

Roll No.

B

2588

**M.Sc. (Applied Chemistry) (Semester IV)
EXAMINATION, 2018**

Paper-M4AC17-ET-22A

INDUSTRIAL CHEMISTRY-I

Time allowed : Three hours

Maximum marks : 40

The 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 at least one from each unit (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. State the role of feldspars as raw material in the manufacturing of glass. 1
2. What are the raw materials of porcelain? 1
3. What are the constituents of hydraulic hydrated cement? 1
4. Define ceramics. 1
5. Give the chemical reaction of soap formation. 1
6. Why are the oils refined? 1
7. What is a dye? 1

8. Name the factors affecting the fertility of soil. 1

Part-B (Compulsory)

9. What is an optical glass ? Give its composition. 2

10. Give the classification of ceramics on the basis of their use. 2

11. Explain the differences between oils and fats. 2

12. Explain chromophores by giving some typical examples. 2

Part-C

Unit-I

13. What is glass ? Describe its physical and chemical properties. Discuss chemical reactions occurring in the furnace during manufacture of glass. 1+2+2+3

Or

Discuss about the basic raw materials used in making ceramics products. 8

14. Explain the determination of alumina, silica, calcium oxide and sulphates in Portland cement. 2+2+2+2

Or

Discuss the physical and chemical properties of oils. Explain the determination of saponification value and acid value. 2+2+2+2

Unit-III

15. Discuss the classification of dyes giving suitable examples. 8

Or

Discuss the classification of fertilizers on the basis of mode of operation on soil and presence of number of nutrient elements. Explain the role of fertilizers. 3+3+2