Pf R7J001 PETROLEUM PRODUCTION ENGINEERING

Module I

Components of the petroleum systems. Well productivity engineering. Production from under saturated oil reservoirs. Production front two-phase reservoirs. Production from gas reservoirs.I*scudo critical properties of natural gascs. Gas well deliverability for non — Darcy flow.The near-well bore condition and damage characterization, the effect of perforation conditions on well performance.

Module II

Well bore flow performance. Well deliverability. Well head surface gathering systems. Artificial lift systems. Horizontal well production. System analysis. Production Clicmistry Basics (Wax, Scale, Corrosion, Emulsions). Surfacc equipment and operations. Flow control and well heads. Gathering systems; service and cleaning systems; design and testing of now lines.

Module III

Separation and separators; separator components, stage separation; design and construction of separators. Meeting - Oil and gas metering techniques. Flow measurement system; liquid level controllers. Emulsion problems; oil emulsions; emulsifying agents and de-emulsifiers, choice and dosage of de-emulsifiers, heat treatment, heat treaters, desalting, oil storage and tank farms.

Module IV

Gauging, sampling and quality control. Underground storage caverns etc. Water disposal, corrosion. Water injcction systems. Subsui'face equipment. Well completion techniques and equipment, drill stem test (DST) flowing well performance, vertical lift performance, optimum size tubing and chokes, production forecast for a pool. Design and analysis of artificial methods of petroleum production. Work over and sand exclusion technique.

- "Gas Production Engineering" — S.Kumar-Gulf publishing Co., - 1987.
- T.E.W.Nind"Principles of well Produciton"-2ndEdition.Mc.Graw hill Bool‹-Co. Ltd, Newyork 1981. ISBN 0070465762.
- T.O.a11en and A.P.Roberts. "Production operations" —SPE - Vol-I 4-th edition