kneeling before a bench with both her hands thrust forward on the bench top; both hands will be seen holding the front edge of the bench with four fingers, of each hand, the head facing the candidates.

A study or studies of the model will be made and a toso drawing be made out.

N.B. A soft pillow can be provided for the model to kneel more comfortably

CRAFTS A

GRAPHICS

Instructions

- Attempt one question stating its number.
- Use of letrasets, magazines, trace papers and other media is allowed.

TASKS

1. A new drug in form of syrup that improves appetite is to be introduced on market in name of "VITAPET". It's extracted from coffee leaves and mango fruit, aloevera and guava. In a space of 17cm X 20cm, design a label to this product.

   Use three colours.
2. In an area 20 X 15cm, design a trade mark for Mutete herbal tooth paste. "Whitens white teeth" is the word. Use three colours.
3. Design a book cover in a space 15cm X 18 by 3 having a title "Life in slum" edited by S. Micha and published by Nimbus Publishers Limited. Use not more than three colours.
4. Design a pattern paper to be used to wrap gifts to a six-year-old girl celebrating her birthday.

   "Happy birthday" should feature in the design. Use three colours in a work space 20 X 18cm.

END

LUGANDA PAPER I **P360/1**

(AMATEEKA N'ENKOZESA Y'OLULIMI, OBUWANGWA)

Ddamu ebibuuzo nga bw'olagiddwa.

EKITUNDU A

Ddamu ebibuuzo byonna mu kitundu kino.

1.(a)(i) Nyonnyola amateeka g'empandiika y'oluganda entongole agamenyeddwa mu katundu ako.

"Ssanga lya mbogo yakaanda kutegeza Ssabasajja ebyaali biguddewo mulubiri nga tabifaako." (Obubonero 05)

(ii) Temaatema sentensi eyo wammanga, buli nnyingo erimu ogituume erinnya lyayo erya ggulaama.

"Banaakimulabira." (Obubonero 06)

(b) Weeyambise nakasigirwa entabaluganda ne nakasiba ogatte sentensi zino era ozirage.

(i)Yagula omugaati. Walimu obuwuka.

(ii) Baamuleetera omwana yabba enkoko ze.

(iii) Olugoye lwe baluyuzizza. Lubaddemu omukisa.

(iv) Yamusaba ente etambula. Ente agireese.

(v) Batunze obutunda mu katale. Bubadde buto.(Obubonero 05)

(c) Ddamu owandiike sentensi ezikuweereddwa ng'ebikolwa ebirimu tebiraga mukozi waabyo.

(i)Embwa eboggolera abaana bulijjo.

(ii) Kitayimbwa yagulira Naggita akatambaala.

(iii) Enkoko teyabiika magi. (Obubonero 03)

(d) Amannya ago gateeke mu mbu eziragiddwa mu bukomera.

(i)Mmere (Olubu 1 : mu)

(ii) Muyembe (Olubu 12 : ka) (Obubonero 02)

(e) Sentensi ezo wammanga zizze mu kyewaabya

(i)Kakembo yagamba nti "Nze saagala bintu bimbuzaako miremeb."

(ii) Matovu yagambye nti "Ku mulundi guno ŋŋenda kusoma nnyo nneme kuyiwa bazadde bange."

(iii) Taata ambuzizza nti, "Lwaki otambula ekiro?"(Obubonero 03)

(f) Emiwendo gino giwandiike mu biggambo.
(i)1,304,1010
(ii) 200,521 (Obubonero 04)
(g) Ddamu owandiike akatundu kano mu muntu owookusattu nga kali mu kugaana.
Nze nnakubiriza olukiiko lwaffe,
Nasanga obuzibu okumumatiza ekyali kiguddewo era naluvaamu mangu.” (Obubonero 02)

EKITUNDU B

Kola nnamba 2, 3 ne 4 ng’ogoberera ebikuweereddwa.

Kola 2(a) oba 2(b)

2.(a) Embeera y’ensi evunaanyizibwa etya ku kusereba kw’obuwangwa bw’Abaganda mu nsangi zino? (Obubonero 20)

(b) Nyonnyola ebintu ebyenjawulo ebyawula abaganda ku bantu abalala. (Obubonero 20)

3.(a) **Ku bisoko ebikuweereddwa wammanga, londako bitaano (05) onyonnyole amakulu gaabyo**.
(i)Omubiri okudduka omuntu.
(ii) Okuwalabula omuntu.
(iii) Okwebaka Bukeerere tazindwa.
(iv) Okusimba kasooli.
(v) Okwerya enkuta z’emimwa.
(vi) Olulimi okutunda omuntu.
(vii) Okusula ku tebuukye.
(viii)Ebintu okuba ng’ebinyinyi. (Obubonero 05)

(b)Londa ebisoko bitaano ku ebyo wammanga obikozese mu sentensi eziggyayo obulungi akakulu gaabyo.
(i)Okugenda e Zzangwa.
(ii) Okugenda emitala wa Mayanja.
(iii) Okukekeza ennyago.
(iv) Enkuyege okukubira enduulu.
(v) Okulasana nga gwe baasala akanyata.
(vi) Omusana okuzuukusa Kawekwa eggwangu.

(vii) Okumira empiso.
(viii)Okuyita omuntu mu nkwawa. (Obubonero 10)

4.(a) Maliriza engero ttaano (05) ku zikuweereddwa nga bwe zoogerwa.
(i)_____bye bitta omukwano.
(ii) _____guboolanya abataka.
(iii) _____nkooka ze zimulanga.
(iv) Kwata n'owaayo _____
(v) Nkole mpoomye _____
(vi) Ssekamuli kansaze _____
(vii) _____tezikulobera kwebaka.
(viii)Lubaale w'omulamu_____ (Obubonero 10)

(b) Ku ngero ezikuweereddwa londako ttaano onyonnyole kye ziyigiriza.
(i)Owa kamwa ke y'akagerera ennoga.
(ii) Osal bitono nga ye amaze okugabana.
(iii) Omuze gufiira ku mugumba.
(iv) Kyuma kitya muweesi.
(v) Abaagala tebafunda.
(vi) Tudde eka tukube abakazi bw'addayo akuba bisenge.
(vii) Kamu kamu gwe muganda.
(viii)Ssekirembwe kitaakule, kizimba mu lumuli. (Obubonero 05)

BIKOMYE WANO