

TOTAL EXAMINATION PROGRAM
PEO Syllabus of Examinations, 2012 Edition

MATERIALS ENGINEERING

INTRODUCTION

A full set of Materials 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-6	Mechanics of Materials
04-BS-7	Mechanics of Fluids
04-BS-10	Thermodynamics
04-BS-11	Properties of Materials

PROFESSIONAL EXAMS – SPECIFIC TO MATERIALS ENGINEERING

GROUP A

12-Mtl-A1	Materials Thermodynamics
12-Mtl-A2	Transport Phenomena in Materials Engineering
12-Mtl-A3	Structure and Characterization of Materials
12-Mtl-A4	Mechanical Behaviour of Materials
12-Mtl-A5	Phase Transformations of Metals, Glasses, and Ceramics
12-Mtl-A6	Thermal Treatment of Metals, Glasses, and Ceramics

GROUP B

12-Mtl-B1	Mineral Processing
12-Mtl-B2	Hydrometallurgy and Electrometallurgy
12-Mtl-B3	Ironmaking and Steelmaking
12-Mtl-B4	Non-Ferrous Extractive Metallurgy
12-Mtl-B5	Metal Fabrication
12-Mtl-B6	Physical Metallurgy of Iron and Steel
12-Mtl-B7	Physical Metallurgy of Non-Ferrous Metals and Alloys
12-Mtl-B8	Ceramic Materials
12-Mtl-B9	Structure and Properties of Polymers
12-Mtl-B10	Advanced Electronic Materials
12-Mtl-B11	Corrosion and Oxidation
12-Mtl-B12	Biomaterials and Biocompatibility
12-Mtl-B13	Advanced Characterization of Materials
12-Mtl-B14	Nanomaterials
12-Mtl-B15	Joining of Materials
12-Mtl-B16	Materials Selection and Failure Analysis
12-Mtl-B17	Composite Materials

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
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