



GOLDEN ELITE EDUCATIONAL PUBLISHERS 0724351706



FORM 4 MID TERM 1 EXAMS 2022

NameAdmission no.....

Candidate's Signature.....Date.....

FORM 4

MAY 2022

101/1

ENGLISH

PAPER 1

(FUNCTIONAL SKILLS)

INSTRUCTIONS

1. Answer all the questions.
2. All your answers must be written in spaces provided.
3. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Question	Maximum	Score
1.	20	
2.	10	
3.	30	
Total	60	

This paper consists of 7 pages

QUESTION 1: FUNCTIONAL WRITING 20 MARKS

Imagine you are the head of the Students' Council in your school. There have been complaints about insecurity in the school. The Principal has formed a committee of six members who include two cooks, two teachers and two students, you being one of them. You are the secretary to that committee. You are to write a report after the committee investigates the problem, and submit it to the principal within a month. Write the report.

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QUESTION 2: CLOZE TEST 10 MARKS

Fill in each of the blank spaces in the following passage with the most appropriate word.

When the Covid-19 pandemic hit the country, the government shut _____ 1 all learning institutions forcing them to adopt e-learning.

However, internet connectivity _____ 2 a significant challenge. The Kenya Coast National Polytechnic (KCNP) quickly navigated the turbulence _____ 3 technology and currently, the national polytechnic has embraced blended learning (physical _____ 4 online).

Through funding _____ 5 East African Skills and Transformation and Regional Integration Program, the national polytechnic developed a Kshs 8 million on-line Learning Management System (LMS), supporting other _____ 6 in the region to embrace on-line studies.

“We are the centre and pioneer of LMS in the region; eight institutions have _____ 7 the on-line studies anchored on our programme. _____ 8 realised many students come from humble backgrounds and could not _____ 9 smart gadgets, _____ 10 hindered us from fully operating LMS,” said the KCNP principal.

QUESTION 3: ORAL SKILLS 30 MARKS

a) Read the poem below and answer the questions that follow.

How doeth the little busy bee
 Improve each shining hour
And gather honey all the day
 From every opening flower

How skillfully she builds her cell!
 How neat she spreads the wax!
And labours hard to store it well
 With the sweet food she makes.

In works of labour or of skill
 I would be busy too
For Satan finds some mischief still
For idle hands to do.

In books or works or healthful play
 Let my first years be past,
That I may give for every day
 Some good account to last.

QUESTIONS

i) Identify four pairs of rhyming words in the poem. (4 marks)

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ii) Give two examples of alliteration in the poem. (2 marks)

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iii) Supply words that are pronounced the same as: (3 marks)

flower

too

past

iv) Suppose you were watching a live performance of this poem. List four things you would do to benefit most from the listening and watching experience. (4 marks)

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b) Your friend attended a job interview. After the interview, he was informed that he was unsuccessful. Give **five** reasons that could have led to your friend's failure. (5 marks)

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c) Your school has been invited for a debating activity by your neighbouring school. You are one of the speakers to represent your school.

i) Give **two** things you will do as preparation for the debate. (2 marks)

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ii) Mention **two** things you will do during the debate so as to be successful. (2 marks)

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d) You have visited Kakuzi Farm Limited for the first time. Below is a part of the conversation that takes place between you and the marketing officer. Fill in the missing parts. (8 marks)

Marketing officer: Welcome to Kakuzi Farm Limited. My name is Wairagu and I am incharge of taking you round.

You:.....
.....
.....(3 marks)

Marketing officer: The total area of this farm is 100 acres. We rear cows and goats.

You:.....
.....
.....(1 mark)

Marketing officer: Other than learning about rearing these domestic animals, people come here to learn about growing fruit trees such as avocados.

You:.....
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.....(2 marks)

Marketing officer: In deed yes. It generates a lot of revenue and we are doing very well. We charge shs 100 entry fee per person, and shs 500 for each lesson taken.

You:.....
.....(1 mark)

Marketing officer: Thank you. Our work is to educate Kenyans about good farming practices.

You:.....
.....
.....(1 mark)

Marketing officer: Most welcome.

Jina: **Nambari:**

Shule: **Sahihi:** **Tarehe:**
.....

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Kiswahili – Lugha

Karatasi 2

Muda : saa $2\frac{1}{2}$

KIDATO CHA 4

HATI YA KUHITIMU ELIMU YA SEKONDARI

MAAGIZO

- a) Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
- b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
- c) Jibu maswali yote.
- d) Majibu yaandikwe kwa lugha ya Kiswahili.
- e) Majibu yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.

KWA MATUMIZI YA MTIHANI PEKEE

SWALI		UPEO	TUZO
1.	UFAHAMU	15	
2.	UFUPISHO	15	
3.	MATUMIZI YA LUGHA	40	
4.	ISIMU JAMII	10	
JUMLA		80	

1. UFAHAMU (ALAMA 15)

Soma taarifa ifuatayo kisha ujibu maswali uliyopewa.

Taifa la Kenya limekuwa na tatizo la njaa kwa muda mrefu na hili ni tatizo ambalo hutokea mwaka baada ya mwaka. Kuna sababu kadhaa ambazo zimelifanya tatizo hili likithiri. Wananchi wengi hutegema ukulima kujipatia pato pamoja na chakula. Jambo hili limekuwa shida kubwa kwa vile kilimo hutegemea mvua isiyotabirika. Watabiri wa hali ya hewa huwashauri wakulima wapande mbegu zitakazohimili jua lakini mvua nayo inakuwa nyingi na kuharibu mimea.

Bidhaa za ukulima kama mbegu za kupanda, mbolea, dawa za kunyunyizia na zinginezo, zimekuwa ghali. Kuna sehemu kubwa ya ardhi ambayo ni kame na haiwezi kutumika kwa kilimo. Mazao yanayotolewa shambani hayahifadhiwi vizuri. Mengine yanaharibikia shambani na mengine yanavamiwa na wadudu kiasi kwamba hayawezi kutumika.

Tatizo lingine ni vita vya kikabila. Kabila tofauti zinapopigana, watu huhama na kuacha mashamba ilhali wengine huchoma maghala ya chakula. Wafanyabiashara pamoja na serikali huwanunulia wakulima mazao yao kwa bei ya chini sana mpaka wanakosa shauku ya kuyashughulikia mashamba yao. Siku hizi wakulima hawashughuliki tena kuzuia mmomonyoko wa udongo. Hivyo mvua inaponyesha rotuba yote inachukuliwa. Serikali haina sera mwafaka za **kukabiliana** na njaa. Hii ndiyo sababu sehemu zingine kama Turkana na Marsabit zimekabiliwa na njaa kwa muda mrefu.

Tatizo hili linaweza kutatuliwa ikiwa wakulima wataelimishwa juu ya mbinu bora za ukulima. Pia wakulima waishio katika sehemu ambazo hazina mvua ya kutosha wapewe mbegu ambazo zitahimili kiangazi. Ukulima wa kunyunyuzia mimea maji unafaa kuzingatiwa. Mazao yanayotolewa shambani yahifadhiwe vizuri kwa kuwekwa dawa za kuwaua wadudu.

Sehemu kubwa za ardhi ambazo hazitumiwi zitolewe kwa kilimo. Ni muhimu wakulima waelimishwe kuhusu jinsi ya kuzuia mmomonyoko wa udongo na umuhimu wake. Wakulima wanunuliwe mazao yao kwa bei nafuu ili wajibidiishe katika kazi yao. Serikali inafaa iwe na sera mwafaka ili iweze kutatua tatizo hilo ambalo limekuwa ni **janga** kuu.

MASWALI

1. Eleza mbinu tano zinazoweza kutumiwa kutatua tatizo **kuu** linalozungumziwa. (al 5)

2. Fafanua matatizo mbalimbali yanayolikumba Taifa la Kenya. (al 4)

3. Onyesha ukulima ulivyo uti wa mgongo wa uchumi wa Taifa la Kenya (al 2)

4. Vita vya kikabila husababisha njaa. Dhibitisha kwa mujibu wa kifungu. (al 2)

5. Eleza maana ya maneno haya kama yaliyotumika katika kifungu. (al 2)

i) Kukabiliana

ii) Janga

2. UFUPISHO (ALAMA 15)

Sawia na inavyotumika katika kukuza uchumi, teknolojia haiwezi kuepukika katika malezi enzi hizi na zijazo. Wataalamu wa malezi dijitali wanasema ingawa wazazi wanafaa kuhakikisha watoto wao wanakingwa na hatari za mtandao, unaweza kutumiwa kukuza talanta zao.

Kulingana na mtaalamu wa malezi, wazazi wanaweza kutumia mitandao ya kijamii kukuza vipawa vya watoto wao huku wakihakikisha usalama wao. Watoto wanaweza kutumia mitandao kuandika blogu au kujifunza kupiga, kutangaza na kuuza picha na video. Wanaweza kunoa vipawa vyao katika michezo pia. Hivyo basi, wazazi wanapaswa kuwahimiza waingie katika mtandao na kuwa wabunifu.

Wataalamu wanasema wazazi wanaowaruhusu watoto wao kuanza kutalii mtandao kwa lengo la kukuza talanta zao huwa wanawapa ufunguo wa ufanisi wa maishani. Mtaalamu mmoja kwa jina Aluoch alieleza kuwa, kukumbatia mtandao ni njia moja ya mtoto wako kuweka rekodi ya

ufanisi wake. Iwe ni picha wakipokea zawadi, wakishiriki na kushinda mechi au wakiwa kwenye hafla muhimu kwa maisha yao. Jambo hili linaweza kuwatia moyo kukuza talanta zinazoweza kuwafaa katika maisha yao ya baadaye.

Hata hivyo, wazazi wanafaa kuchunguza na kupitisha chochote watoto wao wanapakia au kuchapisha kwenye mtandao ili wasihatarishe maisha yao na ya familia zao. Ni muhimu kuwa makini ili watoto wasiandike maelezo au kuchapisha chochote kinachoeleza wanakoishi, wanakosemea au wanakoshinda wakicheza. Vitu vinazoweza kuepukwa ni kama sare za shule, picha zinazoonyesha nyumba yako au anwani ya nyumba au chapisho lolote linalotangaza watakokokuwa na wakati watakuwa hapo.

Maswali

- a) Fupisha aya tatu za kwanza. (maneno 80-85). (alama 9, moja ya mtiririko)

Matayarisho

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b) Fupisha aya ya nne. (maneno 35-40) (alama 4, moja ya mtiririko)

Matayarisho

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Jibu

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3. MATUMIZI YA LUGHA (ALAMA 40)

a). Andika sauti zanye sifa zifuatazo: (al 2)

i) Kipasuo, si ghuna cha ufizi

ii) Kikwamizo, ghuna cha ufizi

iii) Nazali, ghuna ya kaakaagumu

iv) Irabu ya mbele, juu, tandazwa

b) Tunga neno lenye sauti mwambatano ya ufizi. (al 1)

- c) Kwa kutoa mifano, eleza tofauti ya silabi wazi na funge. (al 2)
- d) Andika sentensi ifuatayo katika umoja. (al 2)
Tukipanda ndizi hizi vyema, vijiji hivi vitakuwa na vyakula vya kutosha.
- e) Tunga sentensi yenye muundo ufuatao (al 2)
 $KN(W+V) + KT (t+ s)$
- f) Ainisha viambishi awali na tamati katika neno lifuatalo. (al 2)
Ulijuaje
- g) Onyesha na kutoa mifano, miundo miwili ya nomino katika ngeli ya KI-VI. (al 2)
- h) Yakinisha sentensi hii katika nafasi ya pili. (al 1)
Wasiposoma kwa bidii hawatapita mtihani.
- i) Akifisha sentensi ifuatayo. (al 3)
tafadhali nipe maji ninywe nina kiu mkimbizi alimwambia
- j) Andika sentensi ifuatayo katika hali ya udogo umoja. (al 1)
Ngoma hizo zao zilipasuliwa na vijana wale.
- k) **Tunga sentensi** moja ukitumia vitenzi vifuatavyo katika kauli ya kutendua. (al 2)
Funga

Chomeka

l) Unda vivumishi kutokana na vitenzi vifuatavyo kisha utunge sentensi ukitumia vivumishi ulivyotunga. (al 2)

i) Cheka

Kivumishi.....

Sentensi.....

ii) Pika

Kivumishi.....

Sentensi.....

m) Tumia neno **hadi** katika sentensi kama kihusishi cha: (al 2)

i) wakati

ii) mahali

n) Tambua aina za vielezi katika sentensi ifuatayo: (al 2)

Kipusa mrembo sana alitembea kitausi shuleni jana.

o) Huba ni kwa penzi, heshima ni kwana ruhusa ni kwa(al 1)

p) Tambua aina za vitenzi katika sentensi ifuatayo. (al 2)

Kijana aliyekuwa hapa ndiye mtoto wake.

q) Tambua shamirisho na chagizo katika sentensi ifuatayo. (al 3)
Vijana hawa hulipiwa karo mapema.

r) Changanua sentensi ifuatayo kwa kielelezo cha jedwali. (al 2)
Zawadi nzuri niliyomtunuku mwanawe ilimpa furaha tele.

s) Tunga sentensi mbili ukitumia neno “koma” kama: (al 2)
Kivumishi

Nomino

t) Ainisha virai katika sentensi ifuatayo; (al 3)
Ndovu amelala kando ya mti.

u) Tunga sentensi moja kudhihirisha maana tofauti za maneno; **Fuma** (al 1)

4. ISIMU JAMII (ALAMA 10)

i) Soma makala yafuatayo kisha ujibu maswali.

