Term Test # 01
SET : A

1. Using constraint satisfaction procedure, solve the following crypt arithmetic problem: 10

ONLY
+CSE

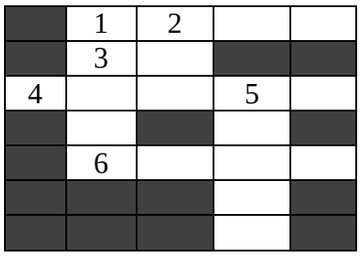
REAL

2. Give an example of a problem where DFS will be better than BFS and explain why. 5

Term Test # 01
SET : B

1. Complete the crossword puzzle through constraint satisfaction mechanism. Given the list of words: 10
AT, ETA, BE, HAT, HE, HER, IT, HI, ON ,ONE, DESK, DANCE, USAGE, EASY, DOVE, FIRST, ELSE, LOSES, FUELS, HELP, HASTE, KIND, SOON, SOUND, THIS, THINK.

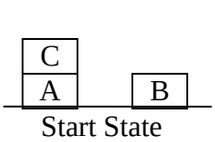
The numbers 1, 2, 3, 4, 5, 6 in the crossword puzzle correspond to the words that will start at those locations.



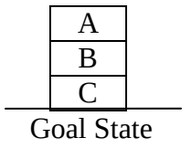
2. Give an example of a problem where BFS will be better than DFS why. 5

Term Test # 01
SET : C

1. Solve the following "Blocks World" problem using the Hill Climbing heuristic search technique. 10
Show each step to the solution.



Start State



Goal State

Available Operator

1. Pick Up(x) **2.** Stack(x,y)
3. Put Down(x) **4.** Unstack(x,y)

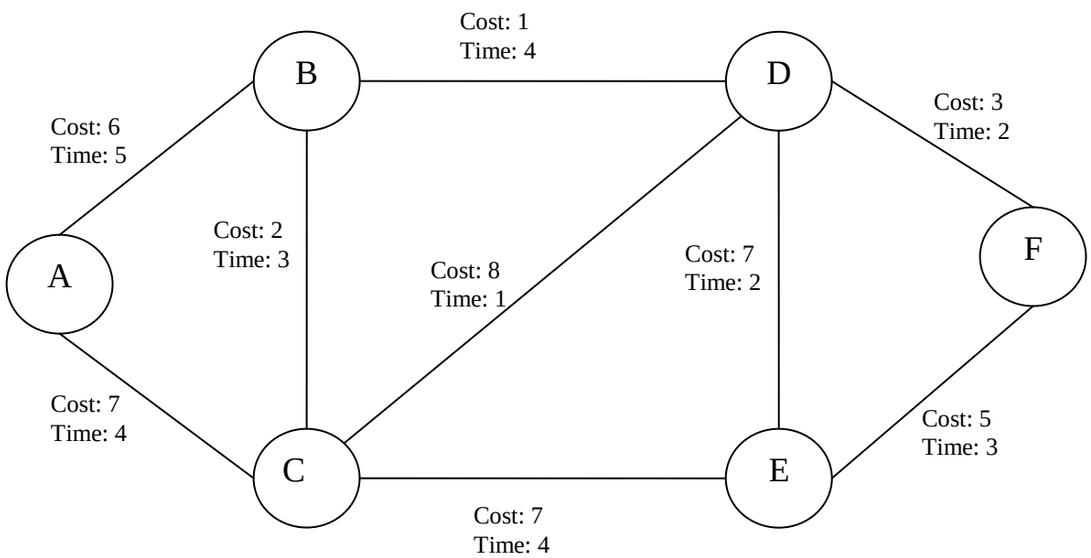
2. Discuss briefly on best first search comparing with both BFS and DFS. 5

Term Test # 01
SET : E

1. Suppose you built a Garbage collector Robot which collects and puts garbage on a one-time bin, fixed at a place of the building. If the bin is full, then place it to central bin. Show how Means-Ends analysis could be used to solve the problem of a Garbage collector Robot. Assume that the available operators are pickup, putdown, push, place, carry and walk. 10
2. Explain the situations "h' over estimates h" and "h' under estimates h" in A* algorithm with a real life scenario. 5

Term Test # 01
SET : F

1. Solve the following travelling problem using any heuristic search technique. Show each step to the solution. **Start: A** and **Destination: E [The solution must be both cost and time effective]** 10



2. Explain "Graceful decay of Admissibility". 5

Term Test # 01
SET : D

1. Show how Means-Ends analysis could be used to solve the problem of getting from SUST to CUET for upcoming conference. Assume that the available operators are walk, drive, take a bus, take a cab and fly. 10
2. In which situation we use And-Or graph? Give an example Constraint satisfaction. 5