

CATHOLIC DIOCESE OF MOSHI

URU SECONDARY SCHOOL

FORM THREE

BIOLOGY

Exercise 4

- How are the red blood cells suited to perform their function?
 - In a certain person, blood took a long time to clot after a cut.
What vitamin deficiency was the person likely to have been suffering from?
- List two structural differences between arteries and veins.
 - Explain why the chamber of left ventricle is muscular thicker than the chamber of right ventricle?
- Distinguish between the gaseous exchange and respiration.
 - Identify the site of respiration in living things.
 - Write the balanced equation that summarizes aerobic respiration.
- Define Regulation.
 - A certain person was found to pass out plenty of dilute urine which did not have any sugar. The person also complained of thirst most of the time.
 - Which hormone was the person lack?
 - Name the organ that produces this hormone.
 - Name the deficiency disease that the person was suffering from.
- Draw the diagram of Nephron and show the part where reabsorption of water takes place.
 - Give a reason why the animal like camel living in the desert have long nephron?

GEOGRAPHY

Exercise 4

- What do you understand by the term rock cycle
 - Outline three (3) necessary conditions for rock cycle to take place
- Study carefully the climatic data given for station X and answer the question that follow

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp (c)	21.7	21	20.6	18.9	16.0	13.9	13.9	16	20	22.2	22.2	22.2
Rainfall (mm)	149.7	101.6	78.7	17.8	7.6	0	0	0	2.5	22.9	83.9	132

QUESTIONS

- i. Name the type of climate for station X
 - ii. Calculate the annual mean temperature for station X
 - iii. Calculate the total annual rainfall for station X
 - iv. Which crops can be grown in station X
- 3.(a) Define land surveying
- (b) Give five branches of land surveying
- (c) Outline four main different methods of surveying
4. Describe in details the economic importance of rocks
5. Nairobi at the sea level has temperature of 32°C. What will be the temperature of place in Mombasa 1500 meters above the sea level?

CHEMISTRY

Exercise 4

1. What is the molarity of a solution containing 26.5g of anhydrous sodium carbonate in 5dm³ of the solution?
- b) 4g of potassium hydroxide is dissolved in water to form 250cm³ of solution. What is the molarity of this solution?
2. With the aid of chemical equation explain six types of chemical reaction.
 - a) Define ionic equation
 - b) Write ionic equation of the following reaction
 - i) $\text{ZnSO}_{4(\text{aq})} + \text{BaCl}_{2(\text{aq})} \rightarrow \text{BaSO}_{4(\text{s})} + \text{ZnCl}_{2(\text{aq})}$
 - ii) $\text{MgSO}_{4(\text{aq})} + \text{Na}_2\text{CO}_{3(\text{aq})} \rightarrow \text{MgCO}_{3(\text{s})} + \text{Na}_2\text{SO}_{4(\text{aq})}$
 - iii) $\text{CaCO}_{3(\text{s})} + 2\text{HNO}_{3(\text{aq})} \rightarrow \text{Ca}(\text{NO}_3)_{2(\text{aq})} + \text{H}_2\text{O}_{(\text{l})} + \text{CO}_{2(\text{g})}$
 - iv) $2\text{NH}_4\text{Cl}_{(\text{s})} + \text{Ca}(\text{OH})_{2(\text{aq})} \rightarrow \text{CaCl}_{2(\text{aq})} + 2\text{H}_2\text{O}_{(\text{l})} + 2\text{NH}_3(\text{g})$
 - v) $\text{AgNO}_{3(\text{aq})} + \text{NaCl}_{(\text{aq})} \rightarrow \text{AgCl}_{(\text{s})} + \text{NaNO}_{3(\text{aq})}$
3. Define salt
 - b) With one example each explain types of salts
 - c) Suggest a suitable indicator for the following reaction

- (i) Hydrochloric acid against ammonium solution
 - (ii) sulphuric acid against sodium hydroxide solution
 - (iii) Ethanoic acid against potassium hydroxide solution
4. a) Distinguish hydrated from anhydrous salts
- b) With examples explain the following terms
- (i) Hygroscopic substance
 - (ii) Deliquescence substance
 - (iii) Efflorescence substance