Ahabu: Likizo ilikuwa fupi tumerudi kwa vitabu sasa.

Munini: Huu ni wakati wa kipindi cha lala salama, lazima tujikaze.

Ahabu : Usemavyo ni real.

Munini: Bidii ndiyo itakayotuokoa.

Ahabu : Ulimaliza ile assignment. Maze mimi nilishindwa.

Munini: Shsss... ndo huyo mwalimu.

Bw. Juma: Nani hao wanaongea? Nyamazeni! Tumekuja hapa kusoma sio kupiga kelele.

Maswali

a) Tambua sajili inayorejelewa katika kifungu hiki. (alama 1)

b) Fafanua sifa nne za sajili hii kama zilivyojitokeza katika kifungu (alama 4)

ii) Taja nadharia tatu zinazoeleza chimbuko la lugha ya Kiswahili. (alama 3)

iii) Eleza istilahi zifuatazo katika isimu jamii (alama 2)

a) Usanifishaji

b) Lafudhi

NAME ADM NO..... DATE

SCHOOL..... SIGNATURE

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MATHEMATICS

FORM 4 PAPER 2

MAY 2022

TIME: 2 ½ HOURS

MID TERM 1 EXAMINATION

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

1. Write your name and admission number in the spaces provided at the top of this page.
2. This paper consists of two sections: **Section I and Section II.**
3. Answer **all** questions in **section I** and any five questions in **Section II.**
4. Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.
5. Marks may be given for correct working even if the answer is wrong.
6. **KNEC Mathematical tables may be used.**

For Examiner's Use Only

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

17	18	19	20	21	22	23	24

Grand

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SECTION I (50 marks)

Answer all the questions in the spaces provided in this section.

1. Make d the subject of the formulae; $pd = \sqrt{\frac{d^4 - hk}{Bd^2}}$ (3 marks)

2. Use logarithm tables to evaluate (4 marks)

$$\sqrt[3]{\frac{45.3 \times 0.00697}{0.534}}$$

3. The base and perpendicular height of a triangle are measured as 8.2cm and 6.3cm respectively. Calculate the percentage error in calculating the area correct to 3d.p. (4 marks)

4. A businesswoman borrowed Ksh. 240,000 from a financial institution that charges compound interest of 12% p.a for five years. She used the money to purchase a piece of land that appreciates at the rate of 15% p.a. If she sold the piece of land after five years, determine the amount of profit she made. (3 marks)

5. Simplify (2 marks)
- $$\frac{8}{4 - 2\sqrt{3}}$$

6. (i) Expand and simplify $(1 - 3x)^5$ upto the term in x^3 (1 mark)

- (ii) Hence use your expansion to estimate $(0.97)^5$ correct to 4d.p. (2 marks)

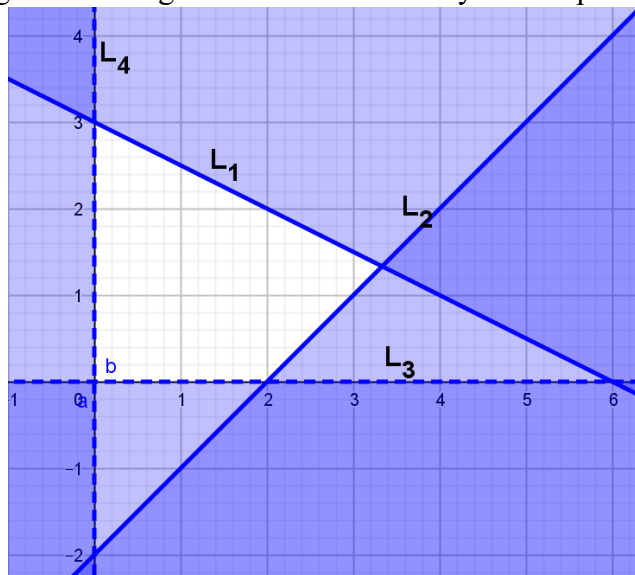
7. A quantity P varies partly as Q and partly as the square root of Q . When $P = -4$, $Q = 16$ and when $P = -42$, $Q = 36$. State the equation connecting P and Q .
(3 marks)

8. Solve for x given that (3 marks)
$$\text{Log}(x - 4) + 2 = \log 5 + \log(2x + 10)$$

9. Simplify $\frac{2x-1}{6} = \frac{x+1}{3x}$ hence use the quadratic formula to find the value of x . (3 marks)

10. The equation of a circle is given as $4x^2 + 4y^2 - 16x + 24y + 3 = 0$. Find the centre of the circle and its radius. (3 marks)

11. The region in the figure below is defined by the inequalities L_1, L_2, L_3 and L_4



Form four inequalities that satisfy the unshaded region.

(4 marks)

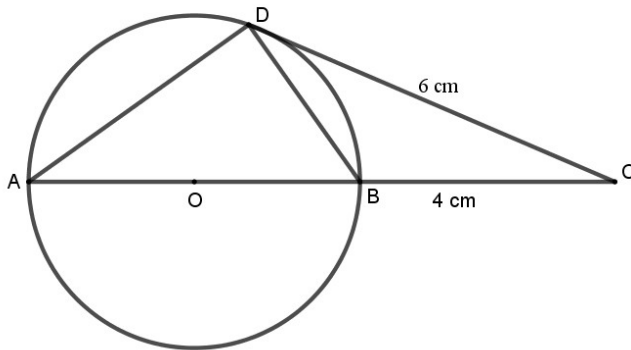
12. The three sides of a triangle ABC are $AB = 12\text{cm}$, $BC = 10\text{cm}$ and $AC = 8\text{cm}$. Using the Hero's formula calculate to 2 decimal places the area of the triangle. (3 marks)

13. Given the column vectors $\mathbf{a} = \begin{pmatrix} 1 \\ -2 \\ 1 \end{pmatrix}$, $\mathbf{b} = \begin{pmatrix} 6 \\ -3 \\ 9 \end{pmatrix}$, $\mathbf{c} = \begin{pmatrix} -3 \\ 2 \\ 3 \end{pmatrix}$ and that $\mathbf{p} = 2\mathbf{a} - \frac{1}{3}\mathbf{b} + \mathbf{c}$.

a) Express \mathbf{p} as a column vector. (2 marks)

b) Determine the magnitude of \mathbf{p} . (1 mark)

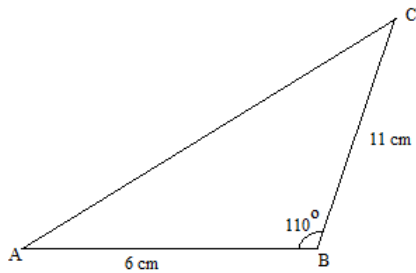
14. In the figure below DC is tangent to the circle at D and O is centre of the circle. AOB is a straight line. Given that $DC = 6\text{ cm}$ and $BC = 4\text{ cm}$



Calculate the length AC

(3 marks)

15. The figure below shows a triangle ABC in which $AB = 6\text{ cm}$, $BC = 11\text{ cm}$ and angle $ABC = 110^\circ$. Calculate to 2 decimal places the length of AC. (3 marks)

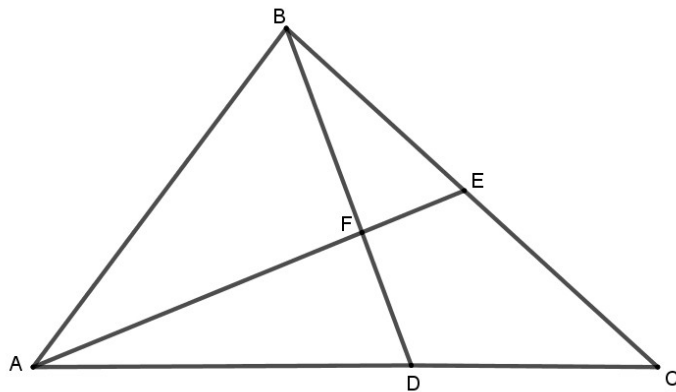


16. Use tables of reciprocals only to work out $\frac{5}{0.0396} + \frac{12}{0.593}$ (3 marks)

SECTION II (50 Marks)

Answer ONLY five questions from this section.

17. In the figure below E is the midpoint of BC. $AD:DC = 3:2$ and F is the meeting point of BD and AE. $AC = \mathbf{c}$ and $AB = \mathbf{b}$



a) Express the following vectors in terms of \mathbf{b} and \mathbf{c}

i. \vec{BD} (1 mark)

ii. \vec{AE} (2 marks)

b) If $\vec{BF} = t\vec{BD}$ and $\vec{AF} = n\vec{AE}$, Express AF in two different ways hence find the value of t and n (5 marks)

c) State the ratio in which F divides

i. BD (1 mark)

ii. AE (1 mark)

18. Use a pair of compass and a ruler **only** for all constructions in this question.

a) Construct triangle PQR in which $QR = 5\text{cm}$, $PR = 4\text{cm}$ and Angle $PRQ = 105^\circ$
(3 marks)

b) Measure line PQ. (1 mark)

c) Calculate the area of the triangle PQR. (3 marks)

d) Draw a circle passing through the vertices of the triangle.(3 marks)

19. The table below shows the income tax rates for the year 2021.

Taxable income per annum per K£	Tax rate Sh per K£
0 – 5808	2
5809 – 11 280	3
11 281 – 16 752	4
16 753 – 22 224	5
22 224 <i>and above</i>	6

In the year 2021, Omondi's monthly income was as follows:

Basic salary Ksh. 22 600

House allowance Ksh. 12 000

Medical allowance Ksh. 2 880

Transport allowance Ksh. 340

Omondi was entitled to a monthly personal relief of Ksh. 1156. Every month the following deductions are made:

NHIF Ksh. 1500

SACCO share contribution Ksh.3000

Calculate:

a) Omondi's taxable income in Kenyan pounds. (2 marks)

b) Total tax paid per year in shillings. (6 marks)

c) Net salary for the month. (2 marks)

20. (a) Solve the equation

(4 marks)

$$\frac{x + 3}{24} = \frac{1}{x - 2}$$

(b) The length of a floor of a rectangular hall is 9m more than its width .If the area of the floor is 136 m^2 ,

- i. Calculate the perimeter of the floor (3 marks)

- ii. A rectangular carpet is placed on the hall leaving an area of 64 m^2 .If the length of the carpet is twice its width,determine the width of the carpet. (2marks)

21. The probability that our school will host soccer and rugby tournament this year is 0.8. If we host, the probability of winning soccer is 0.7. If we don't host the probability of winning soccer is 0.4. If we win soccer the probability of winning rugby is 0.8, otherwise if we lose the probability of winning rugby is 0.3.

a) Draw a tree diagram to represent this information. (2 marks)

b) Use the tree diagram to find:-

i. The probability that we lose both games (2 marks)

ii. The probability that we will win only one game (3 marks)

iii. The probability that we will host and lose both games (2 marks)

iv. The probability that we win at least one game, if we host (1 mark)

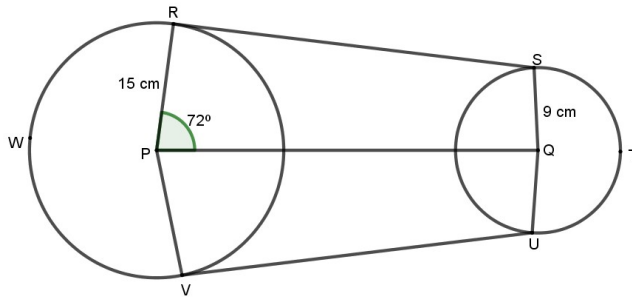
22. The first, fifth and seventh terms of an Arithmetic Progression(A.P) form the first three terms of a decreasing Geometric Progression(G.P) respectively. Given that the first term of each progression is 64.

a) Write two equations involving common ratio of Geometric Progression (G.P) and find the common difference of Arithmetic Progression (A.P). (4 marks)

b) Find the sum of the first 24 terms of the Arithmetic Progression (AP) (3 marks)

c) Find the number of terms for which the sum of the Geometric Progression(G.P) is $127\frac{7}{8}$.(3 marks)

23. The figure below shows a belt passing round two wheels of centres P and Q respectively. The radii of the pulleys are 15cm and 9cm respectively. RS and UV are tangents to the circles. $\angle RPQ = 72^\circ$ and $PQ = 20\text{cm}$. (Use $\pi = 3.142$)



Calculate

- The length of RS (2marks)
- Arc length RWV (3 marks)
- Arc length STU (3 marks)
- The total length of the belt (2 marks)

24. (a) Complete the table below for the equation $y = x^2 - 6x + 5$ (2 marks)

x	0	1	2	3	4	5	6	
x^2	0		4	9		25		
$-6x$	0						-36	
5	5	5	5	5	5	5	5	
y	5					0		

(b) Draw the graph of $y = x^2 - 6x + 5$ using values in the table (3 marks)

(c) Use the graph to solve the equation

i. $x^2 - 6x + 5 = 0$ (1 mark)

ii. $x^2 = 6x - 7$ (2 marks)

iii. $x^2 - 6.5x + 5 = 0$ (2 marks)

Name ADM Number.....

Signature Date/...../.....

