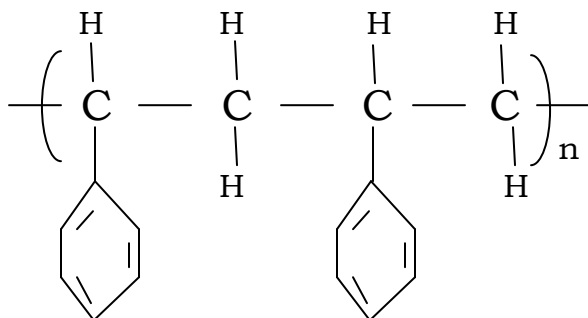


NAME: .....CLASS: ..... ADM.NO. : .....

### CHEMISTRY FORM FOUR

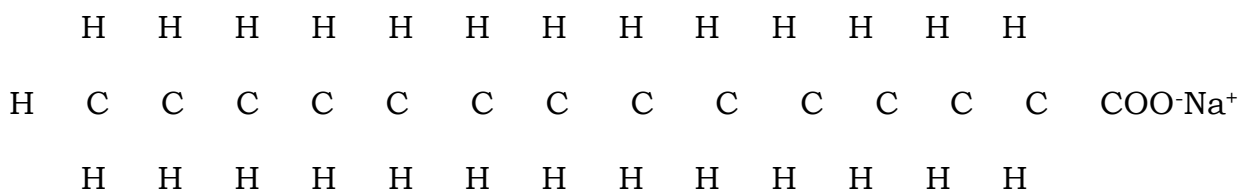
1. (a) Distinguish between a strong and a weak acid. Give example to each. (2mks)

(b) The formula given below represents a portion of a polymer. Give ;



- The name of the polymer. (1mk)
- Two disadvantages of continued use of this polymer. (2mks)

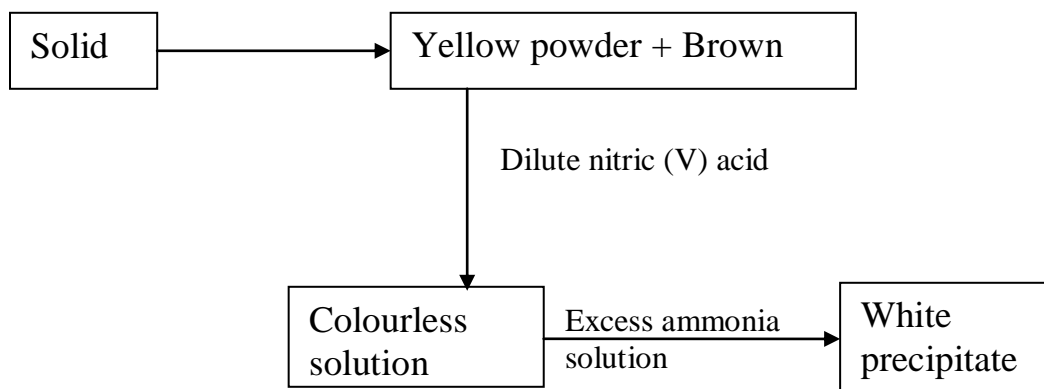
2. (a) The structure of a detergent is.



- Write the molecular formula of the detergent. (1mk)
- What type of detergent is represented by the formula? (1mk)
- When this type of detergent is used to wash linen in hard water, spots (marks) are left on the linen. Write the formula of the substance responsible for the spot. (1mk)

