

# IMPORTANT QUESTIONS(UNITWISE)

SUBJECT NAME: AI SUB CODE: CS603PC

YEAR:2024-25 YEAR: III-II

# UNIT-I

PART-A

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| **S.No.** | **Coverage** | **Questions** |
| 1 | UNIT-I | What is intelligent agent? |
| 2 | UNIT-I | What is well defined problem? |
| 3 | UNIT-I | What are the applications of Artificial  Intelligence? |
| 4 | UNIT-I | Differentiate uniformed and informed search. |
| 5 | UNIT-I | What are the different types of agents? |
| 6 | UNIT-I | Define Heuristics function. |
| 7 | UNIT-I | Explain backtracking algorithm in artificial intelligence. |
| 8 | UNIT-I | What is knowledge based agents? |
| 9 | UNIT-I | Explain hill climbing search. |
| 10 | UNIT-I | What are bidirectional search? |
|  |  | **PART B** |
| 11 | UNIT-I | Described and explain breadth first search with algorithm. |
| 12 | UNIT-I | What are the problem faced by local search algorithm? Explain |
| 13 | UNIT-I | How does one perform local search in continuous spaces? |
| 14 | UNIT-I | What is simple problem solving agent? Explain it briefly. |
| 15 | UNIT-I | Discuss gready best first search algorithm |
| 16 | UNIT-I | What is bidirectional search? Explain in details |
| 17 | UNIT-I | Explain depth first search algorithm with example. |
| 18 | UNIT-I | How A\* algorithm works ? explain with example. |
| 19 | UNIT-I | What are informed and uninformed search strategies in ai. |
| 20 | UNIT-I | Explain uninformed cost search in ai. |

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| **S.No.** | **Coverage** | **Questions** |
| 1 | UNIT-II | What is game tree? |
| 2 | UNIT-II | What are csp in ai? |
| 3 | UNIT-II | Explain optimal decision in games. |
| 4 | UNIT-II | What is game playing? |
| 5 | UNIT-II | Define backward chaining. |
| 6 | UNIT-II | Define an inference procedure. |
| 7 | UNIT-II | How does constraint propagation contribute to solving constraint  satisfaction problems? |
| 8 | UNIT-II | What is backtracking search in csp? |
| 9 | UNIT-II | Why node pruning is imp in ai? |
| 10 | UNIT-II | What is Mini –Max Strategy? |
|  |  | **PART B** |
| 11 | UNIT-II | Differentiate in between propositional logic and predicate logic |
| 12 | UNIT-II | Explain constraint satisfaction problem in details. |
| 13 | UNIT-II | Describe how alpha-beta search works with relevant examples. |
| 14 | UNIT-II | What is the diff between horn clauses and definite clauses in ai? |
| 15 | UNIT-II | What is resolution? Explain resolution algorithm for proposition logic |
| 16 | UNIT-II | Write simple forward chaining algorithm? |
| 17 | UNIT-II | Explain the concept of adversarial search in the context of AI. How does it  apply to games, and what are the challenges associated with this approach? |
| 18 | UNIT-II | Explain constraint propagation in ai. |
| 19 | UNIT-II | What are forward and backward chaining in ai? |
| 20 | UNIT-II | Discuss the importance of representing uncertainty and how it is handled  in the Wumpus World? |

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| **S.No.** | **Coverage** | **Questions** |
| 1 | UNIT-III | Define atomic and complex sentence in first order logic. |
| 2 | UNIT-III | What is first order logic? |
| 3 | UNIT-III | Explain about first order inference. |
| 4 | UNIT-III | What is structured knowledge representation? |
| 5 | UNIT-III | Define an inference procedure |
| 6 | UNIT-III | Difference between Logic programming and  PROLOG. |
| 7 | UNIT-III | Define backward chaining. |
| 8 | UNIT-III | Define Logic representation. |
| 9 | UNIT-III | Define Semantic network. |
| 10 | UNIT-III | Define First-Order Logic. |
|  |  | **PART B** |
| 11 | UNIT-III | Explain the role of "quantifiers" in first-order logic and their impact on  logical reasoning. |
| 12 | UNIT-III | Using a consistent vocabulary, represent the following sentences in First- order logic.   1. Some students took French in Spring 2001. 2. Every student who takes French passes it. 3. Only one student took Greek in Spring 2001. |
| 13 | UNIT-III | Explain the syntax and semantics of first order logic. |
| 14 | UNIT-III | What is knowledge engineering in first order logic? |
| 15 | UNIT-III | Analyze steps in knowledge engineering process. |
| 16 | UNIT-III | Write detail note on Unification and Lifting? |
| 17 | UNIT-III | Write about Backward Chaining? |
| 18 | UNIT-III | Explain reasoning with default information. |
| 19 | UNIT-III | Give diff in Propositional vs. First-Order Inference |
| 20 | UNIT-III | Explain imp of knowledge representation in ai. |