CHEMISTRY

FORM 4

MID TERM 1

MAY EXAM 2022

INSTRUCTIONS TO CANDIDATES

1. *Write your name and index no in the spaces provided above.*
2. *Sign and write the date of exam in the spaces provided above.*
3. *Answer all the questions in the spaces provided after each.*
4. *All working must be clearly shown where necessary.*
5. *Candidates should check to ensure that all pages are printed as indicated and that no questions are missing.*
6. *All answers should be written in English.*

1. The table below gives information about some elements. The letters do not represent the actual symbols of the elements. Study the information and answer the questions that follow.

Element	Atomic radius(nm)	Ionic radius (nm)	Formula of oxide	Melting point(0c)
M	0.364	0.421	M ₂ O	-119
K	0.830	0.711	KO ₂	837
P	0.592	0.485	P ₂ O ₃	1466
R	0.381	0.446	R ₂ O ₃	242
Q	0.762	0.676	QO	1054

- a) Identify two elements that are non-metals. Give a reason. (2mk)
- b) I) State the valency of elements Q and R. (1mk)
- Q
- R
- II) Write a formula of a compound formed when Q combines with M. (1mk)
- III) What type of bond exists between Q and K. (1mk)
- c) The melting point of the oxide of R is lower than that of the oxide of P. Explain. (2mks)
- d) Identify two elements that would react with each other most vigorously. Give a reason(2mks)
- e) Element P would be suitable for making utensils for boiling water. State two properties that make the element suitable for the use. (2mks)

2. In order to find the portion by volume of one of the main constituents of air, a sample of air was passed through two wash bottles; the first containing aqueous sodium hydroxide and the second containing concentrated Sulphuric (VI) acid and was then collected in a gas syringe.

- a) Suggest a reason for passing air through:
- i. Aqueous sodium hydroxide. (1mk)
- ii. Concentrated Sulphuric (VI) acid. (1mk)

b) The volume of the gas collected in the syringe was 80cm^3 . This was passed several times over hot copper powder until no further contraction of volume took place. After cooling to the original temperature, the volume was found to be reduced to 63.2cm^3 .

i. Explain the change in appearance of copper powder as the experiment progressed. (2mks)

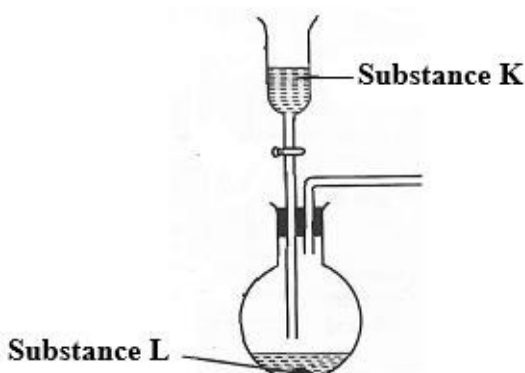
ii. Calculate the percentage of the air used up. (2mks)

iii. Name the main gas remaining in the syringe. (1mk)

iv. Explain the purity of the main gas remaining in the syringe. (2mks)

c) A piece of sodium metal was exposed to air for some time. Write an equation for any one reaction that occurred. (1mk)

3. The set-up below was used to prepare dry sample of hydrogen Sulphide gas



(a) (i) Complete the diagram to show how the gas was collected. (1mk)

(ii) Identify the following: - (2mks)

I. Solid K

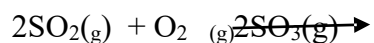
II. Solution L.

(iii) State and explain the observations made in the flask(1mk)

(b) When hydrogen Sulphide gas was passed through a solution of Iron (III) chloride, the following observations were made: -

(i) The colour of the solution changed from reddish-brown to green and a yellow solid was deposited. **Explain the observations.** (2mks)

(c) In the manufacture of Sulphuric (VI) acid by contact process Sulphur (IV) oxide is made to react with air to form Sulphur (VI) oxide as shown: -

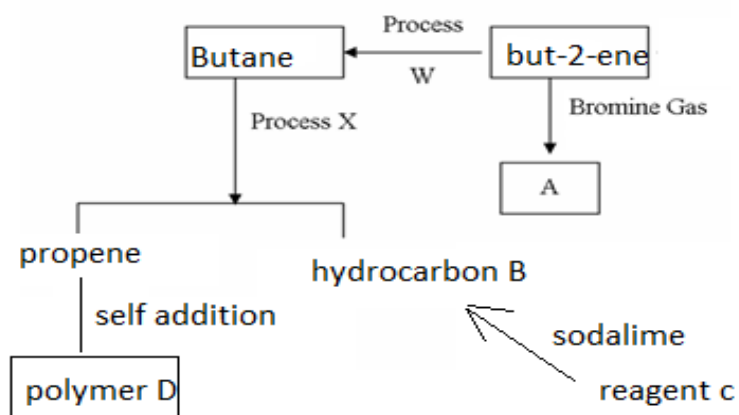


(i) Name the catalyst currently being used in this reaction. (1mk)

ii) Give the two reasons why this catalyst is most preferred. (2mks)

III. Explain why sulphur (VI) oxide gas is absorbed in concentrated sulphuric (VI) acid before dilution. (1mk)

4. Study the flow chart below then answer the questions that follow.



a) i) Draw and name two isomers of substance A (2mks)

ii) Name (3mks)

process W

process X

reagent C

b) Draw two repeated units of polymer D (2mks)

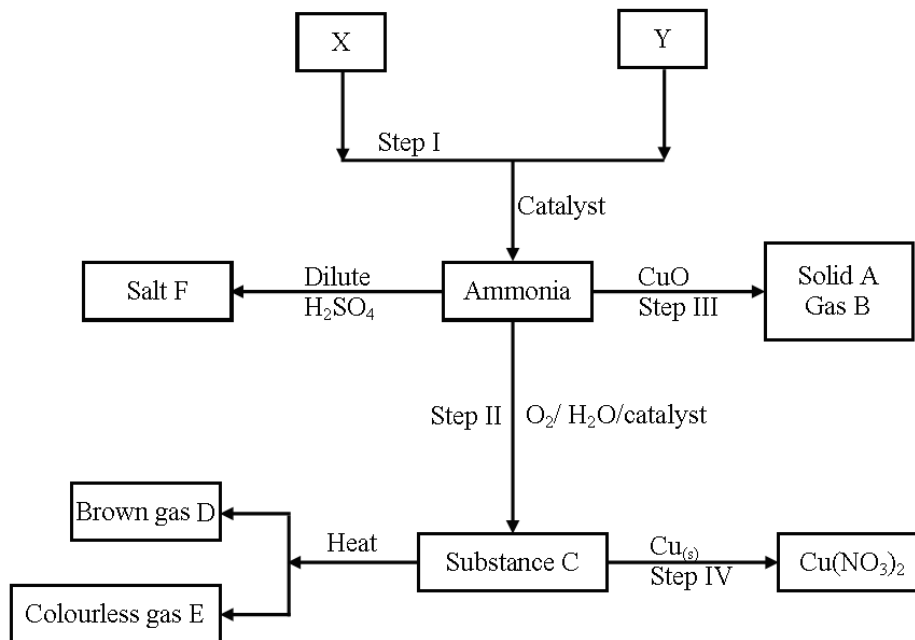
c) Ethyne is a hydrocarbon belonging to the alkyne homologous family .

i) Identify two reagents used to prepare ethyne in the laboratory (1mk)

ii) Name the third member of this family (1mk)

iii) DESCRIBE a chemical tests that can be used to distinguish between C_2H_6 and C_2H_4 . (2mks)

5. Study the scheme below and answer the questions that follow.



(a) State the sources of the substance X and Y. (2mk)

X

Y

(b) Identify the catalyst used in step I and how it is made to be effective. (2mk)

Catalyst-

Effecting-

(c) Name the substance A, B, C and E. (2mks)

A

B

C

E

(d) Write the chemical equations that shows

(i) The formation of substance C. (1mk)

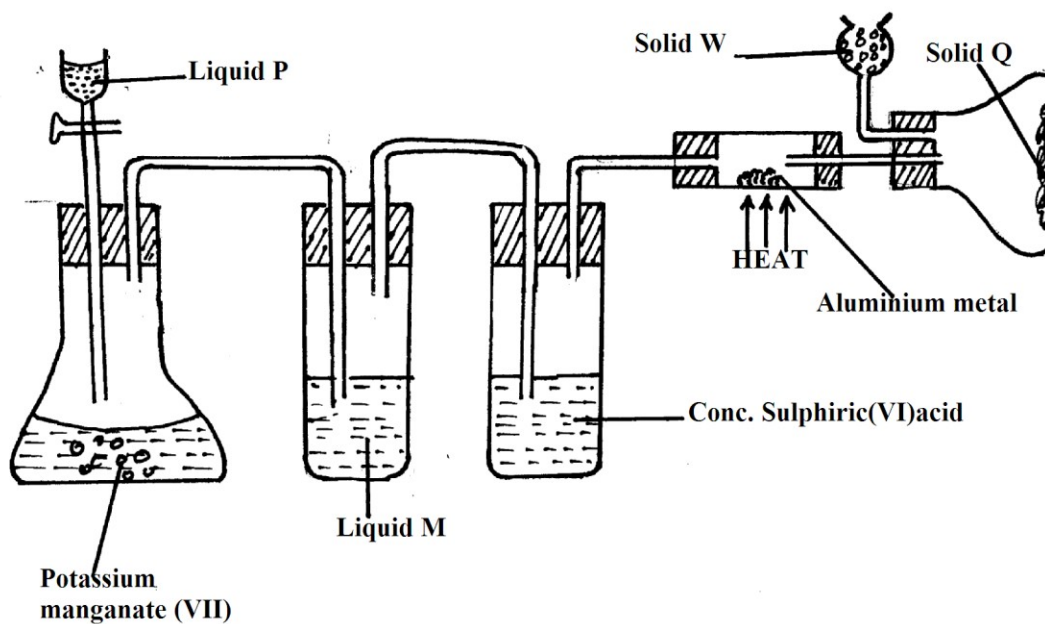
(ii) The reaction between substance C and copper metal. (1mk)

(e) Describe a chemical test for gas E. (1mk)

(f) (i) State one economic use of substance F. (1mk)

(ii) Name the optimum conditions for the production of ammonia gas. (1mk)

6. Study the diagram below and use it to answer the questions that follow.



- (i) Name liquid: P(1mk)
M(1mks)
- (ii) What is the function of concentrated sulphuric(VI) acid in the set-up? (1mk)
- (iii) Suggest a suitable reagent that can be used as solid W. (1mk)
- (iv) State the role of solid W in the set-up. (1mk)
- (v) Explain why solid Q collect further away from heated aluminium metal. (1mk)

(vi) In the reaction above, 0.645g of aluminium metal reacted completely with 1800cm³ of chlorine gas at room temperature. Determine the molecular formula of solid Q, given that its relative formula mass is 267 (Al = 27.0, Cl = 35.5, molar volume of gas at r.t.p is 24.0 litres)(3mk)

7.a) Define the term salt?(1mk)

b) State the name given to the following behavior of salt;(2mks)

i)When hydrated sodium carbonate crystals are exposed for two days ,they form a powder.

ii)When calcium chloride crystals are left in the open ,acolourless solution is formed .

c)Write balanced chemical equation to describe the effect of heat on the following salts.(3mks)

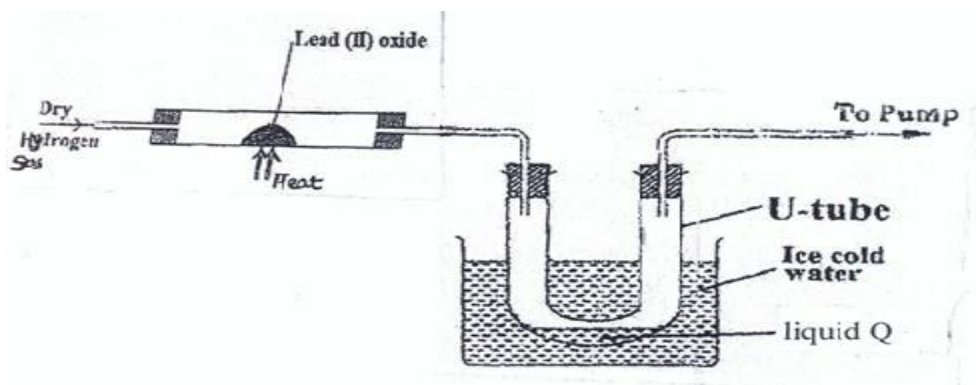
i)Potassium nitrate.

ii)Ammonium chloride.

iii)Copper carbonate

d)Describe how a pure and solid sample of lead sulphate can be prepared given the following reagents; Dilute nitric (iv) ,Solid sodium sulphate , Lead oxide and distilled water.(3mks)

8. Study the diagram below and answer the questions that follow.



- a) i) State and explain the observation(s) made in the combustion at the end of the experiment (2mks)
- (ii) Identify a metal oxide that can be used in place of lead (II) oxide (½ mark)
- b) Write the balanced chemical equation for the reaction taking place in the combustion tube (1mk)
- c) Describe **one** chemical test for liquid Q . (2mk)
- d)
- (i) Explain what would happen if magnesium oxide was used instead of lead (II) oxide in the experiment (1½ mks)
- (ii) State **two** observations made when a small clean piece of sodium metal is dropped into a trough containing liquid Q (1mks)
- e) Name any **one** use of Hydrogen gas. (1 mark)

Name.....

ADM NO.....

SIGN

Date.....

