### TOTAL EXAMINATION PROGRAM PEO Syllabus of Examinations, 2016 Edition

### CHEMICAL ENGINEERING

### INTRODUCTION

A full set of Chemical Engineering examinations consists of the following, three-hour examination papers and an engineering report. Candidates will be assigned examinations based on an assessment of their academic background. Examinations from discipline syllabi other than those specific to the candidates' discipline may be assigned at the discretion of PEO's Academic Requirement Committee.

# **BASIC STUDIES EXAMINATIONS**

- 04-BS-1 Mathematics
- 04-BS-2 Probability and Statistics
- 04-BS-3 Statics and Dynamics
- 04-BS-4 Electric Circuits and Power
- 04-BS-5 Advanced Mathematics
- 04-BS-6 Mechanics of Materials
- 04-BS-7 Mechanics of Fluids
- 04-BS-10 Thermodynamics
- 04-BS-11 Properties of Materials
- 04-BS-12 Organic Chemistry
- 04-BS-13 Biology
- 04-BS-14 Geology
- 04-BS-15 Engineering Graphics and Design Process

### **PROFESSIONAL EXAMS – SPECIFIC TO CHEMICAL ENGINEERING**

#### GROUP A

- 16-Chem-A1 Process Balances and Chemical Thermodynamics
- 16-Chem-A2 Unit Operations and Separation Processes
- 16-Chem-A3 Heat and Mass Transfer
- 16-Chem-A4 Chemical Reactor Engineering
- 16-Chem-A5 Chemical Plant Design and Economics
- 16-Chem-A6 Process Dynamics and Control

# GROUP B

- 16-Chem-B1 Transport Phenomena
- 16-Chem-B2 Environmental Engineering
- 16-Chem-B3 Simulation, Modelling, and Optimization
- 16-Chem-B4 Biochemical Engineering
- 16-Chem-B5 Pulp and Paper Technology
- 16-Chem-B6 Petroleum Refining and Petrochemicals
- 16-Chem-B7 Extractive Metallurgy
- 16-Chem-B8 Polymer Engineering
- 16-Chem-B9 Advanced Materials
- 16-Chem-B10 Life Cycle Assessment (LCA)
- 16-Chem-B11 Nuclear and Nuclear Chemical Processes
- 16-Chem-B12 Corrosion and Oxidation
- 16-Chem-B13 Ceramic Materials
- 16-Chem-B14 Nanomaterials

# **COMPLEMENTARY STUDIES**

- 11-CS-1 Engineering Economics
- 11-CS-2 Engineering in Society Health & Safety
- 11-CS-3 Sustainability, Engineering and the Environment
- 11-CS-4 Engineering Management
- 3.2 Engineering Report