

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME – LEVEL 5

INDUSTRIAL CHEMISTRY – CHU 3237

FINAL EXAMINATION 2014/15

3 Hours



Date: 26.10.2015

Time: 9.30 a.m. – 12.30 p.m.

- This question paper consists of two sections. **Part I (Short questions)** and **Part II (Structured type)**.
- **Part I** consists of **15** short questions; recommended time to complete this part is one hour.
- **Part II** consists of six questions; you are expected to answer four questions including **one compulsory** question out of six. Recommended time to complete this part is two hours.

Index Number -----

Signature of Invigilator-----

Part 1 (40 marks)

1. Give examples in each case of the products of the two main types of industries based on rubber.

Industry	Examples
Dry rubber
latex

(04 marks)

2. Write **two** advantages of Ellingham diagram for oxides of elements.

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(02 marks)

3. Name **two** properties of clay which would make them a useful raw material in ceramic Industry.

(02 marks)

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4. What specific group of elements/ compounds of elements in the Periodic Table are used in glazing mixtures? Why? (04 marks)

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5. Distinguish between 'setting' and 'hardening' of cement paste. (02 marks)

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6. What is measured by the 'throwing power' of a plating bath? (02 marks)

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7. Briefly explaining the phenomenon, write an equation to illustrate corrosion. (04 marks)

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8. Write chemical equation(s) for the production of normal super phosphate (NSP) from fluorapatite, $[3 \text{Ca}_3(\text{PO}_4)_2 \cdot \text{CaF}_2]$.

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(02 marks)

9. Identifying the raw material(s) used, write equations for the process involved in the extraction of iron. (04 marks)

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10. Write **two** important characteristics that determine the quality of table salt.

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(02 marks)

11. Write equations for the production of iodine from natural I^- bearing brine.

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(02 marks)

12. What is visbreaking of crude petroleum? What is the purpose of doing it?

(03 marks)

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13. What are the pungent principles of the following species?

(03 marks)

Ginger

Chillie

Pepper

14. What are the factors that affect the melting points of fats and oils?

(02 marks)

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15. What is meant by splitting of triglycerides?

(02 marks)

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