231/2

BIOLOGY

PAPER 2

FORM 4

2 Hours

FORM 4 MID TERM 1 – MAY 2022 EXAMINATION

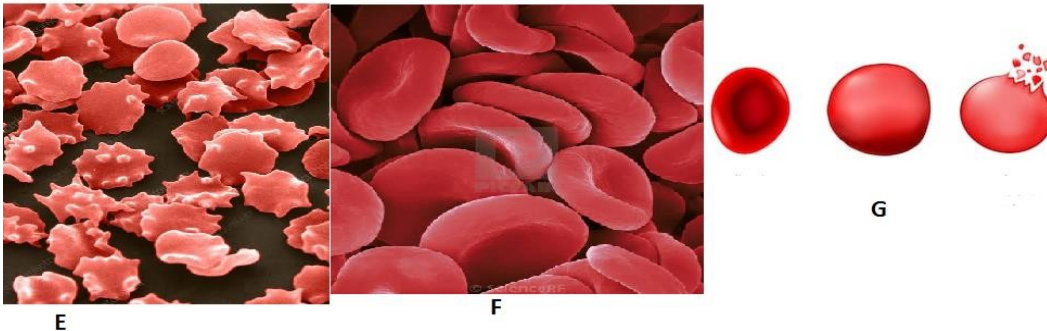
INSTRUCTIONS TO CANDIDATES

- Write your name and admission Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- All workings **must** be clearly shown where necessary.

Section A

answer all questions in this section in the spaces provided

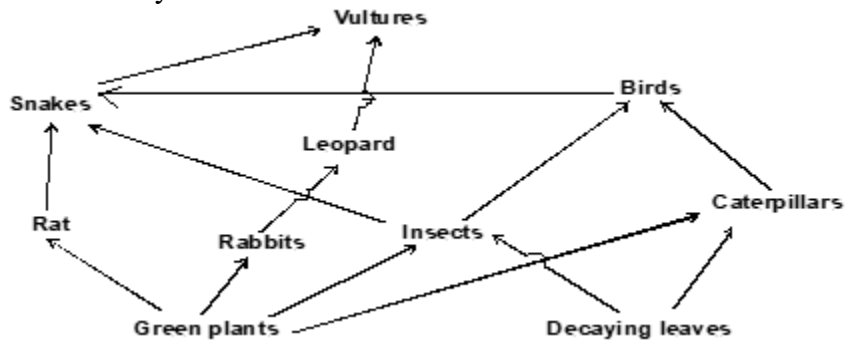
1. The photograph below shows red blood cells that have been put in different solutions. Examine them and answer the questions that follow.



- a) i) Identify the type of solution in which F was placed. (1mk)
- ii) State the process which the red blood cells underwent in illustration G. (1mk)
- b) Account for the appearance the red blood cells underwent in illustration E. (3mks)

- c) Explain what would happen if plant cells are placed in the solution in which the cells in G were immersed. (3mks)

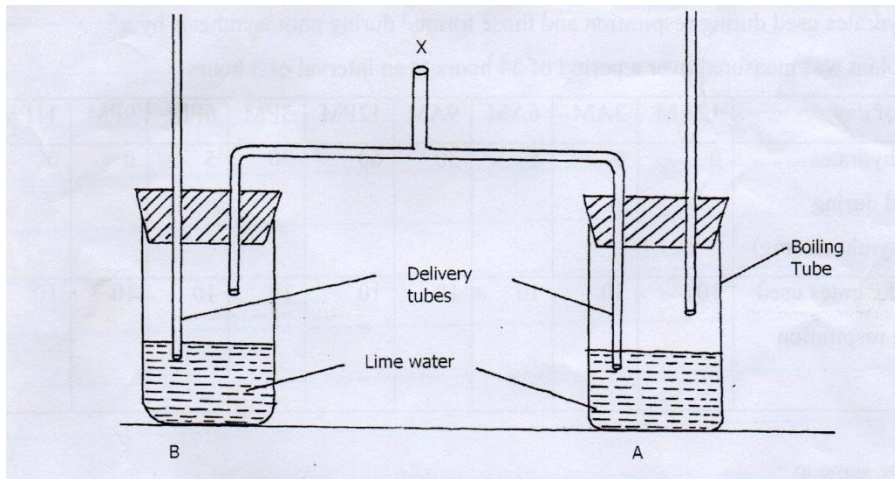
2. Study illustration below.



- a. Identify the ecosystem. (1 mark)
- b. i. Which organism has the least biomass in the food web? (1 mark)
- ii. Explain your answer in b (i) above. (1 mark)
- c. Name the trophic level occupied by the following organisms. (1 mark)
- i. Insects
- ii. Leopards. (1 mark)
- d. Construct a food chain in which the vulture is a quaternary consumer. (1 mark)
- e. i. Name one group of organisms not shown in the food web but play an important role in the ecosystem. (1 mark)

ii. What is the role of the organisms you named in d (i) above? (1 mark)

3. An experiment was set up as show below.



(a) A student blew air in and out through point X. Using arrows indicate how air gets in and out of the set up (2mks)

(b) [i] In which of the tube would lime water form white precipitate first. (1mk)

ii] Give a reason. (1mk)

(c) What is the effect of lactic acid in the thigh muscle of an athlete after a short fast race(2mks)

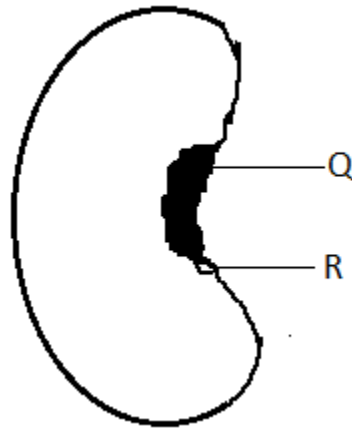
(d) Identify the type of muscle in human being where the formation and effect of lactic acid is not felt.

(1mk)

(e) What is the biological significance of boiling milk.

[1mk]

4. Study the diagram of a seed below and then answer the questions that follow.



(a) (i) Name the scar labeled Q.

(1mk)

(ii) State the functions of a microscopic pore labeled R during germination (3mks)

b)(ii) Define the term Germination .

(1mk)

(ii) Under what conditions does the above process in (b) (i) occur? (3mks)

5. (a) A pig is an omnivore with all the four types of teeth. State two differences between a canine and a molar tooth. (2mks)

canine	Molar

- (b) Distinguish between autotrophism and Heterotrophism mode of nutrition. (2mks)

;

- (c) How is lamina of a banana leaf adapted to its function. (4mks)

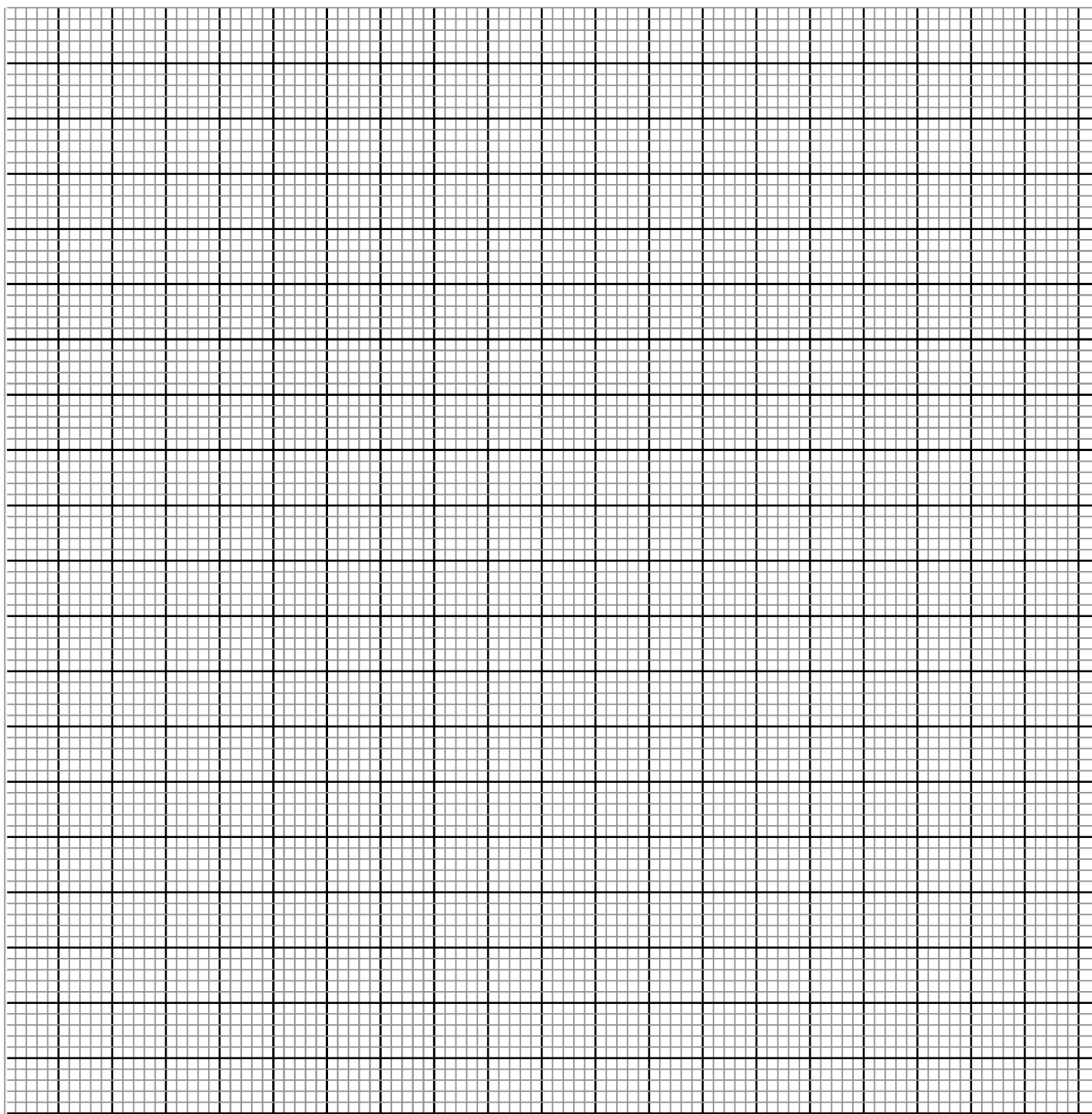
SECTION B

Answer question 6 and either question 7 or 8 in the spaces provided

6. An experiment was carried out to investigate the effect of temperature on the rate of reaction catalyzed by an enzyme. The results are shown in the table below.

Temperature ⁰ c	Rate of reaction in mg of product per unit time
5	0.2
10	0.5
15	0.8
20	1.1
25	1.5
30	2.1
35	3.0
40	3.7
45	3.4
50	2.8
55	2.1
60	1.1

(a) On the grid provided draw a graph of rate of reaction against temperature. (6 mks)



(b) When was the rate of reaction 2.6 mg of product per unit time? (2 mks)

(c) Account for the shape of the graph between

(i) 5⁰ C and 40⁰ C (2 mks)

(ii) 45⁰ C and 60⁰C (3 mks)

(d) Other than temperature name two ways in which the rate of reaction between 5⁰C and 40⁰C could be increased (2 mks)

(e) (i) Name one digestive enzymes in the human body which works best in acidic condition (1 mk)

(ii) How is the acidic condition for the enzyme named in (e) (i) above attained? (2 mks)

(f) The acidic conditions in (e) (ii) above is later neutralized
(i) Where does the neutralization take place? (1 mk)

(ii) Name the substance responsible for neutralization
(1 mk)

7. Describe the role of the female hormones in the menstrual cycle. (20mks)

8. a) After a meal of carbohydrate, the glucose level in the blood rose to 150mg/ cm³. Explain the role of the liver in bringing the sugar level down back to normal. (8mks)

b) Explain six importance's of plants excretory products. (12mks)

NameAdm. No. Class.....

232/2

PHYSICS
Paper 2
(THEORY)
MAY, 2022
2 hours

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number, admission number and sign in the spaces provided above.
2. This paper consists of **two** sections **A** and **B**.
3. Answer **all** the questions in sections **A** and **B** in the spaces provided.
4. All workings **must** be clearly shown where applicable.
5. All numerical answers must be expressed in decimal form
6. Non-programmable silent electronic calculators and KNEC Mathematical tables may be used where applicable.

For Examiner's use only

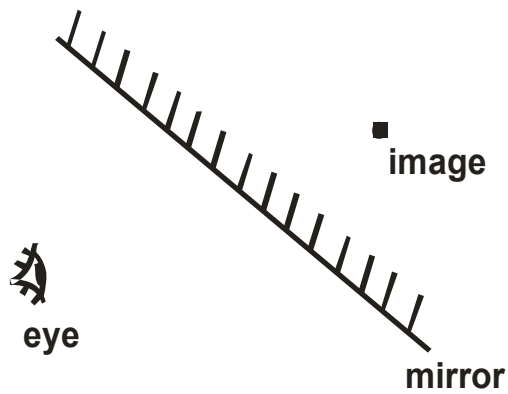
Section	Questions	Maximum Score	Candidate's Score
A	1 – 12	25	
B	13	12	
	14	15	
	15	13	
	16	8	
	17	7	
TOTAL		80	

This paper consists of 12 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicated and no question is missing.

