HINDUSTAN PETROLEUM CORPORATION LIMITED

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CIN NO: L23201MH1952GOI008858

SYLLABUS
INDUSTRIAL ENGINEERING POSITIONS

Part 1:

1. **Advanced Operations Research**
   Optimization techniques including linear, nonlinear, integer, stochastic, and dynamic programming.
2. **Industrial Engineering Systems**
   Systems modeling and analysis for manufacturing and service systems, simulation methods for system evaluation.
3. **Engineering Statistics & Data Analysis**
   Probability theory, statistical inference, regression, and multivariate techniques essential for data-driven decision-making and quality control.
4. **Manufacturing Processes & Automation**
   Key manufacturing methods, automation technologies, robotics, CNC machining, and process planning to improve production efficiency.

Part 2:

1. **Supply Chain Management & Logistics**
   Supply chain strategies, inventory control, logistics operations, and network design for effective material flow and distribution.
2. **Human Factors & Ergonomics**
   Human-machine interaction, workplace design, ergonomics principles, and cognitive aspects to enhance safety and productivity.
3. **Quality Engineering & Six Sigma**
   Quality management systems, statistical process control, process capability analysis, and Six Sigma methodologies for continuous improvement.
4. **Engineering Economics & Project Management**
   Economic analysis, cost estimation, financial decision-making, and project scheduling techniques such as CPM and PERT.

Part 3:

1. **Advanced Manufacturing Systems**

   Flexible and computer-integrated manufacturing systems, lean manufacturing concepts, and technology-driven production environments.
2. **Data Analytics & Machine Learning**

   Data mining, predictive analytics, clustering, and classification algorithms with applications in industrial engineering.
3. **Reliability Engineering & Maintenance Management**

   Reliability models, preventive and predictive maintenance strategies, and life cycle cost analysis to ensure system availability.

NOTE: The syllabus/topics mentioned are indicative in nature. Candidates are expected to possess significant knowledge/proficiency pertaining to the relevant subjects and their qualifying degree.