

KENYA CERTIFICATE OF BASIC EDUCATION (K.C.B.E)

GRADE 10

CHEMISTRY (Theory)

TERM 1

JANUARY 2026



Time: 2 HOURS

COMPETENCY BASED EDUCATION CKEAB 001

LEARNER'S DETAILS



-CHEMISTRY-

Name: _____

School: _____

Assessment Number: _____ Date: _____

School Code: _____ Signature: _____

INSTRUCTIONS TO LEARNERS

- Write your name, assessment number, class and date on all the answer sheets provided.
- Answer all the questions in the spaces provided.
- Use a blue or black pen for writing. Pencils should be used only for drawings and diagrams.

SCORE GRID

Section A	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q2d	Q3a	Q3b	Q4	Q5a	Q5b	Q5c	Q6	Q7	Q8a	Q8b	Q8c	Q9	Q10a	Q10b	Q10c	TOTAL (40)
Marks	1	1	1	1	1	1	1	1	1	3	1	1	1	2	3	1	2	1	3	1	1	1	40
Learner																							

Section B	11a (i)	11a (ii)	11a (iii)	11b	11c	12a	12b	12c	12d	12e	12f	12g	12h	12i	12j	12k	12l	12m	12n	12o	12p	12q	12r	12s	12t	12u	12v	12w	12x	12y	12z	TOTAL (60)
Marks	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	60
Learner																																

Performance Levels Grid

Section	Max Marks	Learner Score		
A	40			
B	60			
TOTAL	100			
Level	Level	% Range	Points	Learner's score
Exceeding (EE)	EE1	90–100%	8	
	EE2	75–89%	7	
Meeting (ME)	ME1	58–74%	6	
	ME2	41–57%	5	
Approaching (AE)	AE1	31–40%	4	
	AE2	21–30%	3	
Below (BE)	BE1	11–20%	2	
	BE2	1–10%	1	

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Turn over

-001-

-Senior School-

SECTION A: (40 Marks)

Answer all questions in this section.

1. A mother is seen reading labels on detergent containers before buying.

(a) Define Chemistry. (1mk)

(b) Identify one branch of chemistry. (1mk)

(c) State one career related to the branch you named in (b). (1mk)

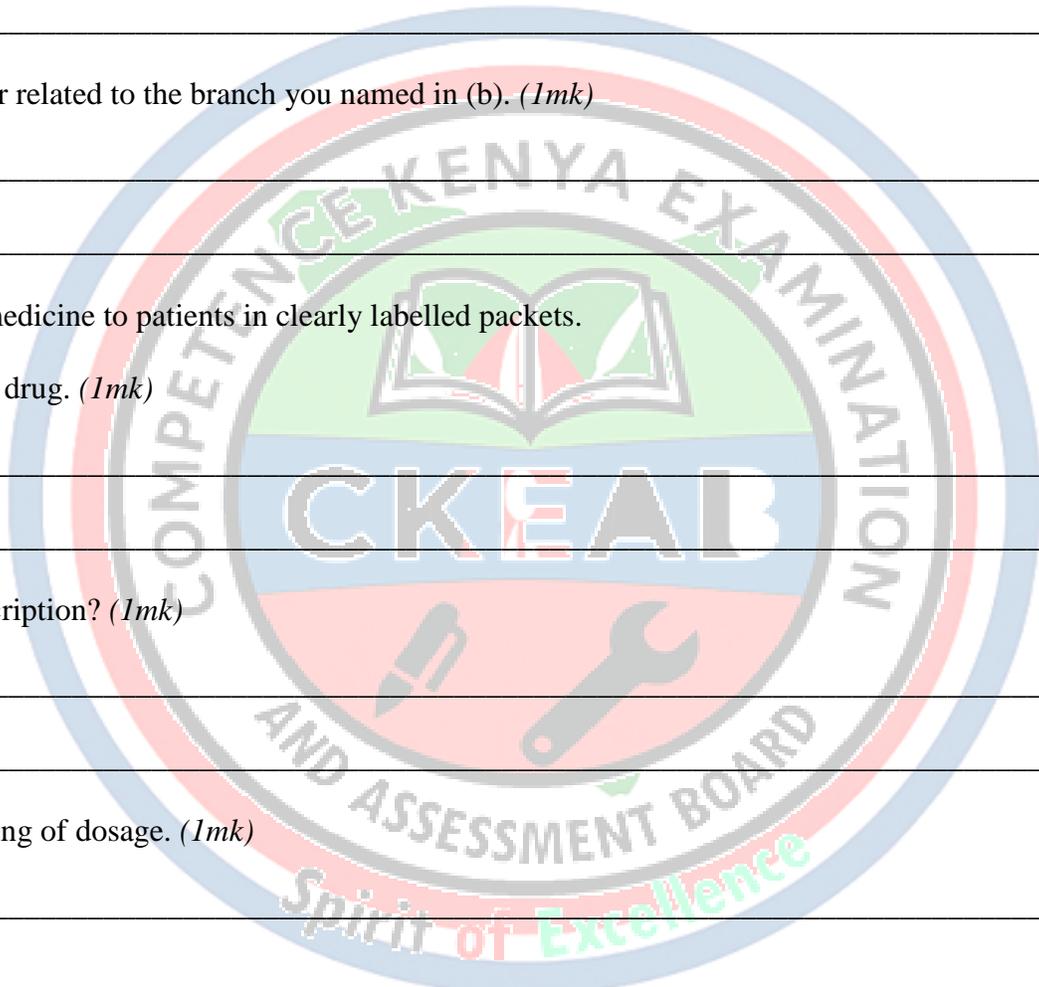
2. A clinic issues medicine to patients in clearly labelled packets.

