Materials for new product development:

1. Characterization of Bulk & Micro
2. Nano and Smart Materials
3. Characterization of Metal and Ceramic Matrix
4. Synthesis of Polymeric Composites
5. Wear, Tribology and NDT
6. Virtual reality technology in PDD and manufacturing
7. Virtual reality physical modeling,
8. Virtual behavior and management techniques

Product Definition, Modeling and Simulation:

1. CAD/Geometric Modeling, Requirements Engineering.
2. Conceptual Design
3. Simulation Based Engineering
4. Finite element analysis
5. Computer Aided Engineering
6. Multidisciplinary and Optimization
7. Smart materials

Automation and control:

1. Human-robot /Robot-robot collaboration and Robot motion control.
2. Robotics, Mechatronics
3. Cloud-based automation
4. Cyber physical production systems and Industry 4.0
5. Automated fault detection
6. Product maintenance using virtual reality
7. Fixture/jig analysis using virtual reality

Design Engineering:

1. Combustion modeling and simulation, Aerospace systems and technology,
2. Optimization of Systems,
3. Virtual reality and augmented reality
4. CAD/CAM/CAE/CIM,
5. Rapid Prototyping
6. Nano composites and micro mechanics
7. Noise analysis and Machine design.