KISWAHILI

Zoezi la 4

1. Umeandikiwa barua na kampuni ya Madoni Usambazaji wa bidhaa ya S.L.P 1720 Kaziuda yenye kumbukumbu namba MUB/KZD/A/16 kukujulisha kuwa umeteuliwa kuwa Mkurugenzi wa mauzokatika kampuni hyo. Andika barua kwa Afisa Usaili kukubali nafasi hyo. Jina lako liwe Kazi Zaidi na anwani yako iwe S.L.P 50 Mtakuja.
2. Andika insha isiyo ya kisanaa yenye maneno mia mbili na hamsini (250) kuhusu “Athari za madawa ya kulevya kwa vijana”
- 3a) Ngonjera ni nini?
- b) Tunga ngojera yenye beti nne kuhusu matumizi ya simu kwa wanafunzi.
4. “Wanaisimu huona kuwa fasihi simulizi ni muhimu kuliko fasihi andishi” kwa kutumia hoja tano thibitisha kauli hii.
5. Tunga shairi la kimapokeo lenye beti nne kuhusu mapambano dhidi ya madawa ya kulevya.

PHYSICS

Exercise 4

- 1 (a) what is a lens?
- (b) Differentiate between concave and convex lenses
2. A 17cm tall object is placed 28cm from a converging lens that has a focal length of 11cm.
- (i) How far from the lens will the image be?

- (ii) What is the image height?
- (iii) Describe the nature of the image formed
3. A projection lantern is used to project a slide measuring 3cm x 3cm onto a screen 12cm from the projection lens. If the size of the screen is 1.5m x 1.5m, how far from the lens must the slide be for the image to fill the entire screen?

Solution

Data given

Formula

$$h_o = 3\text{cm} \quad m = \frac{V}{U} = \frac{H_I}{H_O} \quad \dots\dots\dots$$

$$h_i = 1.5\text{m} = 150\text{cm}$$

$$v = 12\text{cm} \quad \frac{V}{U} = \frac{H_I}{H_O} \quad \dots\dots\dots$$

$$u = ? \quad \frac{V}{U} = \frac{H_I}{H_O} \quad \dots\dots\dots$$

Ok complete the solution

Therefore object distance = -----cm

4. A slide projector has a projection lens of focal length 15cm. The projection is to be used to project an image of a slide measuring 5cm x 5cm onto a screen measuring 1m x 1m. How far from the projection lens should the screen be placed?

Solution

Data given

$$f = \dots\text{cm}$$

$$h_o = \dots\text{cm}$$

$$h_i = \dots\text{cm}$$

$$v = \dots\text{cm}$$

$$u = ?$$

Carefully study question no. 3 solution above and apply to complete question no, 4

COMMERCE

Exercise 4

1. By using diagram explain the occupation flow chat exclude commerce flow chart.
2. Write short notes on the following
 - a. Chamber of commerce
 - b. Central bank
 - c. Inflation
 - d. Devaluation
 - e. Marketing
 - f. Marketing mix
 - g. Bi-lateral trade
 - h. Multi-lateral trade
 - i. Insurance
 - j. Warehouse warranty.

HISTORY

Exercise 4

1. What is assimilation policy?
2. Why did French preferred to use assimilation policy in her colonies?
3. Assess any six impacts of assimilation policy in Africa.
4. Compare and contrast assimilation policy and indirect rule

CIVICS

Exercise 4

1. What is poverty?
2. Mention types of poverty.
3. Identify levels of poverty.
4. What are the indicators of poverty?

BASIC MATHEMATICS

Exercise 4

1(a) Find the smallest number that can be put into bags which contain 9 or 15 or 20 sweets with non-left over.

(b) Convert 0.54 into fraction

2. (a) rationalize the denominator $\frac{5}{(2-\sqrt{3})}$

(b) Solve for x the following equation $(\frac{1}{3})^{x+1} \times (\frac{1}{9})^{2-x} = \frac{1}{81}$

3 (a) the sum of number of boys and girls in the class is 36. If twice the number of girls exceeds the number of boys by 12, find the number of boys and girls in the class.