(a) Define the term drug. (1mk)

(b) What is a prescription? (1mk)

(c) State the meaning of dosage. (1mk)

(d) Identify one consumer right when receiving prescribed drugs. (1mk)



3. Name two effects of abusing the following drugs:

(a) Cigarettes (1mk)

(b) Khat (miraa) (1mk)

4. State three roles of chemistry in modern agriculture. (3mks)

- i. _____
- ii. _____
- iii. _____

5. A student was asked to name the first 20 elements in order.

Write the names of elements with atomic numbers:

(a) 1 (1mk)

(b) 8 (1mk)

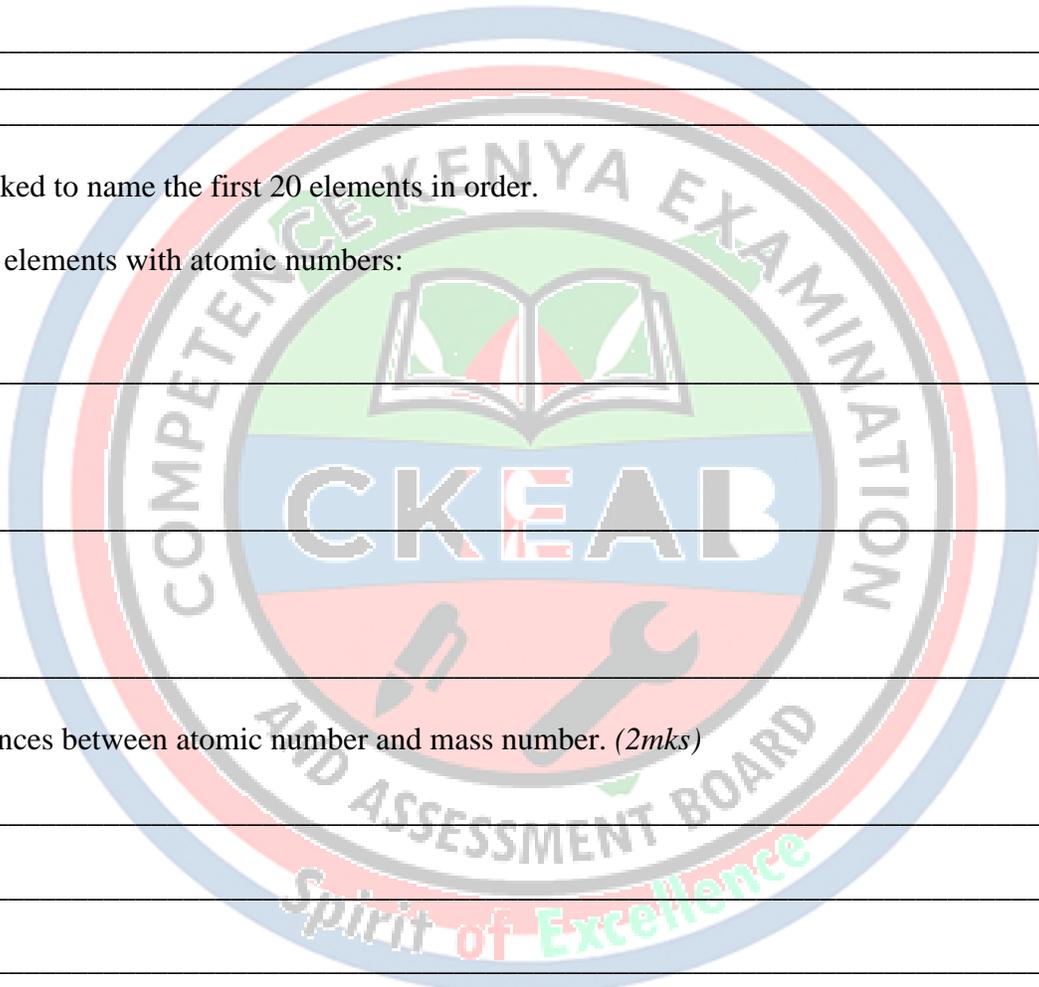
(c) 12 (1mk)

