



Practice MCQ For Govt Pharmacist Exam, in this article we will solve, Practice MCQ on the topic complexometric titrations under the subject Pharmaceutical inorganic chemistry of first semester. Read following article for your reference.

[Complexometric Titrations » PHARMACAREERS](#)

1.What is complexometric titration?

- a) A form of volumetric analysis
- b) A form of gravimetric analysis
- c) A form of qualitative analysis
- d) A form of spectroscopic analysis

2.Which of the following is not a type of complexometric titration?

- a) Direct titration
- b) Back titration
- c) Replacement titration
- d) Redox titration

3.What is the role of a complexometric indicator in a titration?

- a) To react with the titrant
- b) To signal the endpoint of the titration
- c) To act as a buffer
- d) To increase the rate of reaction

4.What is the purpose of a masking agent in complexometric titration?

- a) To increase the rate of reaction
- b) To prevent interference from certain ions
- c) To act as a buffer
- d) To signal the endpoint of the titration

5.What is the purpose of a demasking agent in complexometric titration?

- a) To increase the rate of reaction

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- b) To prevent interference from certain ions
- c) To remove the masking agent from the metal ion of interest
- d) To signal the endpoint of the titration

6. Which of the following is commonly used as a titrant in complexometric titration?

- a) Sodium hydroxide
- b) Hydrochloric acid
- c) EDTA
- d) Potassium permanganate

7. In the estimation of magnesium sulphate by complexometric titration, what color change indicates the endpoint?

- a) Blue to red
- b) Red to blue
- c) Yellow to blue
- d) Blue to yellow

8. What is the chemical formula for magnesium sulphate?

- a) $MgSO_4$
- b) $MgCO_3$
- c) $MgCl_2$
- d) $Mg(NO_3)_2$

9. In the reaction between EDTA and magnesium ions, what is the product formed?

- a) MgY^{2-}
- b) Mg^{2+}
- c) H_2Y^{2-}
- d) $MgOH_2$

10. What is the role of EDTA in complexometric titration?

- a) To act as a buffer

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- b) To act as a titrant
- c) To act as an indicator
- d) To act as a solvent

11. What is the color change of Eriochrome Black T when all the magnesium ions have reacted with the EDTA?

- a) Blue to red
- b) Red to blue
- c) Yellow to blue
- d) Blue to yellow

12. In a back titration, what is determined?

- a) The concentration of the analyte
- b) The concentration of the titrant
- c) The pH of the solution
- d) The temperature of the solution

13. In a replacement titration, what happens?

- a) The metal ion displaces another metal ion from a complex
- b) The metal ion is replaced by a hydrogen ion
- c) The metal ion is replaced by a hydroxide ion
- d) The metal ion is replaced by a nitrate ion

14. In an indirect titration, what is determined?

- a) The concentration of the analyte
- b) The concentration of the titrant
- c) The pH of the solution
- d) The temperature of the solution

15. What is the role of a standard solution in a titration?

- a) To act as a buffer

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- b) To act as a titrant
- c) To act as an indicator
- d) To act as a solvent

16. What is the role of a sample solution in a titration?

- a) To act as a buffer
- b) To act as a titrant
- c) To act as an indicator
- d) To act as an analyte

17. What is the role of distilled water in a titration?

- a) To act as a buffer
- b) To act as a titrant
- c) To act as an indicator
- d) To act as a solvent

18. What is the role of a buffer in a titration?

- a) To maintain the pH of the solution
- b) To act as a titrant
- c) To act as an indicator
- d) To act as a solvent

19. What is the role of a solvent in a titration?

- a) To maintain the pH of the solution
- b) To act as a titrant
- c) To act as an indicator
- d) To dissolve the analyte and the titrant

20. What is the role of a titrant in a titration?

- a) To maintain the pH of the solution
- b) To react with the analyte

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- c) To act as an indicator
- d) To act as a solvent

Answers

1. Complexometric titration is a **form of volumetric analysis** (Option a).
2. The type of titration that is not a form of complexometric titration is **redox titration** (Option d).
3. The role of a complexometric indicator in a titration is **to signal the endpoint of the titration** (Option b).
4. The purpose of a masking agent in complexometric titration is **to prevent interference from certain ions** (Option b).
5. The purpose of a demasking agent in complexometric titration is **to remove the masking agent from the metal ion of interest** (Option c).
6. The compound commonly used as a titrant in complexometric titration is **EDTA** (Option c).
7. In the estimation of magnesium sulfate by complexometric titration, the color change indicating the endpoint is **red to blue** (Option b).
8. The chemical formula for magnesium sulfate is **MgSO₄** (Option a).
9. In the reaction between EDTA and magnesium ions, the product formed is **MgY²⁻** (Option a).
10. The role of EDTA in complexometric titration is **to act as a titrant** (Option b).
11. The color change of Eriochrome Black T when all the magnesium ions have reacted with EDTA is **red to blue** (Option b).
12. In a back titration, **the concentration of the analyte** is determined (Option a).
13. In a replacement titration, **the metal ion displaces another metal ion from a complex** (Option a).
14. In an indirect titration, **the concentration of the analyte** is determined (Option a).
15. The role of a standard solution in a titration is **to act as a titrant** (Option b).
16. The role of a sample solution in a titration is **to act as an analyte** (Option d).

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17. The role of distilled water in a titration is **to act as a solvent** (Option d).
18. The role of a buffer in a titration is **to maintain the pH of the solution** (Option a).
19. The role of a solvent in a titration is **to dissolve the analyte and the titrant** (Option d).
20. The role of a titrant in a titration is **to react with the analyte** (Option b).

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