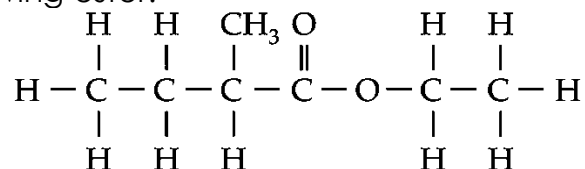


6. Butanamide is heated under reflux with dilute sodium hydroxide solution. Which of the following statements about the experiment are correct?

- (1) The reaction involved is irreversible.
- (2) One of the products can turn moist blue litmus paper red.
- (3) A pungent smell can be detected.

- A. (1) and (2) only B. (1) and (3) only
C. (2) and (3) only D. (1), (2) and (3)

7. Consider the following ester:



Which of the following combinations is correct?

- | | <u>Parent alcohol</u> | <u>Parent carboxylic acid</u> |
|----|-----------------------|-------------------------------|
| A. | Ethanol | 2-methylbutanoic acid |
| B. | Propan-1-ol | 2-methylbutanoic acid |
| C. | 2-methylbutan-1-ol | Ethanoic acid |
| D. | Pentan-1-ol | Ethanoic acid |

8. An organic compound X has the following properties:

- (1) It reacts with acidified potassium dichromate solution to give a green solution.
- (2) It decolorizes bromine (dissolved in tetrachloromethane).
- (3) It is a neutral liquid at room conditions.

Which of the following compounds does X probably be?

- A. $\text{CH}_2=\text{CHCOOH}$ B. $\text{CH}_3\text{CH}_2\text{CHO}$
C. $\text{CH}_2=\text{CHCH}_2\text{OH}$ D. $\text{CH}_2=\text{CHCOOCH}_3$

Section B: Structured questions

This question is about the following isomeric compounds with the molecular formula $\text{C}_4\text{H}_8\text{O}$.

P: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$

Q: $(\text{CH}_3)_2\text{CHCHO}$

R: $\text{CH}_3\text{CH}_2\text{COCH}_3$

S: $\text{CH}_3\text{CH}=\text{CHCH}_2\text{OH}$

- (a) Which of the above compounds is NOT a carbonyl compound?
- (b) Which of the above compounds can be reduced to give a chiral product? Give the systematic name of the chiral product.
- (c) Which of the above compounds does NOT react with acidified potassium dichromate solution? Briefly explain your answer.
- (d) Which of the above compounds can form an ester when heating with ethanoic acid under reflux? Draw the structure of the ester formed.

Suggested Answer

Section A

1.	D	5.	D
2.	B	6.	B
3.	A	7.	A
4.	A	8.	C

Section B

(a) S

(b) R
Butan-2-ol

(c) R
Ketones are resistant to oxidation.

(d) S

