

MODULE KNOWLEDGE BASED SYSTEMS

CODE: BSCH-2-1-08
STAGE II
Number of Credits: 4 semester credits / 6 quarter units
STATUS CORE
THEME Computational Mathematics
ASSESSMENT Continuous Assessment 30%
Examination 70%

Indicative Content

Topic	Description
Introduction to Artificial Intelligence	Definitions of intelligence and artificial intelligence; Approaches to AI; Applications of AI
Knowledge-based Systems	What is a knowledge-based system? Applications of KBS; Components of a KBS;
Rule Based Systems	Production Systems – recognise-act cycle; Control strategies – forward versus backward chaining;
Knowledge Engineering	ES development methodologies – the Linear Model;
Knowledge Acquisition	Difficulties of acquisition; Methods of acquisition – interviews, tracking, observation, expert logs, repertory grid analysis, automated rule induction
Knowledge Representation	Issues for knowledge representation; Properties of a good knowledge representation language;
Propositional Logic	Syntax and Semantics; Proof Theoretic validity; Model theoretic validity
Predicate Logic	Syntax and Semantics; Quantifiers and Quantification; Translation from English to predicate logic; Resolution – conversion to clause form, proof by refutation;
Knowledge Representation Languages	Semantic Networks – psychological value, inheritance; Frames and scripts – default reasoning, inheritance;