

Preface

Introduction—*M.R. Riazi, S. Eser, J.L. Peña Díez, S.S. Agrawal*

Feedstocks and Products of Crude Oil and Natural Gas Refineries—*M.R. Riazi, S. Eser*

Worldwide Statistical Data on Proven Reserves, Production, and Refining Capacities of Crude Oil and Natural Gas—*M.R. Riazi, M.S. Rana, J.L. Peña Díez*

Properties, Specifications, and Quality of Crude Oil and Petroleum Products—*M.R. Riazi, S. Eser*

Crude Oil Refining Processes—*S. Eser, M.R. Riazi*

Fluid Catalytic Cracking—*R.K. Voolapalli, C. Thota, D.T. Gokak, N.V. Choudary, M.A. Siddiqui*

Hydroisomerization of Paraffins in Light Naphthas and Lube Oils for Quality Improvement—*B.L. Newalkar, N.V. Choudary, M.A. Siddiqui*

Heavy-Oil Processing—*S. Eser, J. Guitian*

Advances in Petroleum Refining Processes—*I. Mochida, R. Fletcher, S. Hatanaka, H. Toshima, J. Inomata, M. Inomata, S. Inoue, K. Matsuda, S. Nagamatsu, S. Shimizu*

Advances in Catalysts for Refining Processes—*I. Mochida, R. Fletcher, S. Hatanaka, H. Toshima, S. Nagamatsu, M. Inomata, R. He, R.S. Threlkel, C.J. Dillon, J. Ida, T. Matsuhisa, S. Inoue, S. Shimizu, K. Shoji*

Natural Gas Conditioning and Processing—*C. Migliore*

Hydrogen Management—*N. Zhang, F. Liu*

Design Aspects of Separation Units and Processing Equipment—*M.C. Rodwell, M.R. Riazi*

Process Control and Instrumentation—*L. Raman, N.S. Murthy*

Modern Computer Process Control Refining Units—*R. Jaisinghani*

Refinery Inspection and Maintenance—*A.L. Kosta, K. Kishore*

Corrosion Inspection and Control in Refineries—*J. L. Hau*

Product Analysis and Quality Control—*P. Kumar, N.S. Murthy*

Fuel Blending Technology and Management—*S.S. Agrawal*

Tank Farm Management—*S.S. Agrawal*

Refinery Planning and Scheduling—*N. Zhang, M. Valleur*

Transportation of Crude Oil, Natural Gas, and Petroleum Products—*L.F. Ayala*

Introduction to Trading, Pricing, and Valuation of Crude Oils and Petroleum Products—*C.S. Khor, L.A. Ricardez-Sandoval, A. Elkamel, N. Shah*

A Review of Refinery Markets and Cost Estimation—*M.J. Kaiser, J.H. Gary*

Financial Risk Management in Refinery Operations Planning—*M. Bagajewicz*

Process Modeling and Simulation of Refineries—*M.J. Guerra, P. Jiménez-Asenjo, A. López-Rodríguez, J.L. Peña Díez*

Maintenance Simulation and Optimization in Refineries and Process Plants—*M. Bagajewicz*

Roles of Computers in Petroleum Refineries—*C.S. Khor, A. Elkamel*

Environmental Issues Related to the Petroleum Refining Industry—*C.S. Khor, A. Elkamel*

Safety Issues Related to Petroleum Refineries—*J.M. Haight*

Refinery Management—*F.J. Herlyn*

Biofuels and Biorefineries—*J. Calle*

Future Directions in Petroleum and Natural Gas Refining—*M.S. Rana, J. Ancheyta, M.R. Riazi, M. Marafi*

Index