The theory and practice of Intelligent Autonomous Robot IAR are currently among the most intensively studied and promising areas in computer science and engineering which will certainly play a primary goal role in future. These theories and applications provide a source linking all fields in which intelligent control plays a dominant role. Cognition, perception, action, and learning are essential components of such-systems and their use is tending extensively towards challenging applications (service robots, micro-robots, bio-robots, guard robots, warehousing robots). The present paper studies the problem of motion of a mobile robot that moves inside an unknown environment with stationary unknown obstacles. This paper deals with the main principles of Intelligent Autonomous Systems IAS Path Planning and illustrates some criteria to be taken into account in any intelligent navigation control of IAS. For any starting point within the environment representing the initial position of the mobile robot