

Name:

Code: XXX-

# Task 1

# 10% of the total

1a	1b	1c	1d	Task 1
30	2	12	4	48

a) Yield of the product in g, measured by the organizer:

b) Calculate the theoretical yield of your product in g.

Theoretical yield:

c) Sketch your developed TLC plate and leave on your desk to be evaluated,

Name:

Code: XXX-

---

d) **Interpret your experiment** and choose the correct answer.

The acetylation reaction of glucose is exothermic.

- a) Yes
- b) No
- c) Cannot be decided based on these experiments

The isomerisation reaction of  $\beta$ -D-glucopyranose pentaacetate can be used for the preparation of pure  $\alpha$ -D-glucopyranose pentaacetate.

- a) Yes
- b) No
- c) Cannot be decided based on these experiments

Name:

Code: XXX-

## Task 2

15 % of the total

2a	2b	2c	2d	2e	Task 2
25	4	25	6	5	65

a)  $\text{Ce}^{4+}$  consumptions:

Average volume consumed ( $V_1$ ):

b) The titration reaction:

Calculation of sample mass:

$\text{K}_4[\text{Fe}(\text{CN})_6] \cdot 3\text{H}_2\text{O}$  mass ( $m$ ):

c) Zinc consumptions:

Average volume consumed ( $V_2$ ):

d) Mark the correct answer.

The diphenyl amine indicator changes in colour at the end point

- a) because the concentration of the  $\text{Zn}^{2+}$  ions increases.
- b) because the concentration of the  $[\text{Fe}(\text{CN})_6]^{4-}$  ions decreases.
- c) because the concentration of the  $[\text{Fe}(\text{CN})_6]^{3-}$  ions increases.
- d) because the indicator is liberated from its complex.

Name:

Code: XXX-

---

Which form of the indicator is present before the end point?

- a) Oxidized
- b) Reduced
- c) Complexed to a metal ion

At the beginning of the titration the redox potential for the hexacyanoferrate(II) - hexacyanoferrate(III) system is lower than the redox potential of the diphenyl amine indicator.

- a) True
- b) False

e) Determine the formula of the precipitate. Show your work.

The formula of the precipitate:

---

Items replaced or refilled:

Student signature:

Supervisor signature:

Name:

Code: XXX-

---

## Task 3

**15 % of the total**

Task 3
108

Only fill out this table when you are ready with all your assignments.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Cation								
Anion								