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| **S.No.** | **Coverage** | **Questions** |
| 1 | UNIT-IV | What is mean by Ontological Engineering? |
| 2 | UNIT-IV | Define Mental Events in Knowledge Representation |
| 3 | UNIT-IV | Definition of Classical Planning. |
| 4 | UNIT-IV | What are the Classical Planning Approaches? |
| 5 | UNIT-IV | Define State-Space Search |
| 6 | UNIT-IV | Define Planning Graphs |
| 7 | UNIT-IV | Explain classical planning. |
| 8 | UNIT-IV | Compare contingent planning and online  replanning. |
| 9 | UNIT-IV | Explain classical Planning with an Example |
| 10 | UNIT-IV | What is reasoning with default information? |
|  |  | **PART B** |
| 11 | UNIT-IV | Differentiate between forward planning and backward planning  approaches. |
| 12 | UNIT-IV | Describe the role of temporal constraints and deadlines in planning  algorithms |
| 13 | UNIT-IV | Define hierarchical planning and its significance in solving complex  problems? |
| 14 | UNIT-IV | Describe the challenges and techniques for handling incomplete or  inconsistent domain models in planning. |
| 15 | UNIT-IV | Explain the Algorithms for Planning with State-Space Search. |
| 16 | UNIT-IV | Explain Categories and Objects in Knowledge Representation. |
| 17 | UNIT-IV | Explain the Analysis of Planning Approaches in Classical Planning. |
| 18 | UNIT-IV | Explain different approaches of knowledge representation. |
| 19 | UNIT-IV | Explain the different issues in knowledge representation |
| 20 | UNIT-IV | Explain Planning Graphs. |

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| **S.No.** | **Coverage** | **Questions** |
| 1 | UNIT-V | What is mean by Full Joint Distributions? |
| 2 | UNIT-V | What are the Semantics of Bayesian Networks? |
| 3 | UNIT-V | Define Relational and First-Order Probability. |
| 4 | UNIT-V | Define Probabilistic Reasoning. |
| 5 | UNIT-V | What is Dempster-Shafer Theory? |
| 6 | UNIT-V | Define First-Order Probability. |
| 7 | UNIT-V | Define over fitting. |
| 8 | UNIT-V | State bayes rule. |
| 9 | UNIT-V | What is approximate inference in Bayes network? |
| 10 | UNIT-V | Explain inference with full joint distribution. |
|  |  | **PART B** |
| 11 | UNIT-V | Explain the Bayes’ Rule and it’s Uses. |
| 12 | UNIT-V | How does uncertainty arise in Artificial Intelligence? |
| 13 | UNIT-V | Explain the Approximate Inference in Bayesian Networks in Uncertain Knowledge and Learning Uncertainty. |
| 14 | UNIT-V | Explain Basic Probability Notation. |
| 15 | UNIT-V | What is the need for probability theory in uncertainty |
| 16 | UNIT-V | Explain the Conditional Independence relations in Bayesian Network. |
| 17 | UNIT-V | What is the Dempster-Shafer theory in AI? Explain |
| 18 | UNIT-V | How to Representing Knowledge in an Uncertain Domain. |
| 19 | UNIT-V | Explain Inference using Full Joint Distributions in Uncertain Knowledge and Learning Uncertainty. |
| 20 | UNIT-V | Explain baye’s rule with example, write application. |