



Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

PHYSICAL SCIENCES P2 (CHEMISTRY)

COMMON TEST

MEMORANDUM

MARCH 2017

NATIONAL SENIOR CERTIFICATE

GRADE 12

TIME: 1 hour

MARKS: 50

This memorandum consists of 3 pages.

QUESTION 1: MULTIPLE CHOICE

- 1.1 C ✓✓ (2)
1.2 B ✓✓ (2)
1.3 C ✓✓ (2)

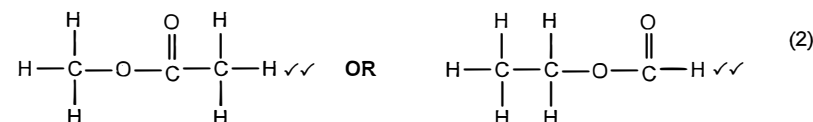
[6]

QUESTION 2

2.1

- 2.1.1 C ✓ (1)
2.1.2 Ketone ✓ (1)
2.1.3 A ✓ (1)
2.1.4 Pentanal ✓✓ (2)
2.1.5 2-bromo-1,4-dichlorobutane ✓✓ (2)

2.2.1

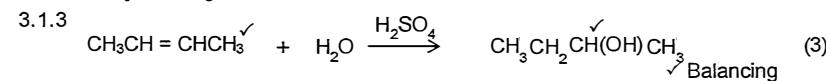


- 2.2.2 Ethyl methanoate ✓✓ (2)
2.2.3 Functional group isomers ✓ (1)

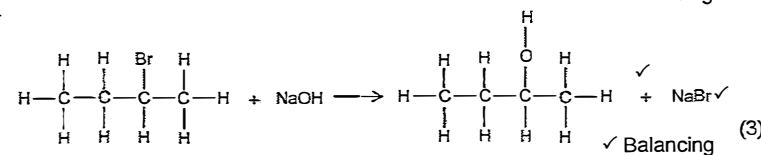
[12]

QUESTION 3

- 3.1 3.1.1 But-1-ene ✓✓ (2)
3.1.2 Dehydrohalogenation ✓ (1)

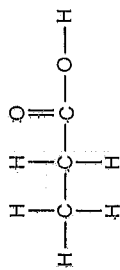


3.1.4



3.2 3.2.1 Butan-1-ol ✓✓ (2)

3.2.2



✓ functional group
✓ whole structure correct

(2)

3.2.3 No. ✓

The catalyst was not added. ✓

OR

 H_2SO_4 (conc) was not added. ✓ OR reaction is very slow. ✓

(2)

3.2.4 The alcohol is highly flammable. ✓

(1)

[16]

QUESTION 4

4.1 How does the boiling point of alcohols vary with an increase in chain length/
molecular mass? ✓✓ (2)

4.2 All the alcohols are primary alcohols. ✓ (1)

4.3 Boiling point is the temperature at which a compound's vapour pressure is
equal to the atmospheric pressure. ✓✓ (2 or 0) (2)

4.4 As the chain length/ molecular mass increases boiling point increases. ✓

The van der Waals forces increases. or intermolecular forces strength
increases ✓ (3)More energy is needed to separate the chains or more energy is needed to
break the intermolecular bond (overcome the intermolecular forces). ✓

4.5 Hexan-1-ol ✓

It has the highest boiling point. ✓

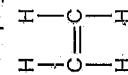
(2)

[10]

QUESTION 5

5.1 Small organic molecules that can be covalently bonded to each other in a
repeating pattern. ✓✓ (2)Unit molecule resulting in the formation of a repeating pattern in a large
molecule.

5.2 Addition polymerisation. ✓ (1)



5.4 Manufacture of plastic bags. ✓ (2)

Manufacture of plastic bottles. ✓ (any 1) (1)

[6]

TOTAL MARKS:

[50]