6. State two differences between atomic number and mass number. (2mks)

7. Give three responsibilities of learners in maintaining a safe learning environment. (3mks)

- i. _____
- ii. _____
- iii. _____

8. A medicine advert states:



“This drug may cause side effects such as dizziness.”

(a) What is a substance? (1mk)

(b) Give two common routes of drug intake. (2mks)

(c) State one side effect of heroin abuse. (1mk)

9. State three contributions of chemistry in the entertainment industry. (3mks)

10. Write the electronic configuration using s and p notation for:

(a) Nitrogen (Atomic number = 7) (1mk)

(b) Magnesium (Atomic number = 12) (1mk)

(c) Argon (Atomic number = 18) (1mk)



SECTION B (60 MARKS)

Answer ALL questions.

11. A community hospital receives complaints that some herbal drinks sold around the market are causing dizziness and stomach upsets.

(a) Explain three roles of chemistry in ensuring safety of such herbal products. (6mks)

- i. _____
- ii. _____
- iii. _____

(b) Describe two responsibilities of consumers when buying herbal substances. (2mks)

(c) State two qualities of a safe learning/working environment in a chemistry lab. (2mks)

12. A youth centre conducts research on drugs abused by teenagers in the area.

(a) Explain two reasons why young people abuse drugs such as glue/cobbler's blue. (4mks)



(b) For each of the drugs below, describe one mode of intake and one health effect:

(i) Cocaine (2mks)

(ii) Illicit brew (chang'aa) (2mks)

(iii) Cannabis (bhang) (2mks)

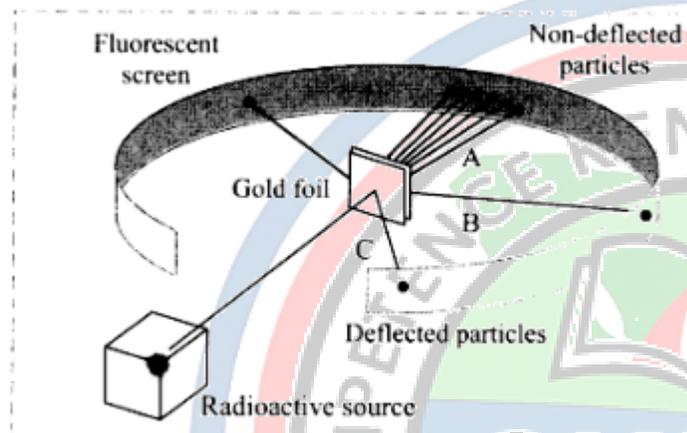


(c) State two long-term effects of mandrax on the human body. (2mks)

13. A teacher uses models to explain how scientists discovered the structure of the atom.

(a) State two postulates of Dalton's atomic theory. (2mks)

(b) With reference to the representative model of the gold foil experiment, answer the following question



What evidence regarding an atom do lines A, B and C provide? (3mks)

(c) Give two conclusions made from the experiment. (2mks)

(d) Define the following terms:

(i) Isotope (1mk)

(ii) Orbital (1mk)

(e) Identify the subatomic particle present in different numbers in isotopes of the same element. (1mk)

