

Roll No.....

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Part-A (Compulsory)

{Marks : 8}

B

1133

**M.Sc. (Applied Chemistry) (Semester-III)
EXAMINATION, 2016**

Paper-M3AC14-CC-12

PRINCIPLES OF CHEMICAL ENGINEERING

Time allowed : Three hours

Maximum marks : 40

Part-A (Compulsory) {Marks : 8}

Answer all eight questions (20 words each). Each question carries equal marks.

Part-B (Compulsory) {Marks : 8}

Answer all four questions (50 words each). Each question carries equal marks.

Part-C {Marks : 24}

Answer any three questions (400 words each), selecting one from each unit. Each question carries equal marks.

① Name different modes of mass transfer.

② Give Ficks Law of Diffusion.

3. Give applications of thermodynamics in Unit Process.

4. Give two Combustion Reaction. (Examples)

5. Give names of different types of Chemical Reactions.

6. What are Adsorption equations ?

7. How reactor shape affects on Production ?

8. What is Air-Fuel Ratio ?

Part-B (Compulsory) {Marks : 8}

9. Give characters of a Unit Process.

10. What do you mean by Theoretical Air and Excess Air ?

11. Give the effect of back mixing on Products distribution.

12. Differentiate between Unit Process and Unit Operation.

Part-C

{Marks : 24}

Unit-I

13. (a) Write a note on Velocities and Fluxes.

(b) Write a note on safety hazards in a chemical lab.

Or

Write a detailed note on Good Laboratory Processes.

Unit-II

14. (a) How you explain the Internal Energy and Enthalpy of a Reaction ?

(b) Write a note on Entropy changes for Reactive Mixtures.

Or

Write notes on the following :

(i) Heating Values of Fuels

(ii) Enthalpy of Formation

15. Explain in detail about selection and sizing of Homogeneous and Catalytic Reaction.

Or

Explain in detail about different factors affecting a Chemical Process.