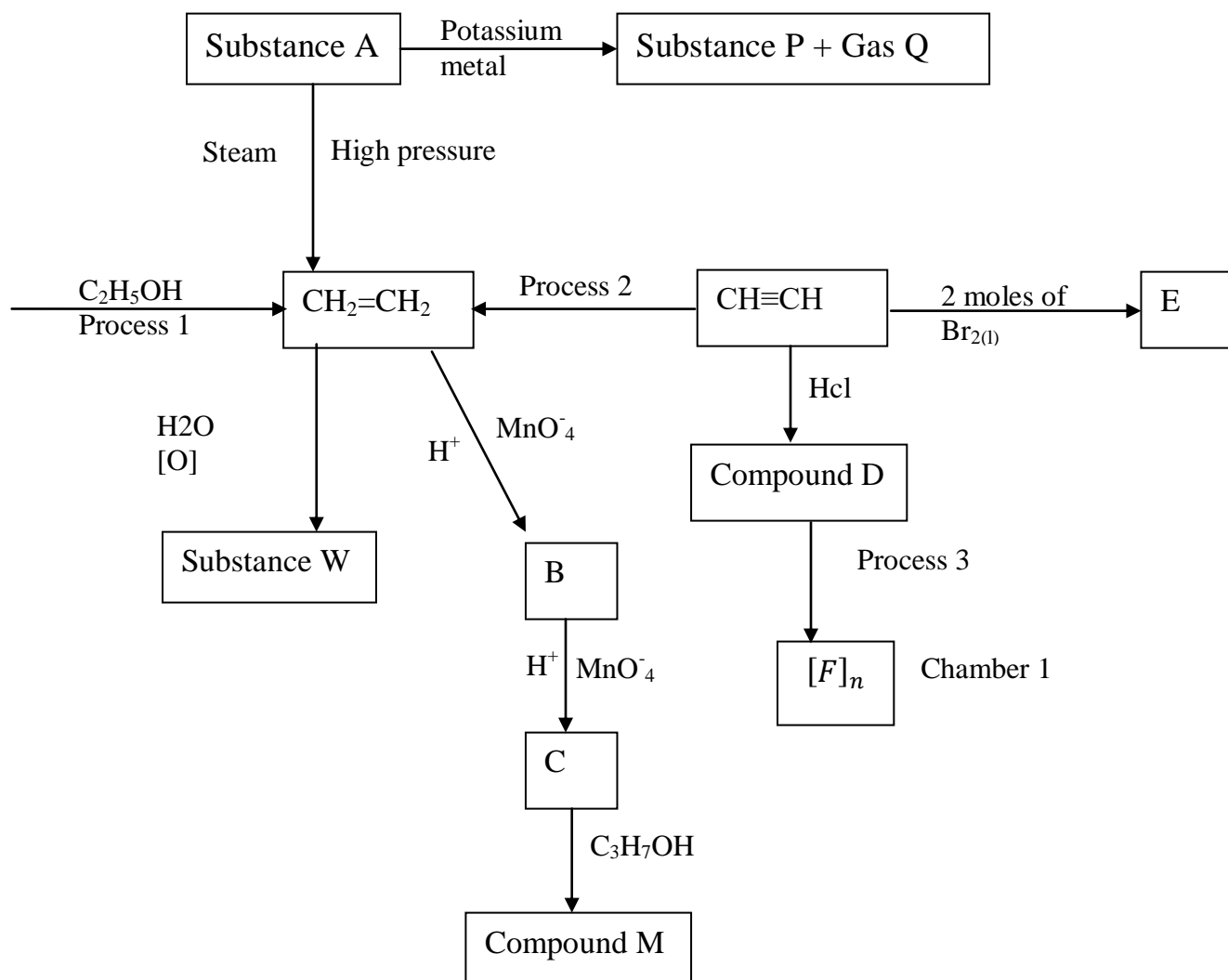
- (b) Give the systematic names of the following compound.
- i)  $\text{CH}_3\text{CH}_2\text{COOH}$ . (1mk)
- ii)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHCH}_2$ . (1mk)
- iii)  $\text{CHCCH}_2\text{CH}_3$ . (1mk)
- iv)  $\text{CH}_3\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_3$ . (1mk)

3. (a) Study the flow chart below and answer the questions that follow.



- a. Give the chemical formula of
- i) Solid P (1mk)
- ii) The yellow powder. (1mk)
- iii) The white precipitate. (1mk)
- b. (i) Identify ions that cause water hardness. (2mks)
- (ii) List the two types of water hardness. (2mks)

c. Study the flow chart below and use it to answer the questions that follow.



- i. Identify substances:- (6mks)
- A –
- W –
- P –
- E –
- D –
- Gas Q –
- ii. State the conditions and reagents that are required for processes. (6mks)
- Process 1 –
- Process 2 –
- Process 3 –

iii. Write the formula and the name of the compound formed in chamber I. (2mks)

iv. Give the uses of the compound in c(iii) above. (2mks)

d. State the physical property of compound M and its structural formula.(3mks)

4. (a) (i) The reaction of calcium with sulphuric (VI) acid starts and then come to stop. Explain. (3mks)

(ii) Starting with copper(II) oxide, describe how a solid sample of copper (II) sulphate filtrate would be prepared. (4mks)

(b) (i) Define solubility. (1mk)

(ii) 20 grams of potassium chlorate saturated 20cm<sup>3</sup> of water. Calculate its solubility. (3mks)

(iii) Define the term fractional crystallization of salts. (1mk)