SECTION A (25 MARKS)

Answer ALL the question in this section in the spaces provided

1. The figure below represents a point image formed by a mirror.

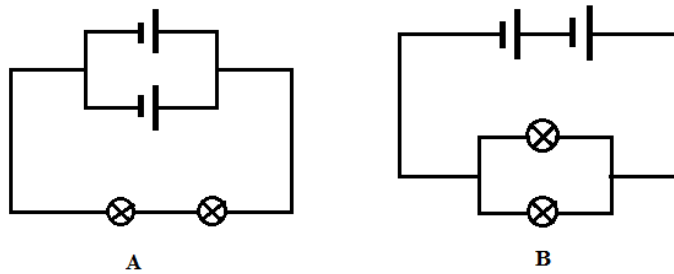


Sketch rays to show how the image is formed and seen by the eye. (2 mks)

2. State any **two** ways of increasing the size of an image formed by a pinhole camera. (2 mks)

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3. A form one student was investigating the brightness of bulbs when set up in circuits. He used identical bulbs and cells.



i. State which set up had the brightest bulb (1 marks)

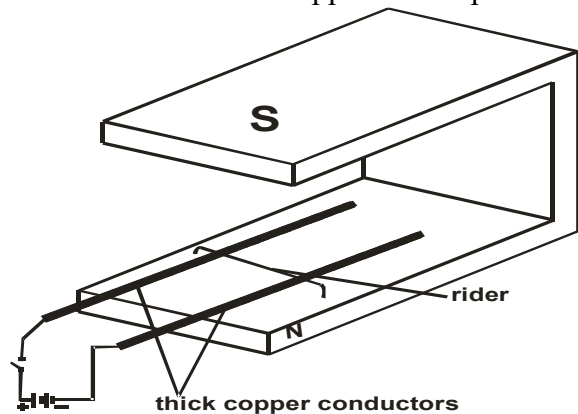
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ii. Explain the answer in (i) above. (1mk)

4. A lady holds a large concave mirror of focal length 1.8m from her face. State **two** characteristics of her image in the mirror (2mks)

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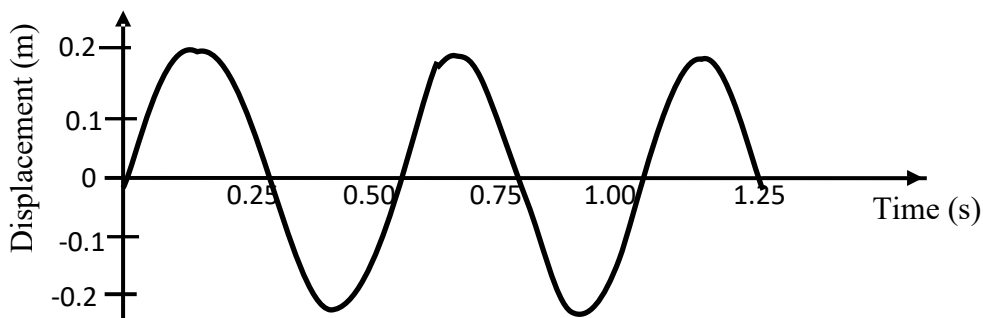
5. The figure below shows two parallel thick copper conductors connected to a d.c power supply. A rider made from a thin copper wire is placed on the conductors as shown.



State and explain what is observed on the rider when the switch is closed. (2 mks)

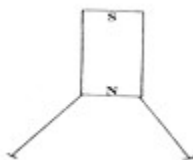
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6. The figure below shows how the displacement varies with time for a certain wave.



Determine the frequency of the wave. (3mks)

7. Two pins are hanging from a magnet S shown in diagram below.

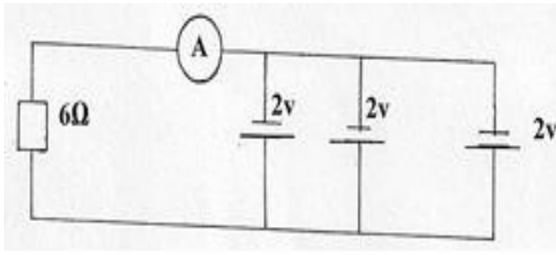


Explain why the nails do not hang vertically downwards. (2mks)

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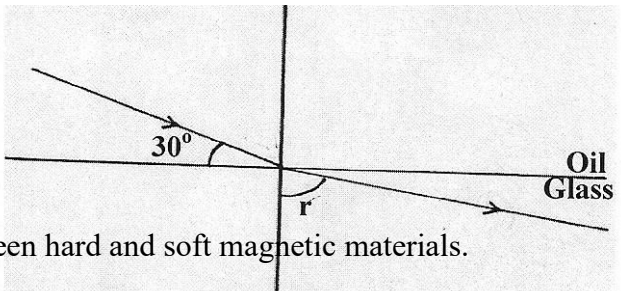
8. Draw diagrams to illustrate what happens when plane waves are incident on a slit. When the width of the slit is large compared with the wavelength of the waves. (2mks)

9. Determine the reading of the ammeter in figure below. (2mks)



10. A ray of light is incident on a glass-oil interface as shown in fig. below. Determine the value of r.

(Take refractive index of glass and oil as $\frac{3}{2}$ and $\frac{8}{5}$ respectively) (2mk)



11. Distinguish between hard and soft magnetic materials. (2 marks)

.....

12. An electric heater is found to have a resistance of 950Ω when operating normally on 240 V mains. Find the power rating of the heater. (2 marks)

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SECTION B (55 MARKS)

Answer ALL the questions in this section in the spaces provided

13. a) State one difference between light and sound waves
(1 mk)

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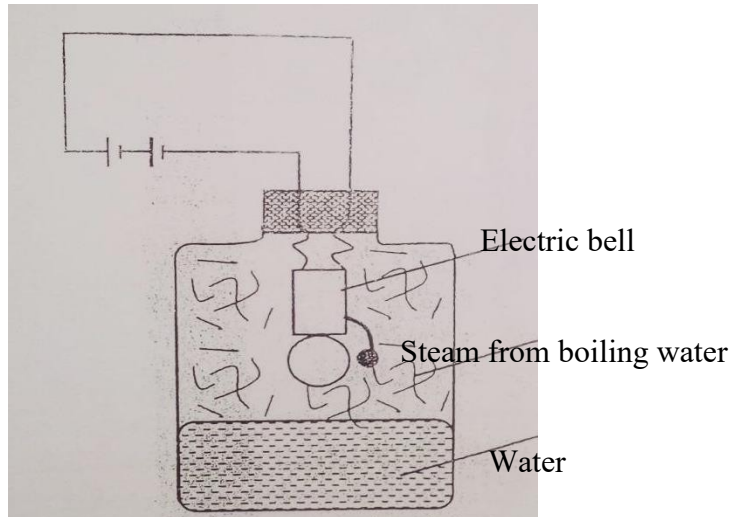
b) State two factors that affect speed of sound in solid. (2mks)

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c) Explain how an increase in temperature affects the velocity of sound in air. (2 mks)

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d) The figure below shows a set up made by a Form 2 student to study an aspect of a wave.



(i) State what happens to the sound from the bell as the bottle and its contents are cooled to 0°C
(1 mk)

(ii) Explain the observation in (i) above (2 mks)

e) A boy stands some distance from a high wall and claps his hands. He claps again each time he hears an echo.

(i) What *two* measurements would need to be made in order to determine the speed of sound? (2mks)

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ii) The boy's friend notes that it takes 10 s to make 10 claps. Determine how far the boy is from the wall, given that the speed of sound in air is 330 m/s. (2 mks)

14. a) State Ohm's law. (1 mk)

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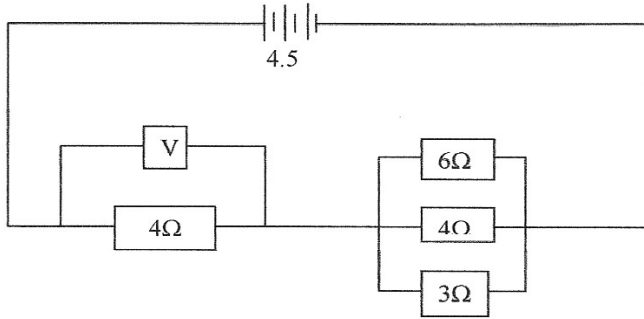
b) You are provided with connecting wires, ammeter, voltmeter, cells in a cell holder, variable resistor, switch and a conductor. With an aid of a diagram, describe an experiment to verify Ohm's law for a wire. (4 mks)

Procedure

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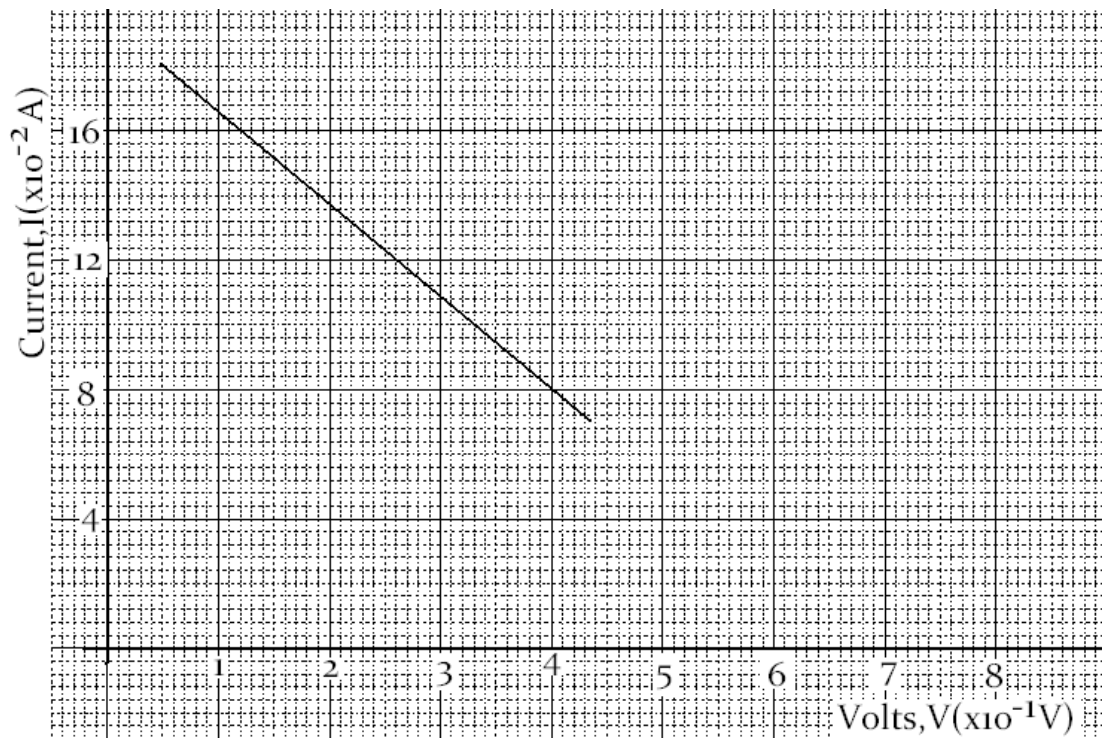
c) (a) Study the circuit diagram below and answer the questions that follow.

Fig



- (i) Calculate the effective resistance of the circuit. (3mks)
- (ii) Find the voltmeter reading. (3mks)

(b) c) The graph below shows the variation of potential difference V with current I for a certain cell.



From the graph determine

- i). The internal resistance of the cell (3 marks)

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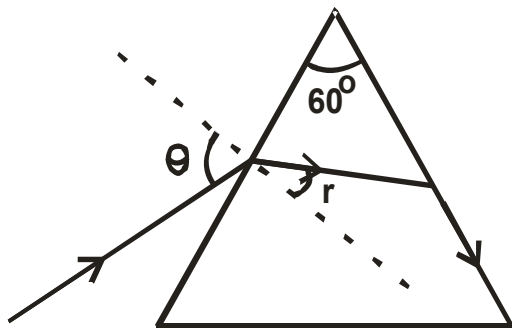
ii). The e.m.f of the cell (1 mark)

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15. a) State **two** conditions necessary for total internal reflection to occur. (2 mks)

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b) The figure below shows the part of a ray of yellow light through a glass prism. The speed of yellow light in the prism is 1.88×10^8 m/s.

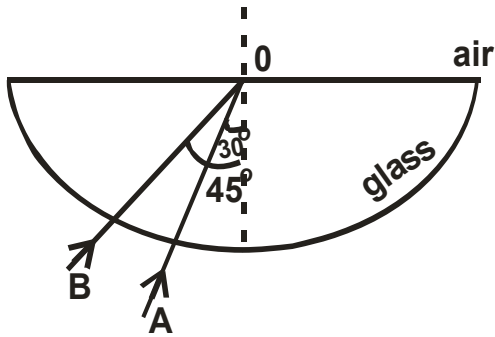


i) Determine the refractive index of the prism material (Speed of light in air, $C = 3.0 \times 10^8$ m/s) (2 mks)

ii) Show on the figure the critical angle **C**, and determine its value. (3 mks)

iii) Given that $r = 21.2^\circ$, determine angle θ . (2 mks)

c) The figure shows two rays A and B entering a semi-circular glass block which has a critical angle of 42° . The rays are incident at point O.



