**Velammal College of Engineering and Technology, Madurai.**

**Department of Information Technology**

**Subject Code & Name: CS6659/Artificial Intelligence**

**ASSIGNMENT I**

**Year/Semester: III/VI Submission Date: 11.01.18**

**Questions:**

1. A Water Jug Problem: You are given two jugs, a 4-gallon one and a 3-gallon one, a pump which has unlimited water which you can use to fill the jug, and the ground on which water may be poured. Neither jug has any measuring markings on it. How can you get exactly 2 gallons of water in the 4-gallon jug?

2.Three Missionaries and Three Cannibals are on one side of the river. Give a plan for all to cross the river and State the Initial state, Goal state, Successor function and Path cost for the given problem.

Rules:

1. One boat carries Two.

2.Missionaries must never be outnumbered by Cannibals.

**Total Marks:10**

**Course Incharge Module Coordinator HOD/IT**

**[Ms.S.Nirmala] [Mrs.D.Anandhavalli] [Dr.R.Perumal Raja]**

**Velammal College of Engineering and Technology, Madurai.**

**Department of Information Technology**

**Subject Code & Name: CS6659/Artificial Intelligence**

**ASSIGNMENT I-ANSWER KEY**

 **Year/Semester: III/VI**

**Questions:**

1. A Water Jug Problem: You are given two jugs, a 4-gallon one and a 3-gallon one, a pump which has unlimited water which you can use to fill the jug, and the ground on which water may be poured. Neither jug has any measuring markings on it. How can you get exactly 2 gallons of water in the 4-gallon jug?

2.Three Missionaries and Three Cannibals are on one side of the river. Give a plan for all to cross the river and State the Initial state, Goal state, Successor function and Path cost for the given problem.

Rules:

1. One boat carries Two.

2.Missionaries must never be outnumbered by Cannibals.

**Key: Initial state-1**

 **Goal state-2**

 **Successor Function-6**

 **Path Cost-2**

**Total Marks:10**

**Course Incharge Module Coordinator HOD/IT**

**[Ms.S.Nirmala] [Mrs.D.Anandhavalli] [Dr.R.Perumal Raja]**