(b) In a group of 240 people; 80 take tea, 120 take coffee and 60 take both tea and coffee. How many take

i) tea only ii) neither tea nor coffee iii) coffee but not tea

4 The marks below show the record of mathematics test at California hills sec school scored by 30 students;

25,29,34,26,30,35,27,28,22,26,35,32,28,24,34,31,29,22,33,32,19,37,31,27,31,30,21,36,25,22

(a) Prepare the marks in frequency distribution table using class size of 4 e.g. 19-22, 23-26 etc

(b) Draw histogram and frequency polygon on the same axes

(c) Calculate the mean by assumed mean (assumed factor, $A=20.5$)

5. (a) Solve the following $3x^2 - 2x - 1 = 0$ by completing the square.

(b) Find two consecutive even numbers whose product is 120.

6. (a) A ladder of 12m long is set against a vertical wall.

If it makes an angle of 30° with the wall how far up the wall does it reach?

(b) If it reaches 10m up the wall what angle does it make with the ground?

7. (a) Given the function $f(x) = x^2 + 6x - 7$

i) Evaluate $f(10) - f(5)$

ii) Factorize $f(x)$

iii) Find the axis of symmetry

iv) Find the maximum or minimum value of $f(x)$

v) Turning point of $f(x)$

vi) Domain and range of $f(x)$

vii) Domain and range of $f^{-1}(x)$

(b) A function is defined by $f(x) = x^2 - 4$, find:-

i) The inverse of $f(x)$

ii) The value of $f^{-1}(-3)$

iii) The domain of $f^{-1}(x)$

LITERATURE IN ENGLISH

Exercise 4.

1. Give the meaning of the following terms.

i. Actress

iv. Play

ii. Actor.

v. Playwright.

iii. Audience.

2. Explain the following

i. Soliloquy.

iv. Curtain

ii. Dramatic irony.

v. Stage.

iii. Dramatic dialogue.

vi. Theatre.

3. Analyze the features of oral literature. (Six points.)

ICS

Exercise 4

1. Explain five advantages of backing up data.
2. Explain three Applications of internet in the area of education.
3. Explain the main reasons of using BIOS in the computer.
4. Explain three types of buses that affect the speed of computer and explain the function of each.

ENGLISH LANGUAGE

Exercise 4

(1) Match the following items with the expressions provided.

Formalize, generalize, compromise, organize, minimize, despise, familiarize, emphasize.

- (a) To settle disagreement on something.....
- (b) To make official or valid.....
- (c) To look down someone with hatred.....
- (d) To stress on something.....
- (e) To form principles or conclusions from detailed facts.....
- (f) To reduce at the least possible degree.....
- (g) To form parts of something into a structure.....
- (h) To make something known generally.

(2). Re-write the following sentences as instructed.

- (a) Mary will clean the room tomorrow. (Begin; The room.....
- (b) Seldom did Sofia's baby cry at night. (Begin; hardly.....
- (c) If Janneth studies hard, she will pass her examination. (Begin; unless.....
- (d) "When will you take your book from my desk?" Amina asked Johnson. (Begin; Amina.....

(3) It is hard to fight against AIDS because people's min

BOOK KEEPING

Exercise 4

1. What are the difference between; a) Discount allowed and discount received?

b) Cash discount and trade discount

c) Credit note and debit note

2. Given the following transactions;

Sales..... 150,000

Sales return.....1000

Debts written off...11,000

Discount allowed...2,000

Purchases return....2000

Discount received..4000

Purchase.....60,000

Inventory at start.....15,000

Paid labour.....6000

Salaries balance...8000

Motor van.....120,000

Debtors.....30,000

Creditors.....12,000

Capital.....250000

Loan from NMB.....8000

Additional information at the end of the year;

i) Wages unpaid 2500

ii) Salaries prepaid 1500

iii) Inventory at close 4000

iv) Motor van Depreciation 10%

Required

Prepare a) Income statement for the year ended 31st Dec 2015

b) Statement of financial position as at 31st Dec 2015

3. Outline any five reasons for purchaser to return product to a saler.

4. Correct the following by using journal entry and suspense account.

I) Sales overstated by 2000

II) Return inwards under casted by 500

III) Goods sold to Akaro tsh 1200 recorded in error to Akasio

IV) Sold goods for tsh 2500 recorded in error to the credit side in the return inwards.

5. a) Define Prime cost.

b) Give format of statement of correcting net profit or loss.