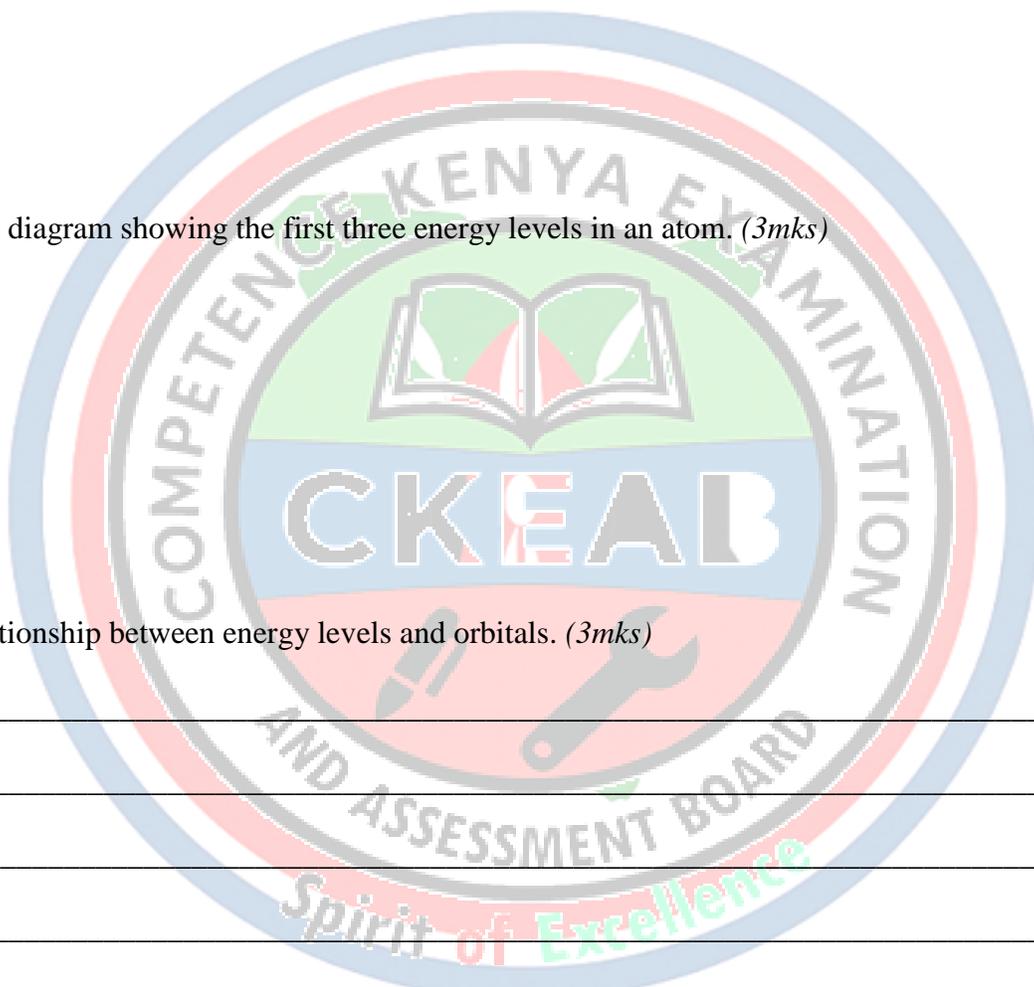
14. A chemist is analysing an element, X, whose isotopes have masses 20 and 22, in the ratio 3:1.

(a) Calculate the relative atomic mass of element X. (3mks)

(b) Draw a labelled diagram showing the first three energy levels in an atom. (3mks)

(c) Explain the relationship between energy levels and orbitals. (3mks)

(d) State the order of filling of electrons into the first four orbitals. (2mks)



(e) Write the electron configuration using s and p notation for:

(i) Phosphorus ($Z = 15$) (2mks)

(ii) Neon ($Z = 10$) (1mk)

15. A career guidance teacher organizes a talk on chemistry-related professions.

(a) List four branches of chemistry. (4mks)

(b) Write a career to the correct branch of chemistry: (4mks)

- (i) Pharmacist: _____
- (ii) Petroleum engineer: _____
- (iii) Food technologist: _____
- (iv) Forensic scientist: _____

(c) Explain three ways chemistry is applied in the manufacturing industry. (6mks)



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