Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination –April/May– 2017**

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| **Code :** | **14CS3063** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ARTIFICIAL INTELLIGENCE FOR GAMES** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Describe the kinds of AI techniques applied in games by the developer. | CO1 | 15 |
|  | b. | Write the importance of speed and memory in the low-level hardware design. | CO1 | 5 |
| (OR) | | | | |
| 2. |  | Write the Pseudo code for the following kinematics movement algorithm   1. Seek 2. Arriving | CO1 | 20 |
| 3. |  | Discuss any three Steering behavior with its pseudo code and diagram. | CO2 | 20 |
| (OR) | | | | |
| 4. | a. | Explain the following of combining the steering behavior   1. Blending and arbitration 2. Weighted blending and priority blending | CO2 | 10 |
|  | b. | Discuss the different constraint environment used in games appropriately. | CO2 | 10 |
| 5. |  | Apply the dijkstra algorithm to findshortest paths from start node Oradea through all other nodes in the route map to reach Bucharest | CO3 | 20 |
| (OR) | | | | |
| 6. |  | Apply the two rules of RETE algorithm for the following database to match and update with its diagram.   |  |  |  | | --- | --- | --- | | person | health |  | | captain | 57 | | Johnson | 38 | | sale | 42 | | whisker | 15 | | Radio(held by whisker) | | | CO3 | 20 |
| 7. |  | Illustrate the goal based behavior principles of the decision making in a shooter game with its diagram. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Generate the statergyfor the board gameCHESS of two players using the minimaxing algorithm with alpha beta pruning techniques. | CO3 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | Create a team of defensive football players for an AI model architecture for the following.  Consider team should be able to respond to a programmed offense, where plays are set and run and the offense does not adapt to the defense. This was done in order to easily recreate results and to ease debugging procedures. The defense should also use various formations and packages in order to minimize the advancement of the football by the offense.The use of various formations also allows for increased realism, since in football many different formations are used, and forces defensive players to react to similar plays in different ways. | CO3 | 20 |

ALL THE BEST