SUBJECT NO-ME60033, SUBJECT NAME- INTELLIGENT MACHINES AND SYSTEMS
LTP- 4-0-0,CRD- 4

SYLLABUS :-

Scope of machine intelligence in manufacturing systems - modelling and control of processes and machines.

Machine learning for system modelling from incomplete, ambiguous information. Neuro-Fuzzy-Expert systems for uncertain reasoning. Concept learning, associative memory and connectionist learning systems. Data abstraction in parallel distributed architectures. Model based optimisations using evolutionary algorithms. Genetic algorithms.

Sensor-based Robotic systems for assembly, welding, machining etc. and mobile robots. Task level planning and path planning. Multi-sensor integration for environmental interaction and error recovery.

Principles and applications of sensors - displacement, force, tactile, temperature, acoustic, vision and range sensors. Visuo-motor coordination and navigation problems. Intelligent structures. Behavioural approach and subsumption architecture for learning from environment.