(i) Complete the path of the two rays from point O. Label A^1 and B^1 the corresponding rays. (2 mks)

(ii) Calculate the refractive index of the semicircular glass block. (2 mks)

16. a) define the term eclipse of the moon 1 mark

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b) differentiate between umbra and penumbra shadows. 2marks

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c) An incident ray forms an angle of 45 degrees with the mirror at point of incidence .If The position of the incident ray is kept constant while the mirror is rotated at an angle of 20 degrees .Find the angle through which the reflected ray is rotated
2 marks

d) A tree 25 m high stands, 50 m in frontof a pinhole camera whose screen is 30 cm behind the pinhole. What is the height of the image of the tree formed on the screen.
3mks

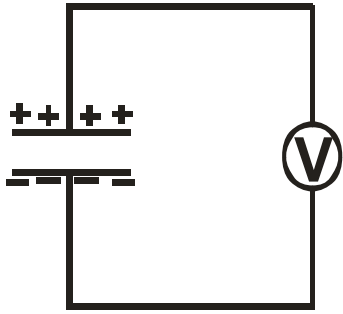
17. a) Define capacitance of a capacitor (1mk)

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b) State two factors that affect the capacitance of a parallel-plate capacitor. (2mks)

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c. The figure below shows a voltmeter connected across two charged parallel plates.

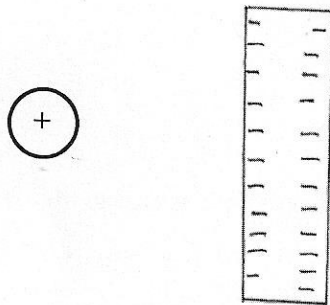


When a thin sheet of mica is inserted between the plates, the reading of the voltmeter is observed to reduce. Explain this observation. (2 mks)

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d) Figure 2 below shows a positive charge near a plate carrying negative charge. Draw the electric field between them. (2mks)

Fig.2



NameAdm NoClass.....

Index Number.....Student's signature.....

312/1

GEOGRAPHY

PAPER 1

TIME: 2HRS 45MIN

MAY 2022

MID TERM EXAMINATION 2022

Kenya Certificate of Secondary Education

312/1

GEOGRAPHY

PAPER 1

TIME: 2HRS 45MIN

INSTRUCTIONS TO CANDIDATES

1. Write your name and admission number in the spaces provided at the top of the page\
2. Answer all the questions in section **A**.. In section **B** answer question**6** and any other **two** questions from this section.
3. All answers must be written in the answer booklet provided.
4. This paper consist of 5 printed pages.
5. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no question is missing.

1. a) State how the Coriolis force affects the direction of wind. (2marks)
- b) Give **three** characteristics of cumulonimbus clouds (3marks)
2. The table below shows the mean monthly rainfall and temperature for station

Months	J	F	M	A	M	J	J	A	S	O	N	D
Mean monthly rainfall (mm)	15	8	8	13	31	51	51	51	28	25	18	20
Mean monthly temperature (⁰ C)	-22	-18	-12	-1	4	10	11	11	5	-11	-18	-22

Describe the climatic characteristics represented by the mean monthly rainfall and temperature table station X. (5marks)

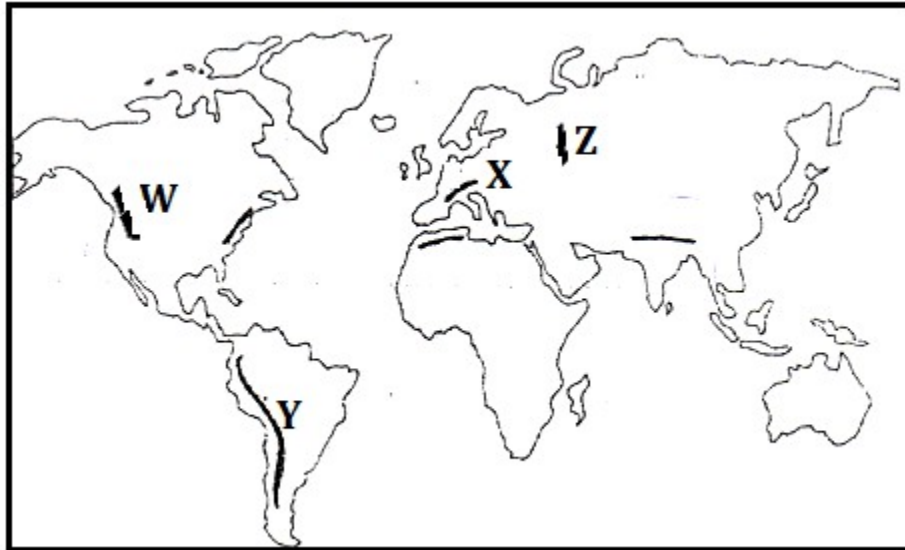
3. a) What is an earthquake (2marks)
- b) Identify the scales used to measure (2marks)
 - (i) The intensity of earthquake
 - (ii) The magnitude of earthquake
4. a) Name **two** types of boundaries according to the plate tectonic theory (2marks)
- b) Give **three** effects of the movement of tectonic plates. (3marks)
5. a) State **three** conditions that influence the process of solifluction in mass wasting. (3marks)
- b) Give **two** negative effects of mass wasting on the physical environment (2marks)

SECTION B

*Answer question **6** and ANY OTHER TWO questions from this section.*

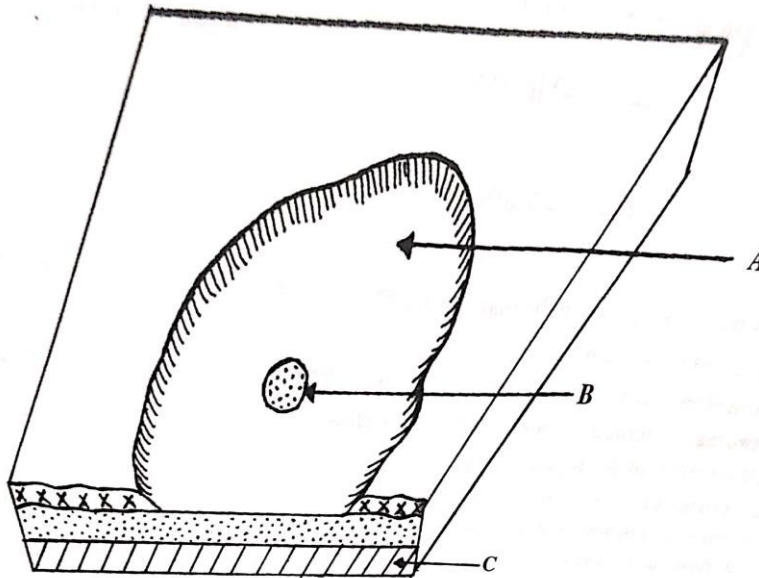
6. Study the map of Kijabe 1:50,000 (Sheet 134/3) provided and answer the following questions.
 - (a) (i) What type of map is the Kijabe (1mark)
 - (ii) In which hemisphere is the area covered by the Kijabe Map located? (2marks)
 - (iii) Give the longitudinal extent of the area covered by the Kijabe Map. (2marks)
 - (b) (i) Convert the linear scale of the map into a statement. (2marks)
 - (ii) Give **six** figure grid reference of trigonometrical station 2610. (2marks)
 - (c) On the graph paper provided, reduce the area enclosed by Eastings 34 to 40 and Northings 91 to 97 by a scale factor of 2 (3marks)

- (i) On the new map, accurately mark the following;
- (a) All weather road bound surface (1mark)
- (b) Forest guard post (1mark)
- (c) Githoitplantation (1mark)
- (ii) Give the new scale of the reduced map (2marks)
- (d) Describe the vegetation of the area covered by the map (4marks)
- (i) Citing evidence from the map, explain two factors influencing trade in the area covered by the map (4marks)
7. (a) (i) Differentiate between faulting and folding. (2 marks)
- (ii) Name **five** features formed as a result of faulting. (5 marks)
- (b) The world map below shows the location of some fold mountains. Use it to answer question (a) (i)



- (i) Identify the fold mountains marked W, X, Y and Z (4marks)
- (ii) Citing relevant examples, explain how Fold Mountains were formed according to the plate tectonics theory. (6 marks)
- (c) Explain the effects of Fold Mountains on the following
- Transport. (2 marks)
- Agriculture. (2 marks)
- Tourism. (2 marks)
- Mining. (2 marks)

8. a) Describe the following wind erosion processes
- (i) Abrasion (2marks)
 - (ii) Deflation (2marks)
- b) Use the diagram below to answer the following questions.



- (i) Name the feature marked A and B (2marks)
 - (ii) State **three** significance of feature A to the human environment (3marks)
- c) Using a well-labelled diagram, explain how the following features are formed.
- (i) Canyon (6marks)
 - (ii) Zeugen (6marks)
- d) State **four** characteristics of a barchan (4marks)
- 9 a) (i) Define a coastline (2marks)
- (ii) Give **three** types of a coral reef (3marks)
- b) Using a well labelled diagram describe the formation of the following coastal landforms.
- (i) A Tombolo (6marks)
 - (ii) Off-shore bar (6marks)
- c) (i) Give **three** factors that determine the size of a wave in the open sea. (3marks)

(ii) State **three** uses of coral reefs (3marks)

(iii) Students from Mombasa high school carried out a field study along the coastline of Indian Ocean. Give the reason for carrying the following items (2marks)

- Stop watch

- Camera

10. (a) (i) State **three** characteristics of a maximum thermometer. (3marks)

(ii) Explain how a maximum thermometer is used to measure temperature (6marks)

b) Describe (i) How lake Victoria influences the temperature of the surrounding region. (4marks)

(iii) How south east trade wind. Influence temperature at the coast. (2marks)

c) (i) Explain **two** ways in which vegetation adapts to hot climate. (4marks)

(ii) Describe the characteristics of equatorial climate (6marks)

NAME _____ ADM NO _____ CLASS _____

**311/1
HISTORY AND GOVERNMENT
PAPER 1
FORM FOUR
TERM 1 2022
TIME: 2 ½ HOURS**

INSTRUCTIONS

- a) This paper consist of three sections: A, B and C*
- b) Answer all questions in section A, Three questions in section B, and Two questions in Section C.*
- c) Answers to all questions must be written in the answer booklet provided.*
- d) Candidates should answer the questions in English.*

SECTION A (25 MARKS)

ANSWER ALL QUESTIONS FROM THIS SECTION

1. State two ways through which archeologists obtain information on the History of Kenya. (2mks)
2. State one similarity in the political organization of the Ameru and Abaluyha of Kenya during the 19th century. (1mk)
3. Name two important landmarks that were built by the Portuguese along the coast of East Africa. (2mks)
4. Give two reasons why the government may limit a person's freedom of speech. (2mks)
5. Identify the constitutional amendment that made Kenya return to a multi party state. (1mk)
6. State the main function of the Kenyan Bill of Rights. (1mk)
7. Give two reasons why the British used the Imperial British East Africa Company (IBEACo) to administer its possession in Kenya. (2mks)

8. Name the body that made laws in Kenya during the colonial period. (1mk)

9. Give the main reason why the colonial government created African Reserves in Kenya. (1mk)

10. State two grievances raised by the Asians in Kenya that were addressed by the Devonshire white paper of 1923. (2mks)

11. Give the main Political contribution of Christian missionaries in Kenya during the struggle for independence up to 1939. (1mk)

12. State two challenges that the independent schools faced in Kenya during the colonial period. (2mks)

13. What was the main contribution of Joseph Thomas Mboya to the History of Kenya. (1mk)

14. Name two finance committees of Kenyan parliament. (2mks)

15. State the military power of the president in Kenya. (1mk)

16. Name two superior courts in the Kenyan Judiciary. (2mks)

17. Name one elective seat in the county government in Kenya. (1mk)

SECTION:B (45 MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION

18a) State three political functions of the council of elders among the Luo in Pre-Colonial Kenya. (3mks)

b) Describe the Social Organisation of the Agikuyu during the Pre-Colonial period. (12mks)

19a) State five political roles played by the African Election Members of the Legislative council during the struggle for independence in Kenya. (5mks)

b) Explain the role of Women in the struggle for independence in Kenya. (10mks)

20a) Identify five challenges that Kenyatta encountered as president of Kenya. (5mks)

b) Explain six contributions of Professor WangariMaathai in the politics of Kenya. (10mks)

SECTION:C (30 MARKS)

ANSWER TWO QUESTIONS FROM THIS SECTION

21a) State three reasons why parliament is Supreme in Kenya. (3mks)

b) Explain six functions of the Independent Electoral and Boundaries Commission. (12mks)

22a) List down five factors that may undermine the administration of justice in Kenya. (5mks)

b) Explain five functions of the National Police Service in Kenya. (10mks)

NAME.....ADM NO.....CLASS..
.....

FORM 4

PAPER ONE

CHRISTIAN RELIGIOUS EDUCATION

MID TERM 1 2022

QUESTION PAPER

TIME: 2 HOURS 30 MINUTES

INSTRUCTIONS:

- *Answer any five questions*
- *All answers must be written in English*

1a) Giving examples, outline seven human authors of the Bible. (7mks)

b) Explain four ways which show God's plan of salvation after Man's fall in the Garden of Eden(8mks)

c) With reference to the Genesis stories of creation in chapter 1 and 2 outline the attributes of God. (5mks)

2a) Identify seven events that took place during the night of Passover. (7 marks)

b) Describe the preparations made by Israelites for the making of the Sinai covenant.

c) Give six ways through which God communicates His message to Christians today

3 a) State the factors which led to division of Israel after the death of Solomon. (7mks)

b) Outline seven ways in which God manifested Himself during the time of Prophet Elijah (7 mks)

c) Give **six** ways in which Christians can deal with challenges they face in modern society.

