

**The Open University of Sri Lanka**  
**Faculty of Natural Sciences**  
**B.Sc. / B. Ed Degree Programme**



Department	: Chemistry
Level	: 5
Name of the Examination	: Final Examination
Course Title and - Code	: Industrial Chemistry – CMU3232
Academic Year	: 2019/20
Date	: 1 <sup>st</sup> November 2020
Time	: 9.30 a.m. – 12.30 p.m.
Duration	: 3 hours

**General Instructions**

1. Read all instructions carefully before answering the questions.
2. Part I consists of 15 short question (40 marks). Recommended time to complete this part is one hour.
3. Part II consists of six questions; you are expected to answer four (04) out of six questions including the first compulsory question. Recommended time to complete this part is two hours.
4. Answer for each question should commence from a new page.
5. Draw fully labelled diagrams where necessary
6. Involvement in any activity that is considered as an exam offense will lead to punishment
7. Use blue or black ink to answer the questions.
8. Clearly state your index number in your answer script
9. Handover the answer scripts of Part I and Part II separately

**Part I (40 marks)**

Recommended time to complete this part is one hour.

<b>Index Number:</b>	<b>Staff signature:</b>
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Answer all questions.

1. What is meant by the term 'metal finishing' in metal industry?

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(02 marks)

2. A number of chemicals are used as additives in latex based rubber industry. Give **Two (02)** examples of additives used in latex based rubber industry.

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(02 marks)

3. Write **three (03)** important features of the Ellingham diagram for oxides of elements.

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(03 marks)

4. Name the **characteristic feature** in the following glass type

Tempered glass

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Antireflective glass

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(04 marks)

5. For what specific purpose does the following processes used in ceramic industry?

Slip casting: .....

Ball milling: .....

Powder pressing: .....

(03 marks)

6. A glazed ceramic article has advantages over an unglazed one. Name **two (02)** advantages of using a glaze in a ceramic body.

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(02 marks)

7. Distinguish between 'flash setting' and 'false setting'.

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(02 marks)

8. Identify the crystalline phase(s) responsible for

Development of long-term strength .....

Rapid setting .....

in cement.

(02 marks)

9. What are the **three (03)** crystalline forms of Zirconia?

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(03 Marks)

10. Give **three (03)** special characteristics of titanium metal that is extracted from rutile and ilmenite?

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(03 marks)

11. List **three (03)** simple tests used to characterize crude petroleum in a refinery laboratory.

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(03 marks)

12. What is the **major** technique used to refine petroleum?

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(02 marks)

13. Give **two (02)** factors that affect the melting points of fats and oils?

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(4 marks)

14. What is meant by the term 'Autoxidation' of fatty acids?

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(02 marks)

15. List **two (02)** ideal properties of a dye used in textile industry.

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(03 marks)

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