# DEPARTMENT OF PRODUCTION AND INDUSTRIAL ENGINEERING FACULTY OF ENGINEERING & ARCHITECTURE JAI NARAIN VYAS UNIVERSITY :JODHPUR

#### SYLLABUS FOR Ph.D. ENTRANCE EXAMINATION

## I. General Engineering

- 1. Engineering Mathematics
- 2. Applied Mechanics
- 3. Design of Components and Assemblies

## **II.** Production Engineering

- 1. Metal Casting
- 2. Metal Forming
- 3. Metal Joining Processes
- 4. Machining and Machine Tool Operations
- 5. Tool Engineering
- 6. Metrology and Inspection
- 7. Material Science

### III. Industrial Engineering

- 1. Product design and Development
- 2. Engineering Economics
- 3. Study and Ergonomics
- 4. Facility Location and Layout
- 5. Production and Operations Management
- 6. Operations Research
- 7. Productivity Engineering
- 8. Quality Management
- 9. Reliability and Maintenance
- 10. Management Information System
- 11. Intellectual Property Rights
- 12. Entrepreneurship Development

## IV. Automation

- 1. CIM/CAD/CAM/CAPP
- 2. Robotics
- 3. Cellular Manufacturing
- 4. Mechatronics
- 5. Simulation
- 6. Soft Computing

Depth of competence for these topics would be of the level of Master Programmes in Prod. & Ind. Engg. and related courses followed across the country.

Head of Department