

Roll No :- _____

3631

**M.Sc. (Applied Chemistry) (Semester-IV)
EXAMINATION, 2019
Paper-M4AC17-ET-22A
(Industrial chemistry-I)**

Time Allowed - Three Hours
Maximum Marks - 40

*Note : This question paper is divided into three parts :
Part-A, Part-B and Part-C*

Part-A: It is compulsory and is of 8 marks. This part contains eight questions (answer 20 words each). Answer all eight questions. Each question carries one mark.

Part-B: It is compulsory and is of 8 marks. This part contains four questions (answer 50 words each). Answer all four questions. Each question carries two marks.

Part-C: This part is of 24 marks and contains six questions two from each unit (answer 400 words each). Answer any three questions selecting one from each unit. Each question carries eight marks.

Part-A (Compulsory)

1. What is batch material in the manufacturing of glass? Name the batch materials for window glass.
- 2- Write two important requirements of an optical glass.
- 3- What are permeable and impermeable waves?
- 4- What is slag cement? What is its important use?
- 5- What are non-drying, semi-drying and drying oils?
- 6- What are super fatting agents and why are they added in soap? <https://www.mdsuonline.com>
- 7- What is disperse dyeing?
- 8- What are direct and indirect fertilizers?

Part-B

- 9- Write the process of manufacturing, properties and uses of laminate glass.
- 10- Write the various chemical reactions on the hydrolysis of cement.
- 11- How are transparent soaps prepared?
- 12- How is ammonium sulphate manufactured from gypsum? Write chemical equations.

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(01)

Contd.

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(02)

Contd.

Discuss the manufacturing and uses of urea and monoammonium phosphate.

Part-C

Unit-I

13- Write the method of preparation, properties and uses of the following glasses.

- i) Borosilicate glass.
- ii) Lead Glass.
- iii) Coloured glass.
- iv) Glass wool.

OR

14- What are Ceramics? Explain their classification and general properties.

Unit-II

15- Briefly explain the chemical composition and properties of different types of cement.

OR

16- Explain the manufacturing of soyabean and cotton seed oil. How are crude vegetable oils refined?

Unit-III

17- Discuss the classification of dyes based on chemical constitution.

OR