4. a) Explain Six ways in which prophets messages were written in the Old Testament. (6 marks)

b) Identify seven events that would take place during the day of the Lord according to prophet Amos

c) Give reasons why it is important for a Christian to repent sins

5. (a) Describe the Call of Jeremiah (Jer. 1:1-19)

(b) List the promises that the Israelites made they renewed their covenant with God during the time of Nehemiah.

c). Identify seven ways in which Christians observe the day of worship. (7 marks)

6. a) Explain the significance of rituals associated with death in Traditional African communities.(6mks)

b) Outline seven ways through which elders resolved conflicts in the Traditional African Society(7mks)

(c) Explain **seven** African Moral Values that are applicable to Christians today.(7 marks)

NAME:.....ADM NO.....

DATE:

443/2

AGRICULTURE

FORM FOUR

TIME : 2 HOURS

MID TERM 1 2022

MAY 2022 EXAMINATION

INSTRUCTIONS TO CANDIDATES:

1. This paper consists of three sections; A, B and C
2. Answer ALL the questions in sections A and B
3. Answer any TWO questions in section C
4. All answers to be written in English

FOR OFFICIAL USE ONLY

SECTION	QUESTION	MAX. SCORE	CANDIDATE SCORE
A	1 – 18	30	
B	19 – 22	20	
C	23 – 25	40	
	TOTAL	90	

SECTION A (30 MARKS)

Answer all the questions in this section in the spaces provided.

1. Name causal agent of anaplasmosis disease in cattle (1/2 mk)

2. State four reasons for castration in pigs (2 mks)

3. State four characteristics of roughage livestock feeds (2 mks)

4. State four roles of worker bee in a colony (2 mks)

5. State one function for each of the following
 - a. Shovel (1/2 mk)

 - b. Strip cup (1/2 mk)

6. Give three ways in which infectious diseases can spread from one livestock to another within a farm. (1 ½ mk)

7. Name three methods that are used in selection of breeding stock in livestock production.
(1 ½ mk)

8. Name one livestock disease that is transmitted by each of the following parasites

a. Blue ticks (1/2 mk)

b. Brown ear ticks (1/2 mk)

c. Tsetse flies (1/2 mk)

9. State four methods of controlling round worms (*Ascaris* sp) in livestock (2 mks)

10. Apart from hides, name the raw materials obtained from each of the following livestock for the textile industry.

a. Goat (1/2 mk)

b. Sheep (1/2 mk)

c. Rabbit (1/2 mk)

11. Name two nutritional diseases of cattle

(1 mk)

12. State four signs of infestation by external parasites in goats (2 mks)

13. Give four disadvantages of inbreeding in livestock. (2 mks)

14. Name four parts of a farm building that can be reinforced using concrete (2 mks)

15. State four advantages of fish farming in Kenya (2 mks)

16. State four disadvantages of using plunge dips in tick control (2 mks)

17. Name the complementary tool for each of the following tools named below.

i. Trochar (1/2 mk)

ii. Hand – drill (1/2 mk)

iii. Hypodermic needle (1/2 mk)

18. (a). Name two livestock diseases controlled through embryo transplant (1 mk)

(b). Give the meaning of the following terms as used in livestock breeding

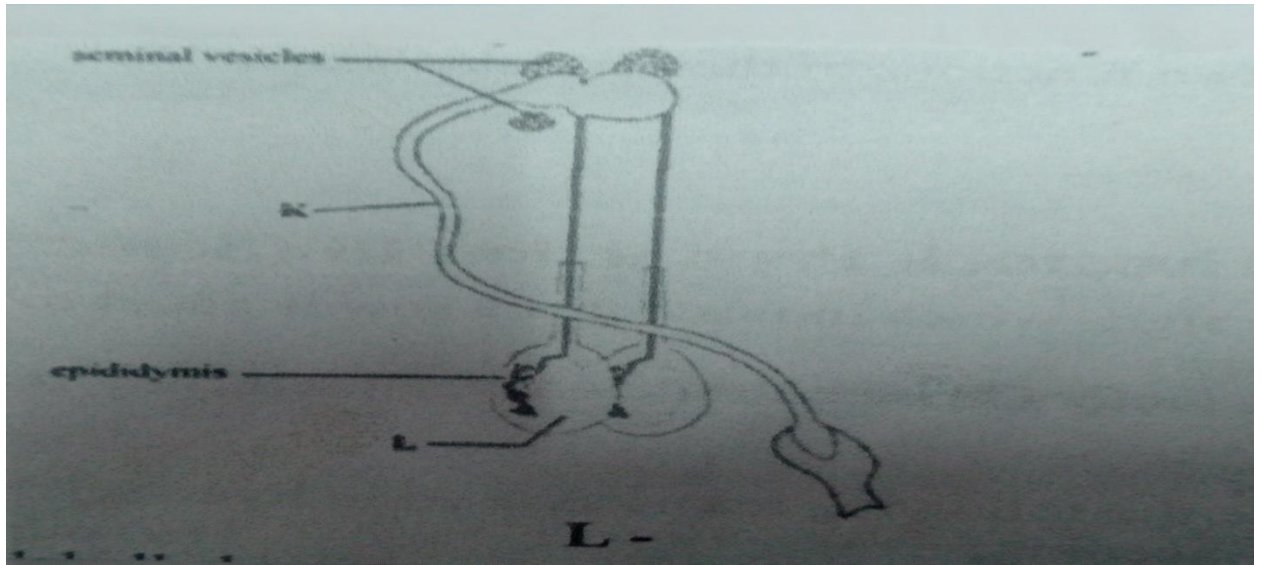
(i) Close breeding (1/2 mk)

(ii) Line breeding (1/2 mk)

SECTION B (20 MARKS)

Answer all the questions in this section in the spaces provided.

19. Below is a diagram illustrating the reproductive system of a bull. Study it and answer the questions that follow.



(a). Identify the parts labelled

K (1 mk)

L (1 mk)

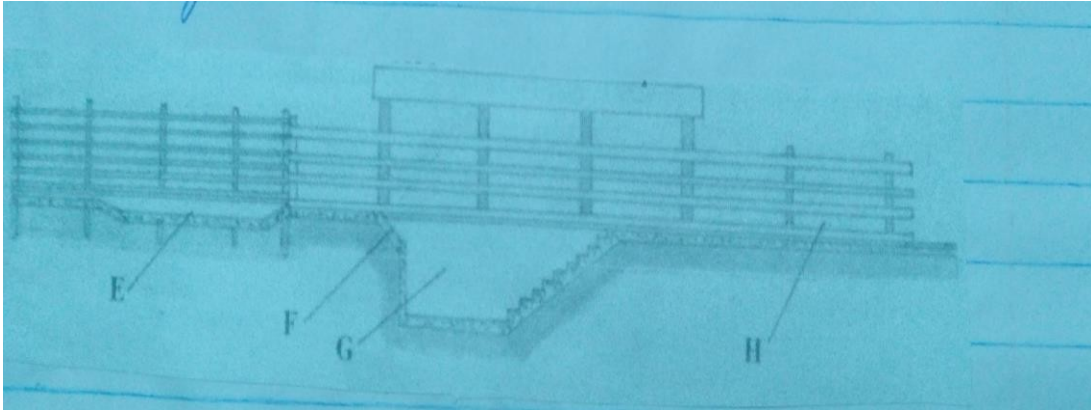
(b). State the functions of the part labelled

Epididymis (1 mk)

Seminal vesicles (1 mk)

(c) Name the tool used to collect semen from the livestock (1 mk)

20. The illustration below shows a cross section of a cattle dip.



(a). Name the parts labelled E and G

E (1 mk)

G (1 mk)

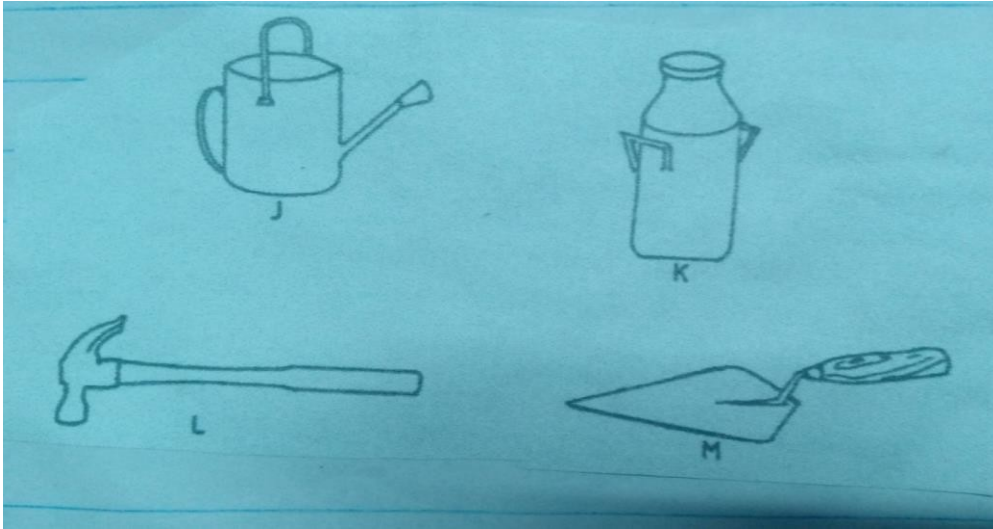
(b). State one use for each of the parts labelled E, F and H

E (1 mk)

F (1 mk)

H (1 mk)

21. The diagram below represents farm tools and equipment. Study them and answer the questions that follow.



(a). Identify the tool/equipment labelled M and J

M (1 mk)

J (1 mk)

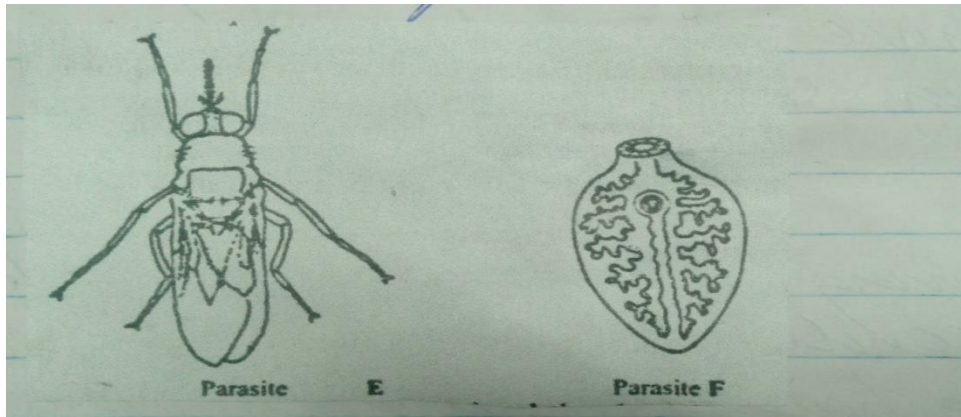
(b). State one use for each of the tool/ equipment labelled K and L.

K (1 mk)

L (1 mk)

(c). Give two maintenance practices for the equipment labelled K (1 mk)

22. The diagram below represents livestock parasites



(i). Identify parasite E

(1/2 mk)

(ii). State three symptoms that may be observed in an animal that has been attacked by parasite F.

(3 mks)

(iii). Name the intermediate host for parasite F.

(1/2 mk)

(iv). Give one control measure of each parasite.

(1 mk)

SECTION C (40 MARKS)

Answer any two questions from this section in the spaces provided after question 25.

23. (a). Describe the uses of fences on the farm (10 mks)
(b). Explain the factors considered when culling livestock. (5 mks)
(c). Give five harmful effects of liver flukes in sheep rearing. (5 mks)
24. (a). Giving a relevant example in each case, describe the role of the various components of a balanced diet in livestock nutrition. (10 mks)
(b). Outline the general characteristics of indigenous cattle (5 mks)
(c). Explain how physiological factors are used as a sign of ill or good health. (5 mks)
25. (a). Describe East Coast Fever under the following sub – headings.
(i). Livestock affected (1 mk)
(ii). Vector and causal organisms (2 mks)
(iii). Signs of attack (5 mks)
(iv). Control measures (2 mks)
(b). Outline the procedure followed when hand spraying cattle to ensure effective use of acaricides to control ticks. (10 mks)

NAME ADM NO:

DATE SIGNATURE

CLASS

565/2

BUSINESS STUDIES PAPER2 MAY2022

FORM 4

TIME: 2½ HOURS

MID TERM 1 2022 EXAMINATION.

INSTRUCTIONS TO ALL CANDIDATES

1. *Write your name and admission number in the spaces provided above.*
2. *Sign and write the date of the examination in the spaces provided above.*
3. *Answer any FIVE questions.*
4. *All questions carry equal marks*
 1. a) Explain five benefits of an open plan office to an organization. (10 marks)
 - b) Explain five problems which consumers may face where warehouses are not available. (10 marks)
 2. a) Describe five channels that may be used for distributing imported goods. (10 marks)
 - b) Explain five importance of communication to a business. (10 marks)
 3. a) Using a well labeled diagram, explain the effects of increase in demand for a commodity on market equilibrium when its supply remains constant. (10 marks)
 - b) Explain five services that retailers offers to consumers. (10 marks)

4. a) Explain five negative implications of a young population in a country. (10 marks)
b) Explain five differences between cooperatives and public limited companies. (10 marks)

5. a) The following information relates to Jua Kali traders as at 1st December 2018.

	KSHS
Premises	190,000
Debtors	25,000
Cash at bank	15,000
Capital	230,000
Creditors	30,000
Stock	30,000

The following transactions took place in the month of December 2018

Dec 5th: bought goods by cheque kshs 5,000.

Dec 8th: Recovered from debtors' kshs 10,000 cash.

Dec 15th: Paid creditors kshs 8,000 cash.

Dec 31st: Brought into the business kshs 20,000 cash from personal savings.

Required: Prepare the balance sheet as at 31st December 2018. (10 marks)

b) Explain the procedure followed when making an insurance claim. (10 marks)

6. a) Explain five reasons why a business would adopt ethical practices while conducting its operations. (10 marks)

b) Explain five features of monopolistic competition. (10 marks)

Name:.....Class:.....AdmNo:
.....

**FORM 4 COMPUTER STUDIES - 2022 MAY
MID TERM 1 EXAMINATION (451/1)
TIME: 2HOURS**

1. (a) A computer laboratory should be constantly kept dust and smoke free.
Specify **two** effects that dust would have on the operation of computers. (2 marks)

- (b) Why should you first switch on the UPS before switching on the system unit and the monitor? (2 mark)

2. Explain the meaning of backup. (2 marks)

3. State the following types of transcription errors. (2 marks)

- (a) 3455 instead of 3456

- (b) Smith instead of simth

4. (a) State **three** ways used to represent a negative number. (3 marks)

- (b) Perform the following binary arithmetic giving the answer in decimal notation.

$1110.0111 + 1101001.011$ (2 marks)

5. Distinguish between data privacy and data integrity as used in computing. (2 marks)

6. Differentiate between a primary key and a foreign key while designing a database. (2 marks)

7. Distinguish between 'count' and 'count if' functions as used in spreadsheets. (2 marks)

8. Explain the impact of Information Technology on organization in each of the following areas. (2 marks)

(a) Competition.

(b) Pace of growth.

9. List **two** roles performed by system analyst. (2 marks)

10. Explain the following internet related terms. (4 marks)

SignIN_____

Searchengine_____

Surf

Sign up_____

11. In Kenya Tea Packers Company, several people are employed as record clerks, typists and messenger. The company intends to introduce a computerized system in all the departments. Suggest **three** reasons that would make workers unhappy with the new system.

(3 marks)

12. State **two** magnetic Storage devices. (2 marks)

13. State **three** functions of Central Processing Unit. (3 marks)

14. Explain two ways of protecting data and information in a database against unauthorized access

(2marks)

15. a) Name two ways in which data can be input into a computer, and state the device that can be used in each case. (2mks)

b) Explain why a buffer is used in the output of data to a line printer (1mk)

SECTION B

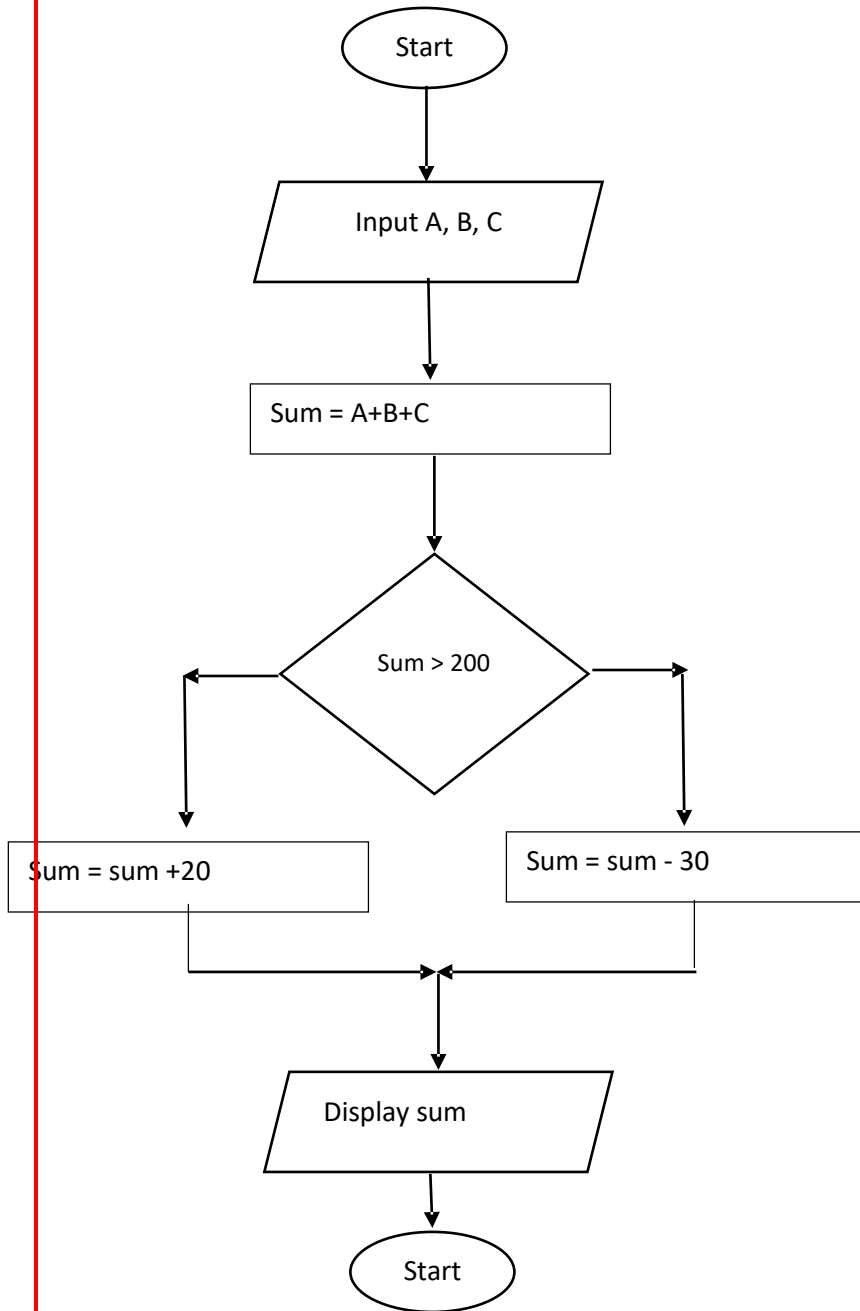
(Answer question 16 and any other three questions from this section)

16. (a) List two programming language translators. (2mks)

(b) State three advantages of using low level programming languages. (3mks)

(c) Give two methods you would use in error detection during program testing. (2mks)

(d) i) Study the flowchart below and write a pseudo-code for the flowchart.
(7mks)



(ii) Name the control structures used in the flow chart above.

(1mks)

17. a) Explain any **THREE** functions of **system software** in a computer (3mks)

b) As a computer student you have been asked to assist in buying an input device. State any **four** factors to consider when buying input devices. (4mks)

c) Explain three problems associated with using e-mail technology for communication. (6mks)

d) State three advantages of integrated software as opposed to single purpose. (3mks)

18. a) List and describe four strategies for converting from an old system to a new system. (4mks)

(b) (i) Distinguish between private data and confidential data. (2mks)

(ii) What can be done to stop illegal access to a computer laboratory by unauthorized people?

(3mks)

(a) (i) List **four** areas that would be considered in the requirement specification. (4mks)

(ii) Name any **two** areas covered in feasibility report during system analysis and design. (2mks)

19. (a) What is the hexadecimal equivalent of 767_8
(3mks)

(b) Use one's complement to solve the following sum: -5_{10} (2mks)

(c) Compute the values of X in the following expressions

i) $24.35_{10} = X_2$

(ii) $6A13_H = X_{10}$ (2mks)

(d) Using two's complement compute (5mks)

36₁₀ – 25₁₀

20.a) On her first day at work as a school librarian, Sera notices that book records are kept manually using a card system. She suggests to the Principal that they use a database. State three reasons why using a database would be helpful to the librarians (3mks)

b) Give four examples of DBMS programs which could be used. (2mks) **Lotus**

c) The manager of Pacific Company Ltd uses a database to keep records of his employees as shown in the table below. Use this information to answer the questions that follow.

Employee						
ID	Name	Age	Date of Birth	Salary	Department	
AA1040	Thomas Debu	38	03-Dec-72	\$35,673.00	Adminstration	
AA1050	Salata Bale	35	26-Mar-75	\$24,681.00	Finance	
AB1020	Kare Bond	34	16-Oct-74	\$28,945.00	Human Resource	
AC6463	Filipo Nairi	34	05-Nov-74	\$21,680.00	Human Resource	
AC8091	George Tomo	29	26-Apr-81	\$33,610.00	Marketing	
AD3214	Ema Lord	29	02-Jan-80	\$20,400.00	Finance	
AE1111	Paula Read	23	22-Sep-87	\$19,350.00	Adminstration	
*						

i. Name and explain the appropriate data type for

ID: _____ (1mk)

Age: _____ (1mk)

Salary _____ (1mk)

ii. Write a query expression to display details of employees working in the Administration department

(3mks)

d) The function =AVERAGE (B2:B8) in cell B9 has been copied and pasted to cells C9 to K9 in spreadsheet.

i. What would be the formula at cell D9 (2mks)

ii. Explain the type of cell referencing used in the above formula (2mks)

NAME _____ CLASS _____ ADM _____

END OF TERM 3

PP 441/1 theory

FORM 4 2022

HOMESCIENCE

FORM FOUR

INSTRUCTIONS

Answer all questions in this section

1. Suggest two ways nutrients can be lost during storage (2mks)

2. Give two advantages of grouping clothes before storage (2mks)

3. Mention two ways of preventing mosquito bites in a house (2mks)

4. Suggest two uses of a door in a pit latrine (2mks)

5. List down two points to observe when using a sewing machine (2mks)

6. Give two conditions suitable for growth of yeast (2mks)

7. The size of a patch pocket depends on several factors. State 4 (2mks)

8. State two points to note on the care of ears when cleaning the face daily (2mks)

9. Differentiate between a dart and pleat in clothing construction (2mks)

10. State 3 disadvantages of roasting as a method of cooking food (3mks)

11. List four problems related to teething In small children (2mks)

12. Differentiate between bound opening and continuous wrap opening (2mks)

13. Explain the effect of hot water on each of the following (2mks)
- i. Blood stains

 - ii. Grease stains
14. What is the role of VCT in safe parenting(2mks)
15. Give two reasons for an open and coarse texture in creamed cake mixtures (2mks)
16. List items referred to as accessories in good grooming.Name six (3mks)
17. What is food budget (1mk)
18. Give 2 uses of pocket on garments (2mks)
19. List 3 differences between brooms and brushes (3mks)

Section B (20marks)

20. You have been left with the responsibility of taking care of the house.

a. Launder a viscose rayon blouse (7mks)

b. Describe the procedure of weekly cleaning of a bedroom (8mks)

c. Clean and sterilize a baby's plastic cup (5mks)

Section c

Answer any two questions in this section

21 After completing your cookery practical lesson you found that your white cotton apron has the following stains.

i. Grease

ii. Coffee

a. State clearly how the stains can be removed (5mks)

i. Grease

ii. Coffee

b. What factors should be considered when choosing brooms and brushes (5mks)

c. Giving reasons in each case state five basic rules in the use of refrigerator (10mks)

21. A. Give five steps to ensure that a sewing machine gives good stitches when stitching
(5mks)

B. A well drain house in a comfortable house to live in Give five points to support the above statement (5mks)

C. Suggest five reasons why a family should prepare for a baby's arrival (5mks)

D. Give five reasons for budgeting family income (5mks)

22. a. Give five points to consider when buying commercial paper patterns (5mks)

B. Give points to consider when entertaining visitors (5mks)

C. Discuss four points to consider when buying labour saving cleaning equipment (8mks)

D. State two reasons for using white ceramic tiles in the kitchen (2mks)

501/1

French paper 1

Listening comprehension, Dictation and creative writing

Time 2hours

FORM FOUR

SECTION 1

Listening Comprehension 15mks

1. PASSAGE I

a. Le dernier jour des sports était [½

mark]

b. (i) Qui était le gagnant ? [½

mark]

(ii) Combien de matchs a-t-il gagnés ? [½

mark]

c. On a admirédes participants. [½

mark]

2. PASSAGE II

a. Dans ce texte, on parle de la d'une [1

mark]

b. Qui sont affectés ?

i..... [½

mark]

ii..... [½ mark]

iii..... [½

mark]

3. PASSAGE III

a. i. Le produit dans ce texte s'appelle [½ mark]

ii. Il est utilisé pour leset par leset les
[1½ marks]

b. On trouve le produit aux et aux [1 mark]

4. PASSAGE IV: Fill in the table below by supplying the required information on the menu.

	Permis (des fruits +)	Interdit
Le matin	(i)	Le pain
	(ii)	
Midi	(i)
	(ii)	
	(iii)	
Le soir	(i) aux
	(ii)	

5. PASSAGE V

- a. (i) A qui est le paquet?
- (ii) Qu'est-ce qu'il y a dans le paquet ?
- b. On est dans quel pays ?
- c. Quelle est la nationalité de la personne qui envoie le paquet ?
- d. On utilise un paquet spécial parce qu'il
- e. Il faut payer pour l'envoi.

SECTION 11

6.Dictation

Write the dictation passage in the spaces provided.

.....

.....

.....

.....

.....

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SECTION 111

Creating Writing

In 150-180 words, write in french a composition

a) ending with : 15 points

.....c'est le jour que je n'oublierai jamais dans ma vie.

b) OR beginning with : 15 points

Quand je suis finalement arrivé(e) chez eux.....

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- 1. NEW SETBOOK GUIDES**
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- 3. ALL TERMLY EXAMS AND MARKING SCHEMES**
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